DETERMINANT ANALYSIS OF INDONESIA'S FOREIGN EXCHANGE RESERVE

(PERIOD 2009:01-2016:12)

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ABSTRACT

This study aims to determine the effect on the dependent variables (Net Export, Foreign Debt, Exchange Rate) to the independent variable (Foreign Exchange Reserve) in Indonesia period 2009: 01- 2016: 12), the study used time series data from net exports, foreign debt and exchange rate for 96 months. In addition, this research uses the method of *Error Correction Model (ECM)* analysis as the analytical instrument which used.

The result shows that foreign debt and net exports have a positive and significant impact on foreign exchange reserve both in the long term and short term. Meanwhile, exchange rate variables indicate that these variables have a negative and significant influence on Foreign Exchange Reserve in the long run and have no effect on foreign exchange reserve in the short term.

Keywords: Error Correction Model, Foreign Exchange Reserve, Net Export, Foreign Debt, Exchange Rate

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh variabel dependen (Net Export, Foreign Debt, Exchange Rate) terhadap variabel bebas (Foreign Exchange Reserve) di Indonesia Periode 2009: 01-2016: 12, penelitian menggunakan data time series dari ekspor bersih, hutang luar negeri dan nilai tukar selama 96 bulan. Selain itu, penelitian ini menggunakan metode analisis Error correction Model (ECM) sebagai instrumen analisis yang digunakan

Hasil penelitian menunjukkan bahwa hutang luar negeri dan ekspor neto berpengaruh positif dan signifikan terhadap cadangan devisa baik dalam jangka panjang maupun jangka pendek. Sementara itu, variabel nilai tukar menunjukkan bahwa variabel tersebut memiliki pengaruh negatif dan signifikan terhadap cadangan devisa dalam jangka panjang dan tidak berpengaruh terhadap cadangan devisa dalam jangka pendek.

Keywords: Error Correction Model, Foreign Exchange Reserve, Net Export, Foreign Debt, Exchange Rate

INTRODUCTION

Indonesia as a developing country has actually faced the problem of monetary crisis. Since 1997, the monetary crisis began and disrupted the economy as well as the political conditions of the day. A difficult problem faced by Indonesia Bank, due to the interbank money market in Indonesia suffered a devastation caused by the monetary crisis. Another problem occurs when globalization system of the world market brings liberalization system to the international market, therefore the condition causes difficult problems to control monetary to the resilience of the world economy. Policies and strategies at the time focused on maintaining foreign exchange speculation and also to protect foreign exchange reserve. Actually, one factor that caused the economic crisis since 1997-1998 is foreign private debt in the short term and medium term, thereby burdening the exchange rate due to weakening of foreign reserves to buy debt and additional interest. Another reason is that our national banking system is weak at that time.

Foreign exchange reserve or international reserves and foreign currency liquidity (IRFCL) based on IMF have definition as all of assets overseas which is controlled by monetary authority and can be useful every time for paying imbalance of balance of payment or monetary stabilization by doing intervention and other purpose. Foreign exchange reserve has relations to the balance of payment, usually to purchase import and liabilities of foreign country. The accumulation foreign exchange reserve of country usually is determined by international trade (export and import) and also capital flows in that country.

Net export as one of the contributor toward foreign exchange reserve, because if Indonesia send export good and service to the foreign country, automatically Indonesia receive the foreign money from other country, so accumulation of foreign money can give additional toward foreign exchange reserve in Indonesia. One factor which is give influence toward foreign exchange reserve is exchange rate, the depreciation of exchange rate from 2.4% until 5.8%, which is under real value, make exchange rate overvalued and very vulnerable toward attack and game speculation.

Foreign debt actually have important role also toward foreign exchange reserve, because when Indonesia faced economy crisis in 1998, one factor which causes the problem is private foreign debt. Finally weakening of Foreign exchange reserve at that time cannot be able to paid private foreign debt, moreover the debt added by highly interest.

Based on the background, this research is entitled as follows:

"Determinant Analysis of Indonesia's Foreign exchange reserve (2009:01-2016:12)"

RESEARCH OBJECTIVES

Based on the research questions, the objective of the research are as follows:

1. To know the relationship between net export in short term and long term toward foreign exchange reserve period 2009 -2016 monthly.
2. To know the relationship between exchange rate in short term and long term toward foreign exchange reserve period 2009-2016 monthly.

THEORITICAL FRAMEWORK

Foreign Exchange Reserve

Foreign exchange reserve which is often called by International reserve and foreign currency liquidity or official reserve assets defined as all overseas assets were controlled monetary authority and can be useful every time. Based on that definition, foreign exchange reserve of the country can be useful for protecting exchange rate stabilization and also pay deficit in the balance of payment.

Foreign exchange reserve is commonly measured by the ratio of official reserve to imports, if foreign exchange sufficient to cover import of country for 3 months, it means that in safety condition, but if reserve just enough for 2 months or less, it created pressure on the balance of payment (Kamaludin 1998) (M.S 2001).

Net Export

According to the (Mankiw 2005) net export is the value of goods and service which is exported to the other country reduced by the value of goods and service which is imported from other country. Net export have positive value if value of export more than value of import, meanwhile if value of import more than value of export it means the value of net export is negative. Net export show us the expenditure of net from board based on our goods and service, which gives income to the domestic producer. He explain if net export is foreign party purchase on several kinds of goods and service which is produced in exported country reduced by buying of people.

Exchange Rate

The theory determination of movement exchange rate, in the beginning is developed by supporter's Keynesian ,Lerner (1936), Metzler (1942), Harbeger (1950), Laursen and Metzler (1950) and Alexander (1952),most of the study is focused toward the importance of demand elasticity and supply of export and import, demand and supply foreign currency and the condition, whereas devaluation probably have effectively for increasing trade balance. This theory developed since 1960, such as Mundell-fleming model, sticky-prices monetary model, and portfolio balance model.

Foreign Debt

Foreign debt of the Indonesian population to non-residents both in foreign currency and/ or rupiah including in the form of financing based on sharia principles. Indonesia's foreign debt includes public sector (government and central bank) sectors and the private sector in the form of loan agreements, trade credits, debt securities, cash and deposits, and other liabilities.

According to the Michael (Todaro 2008) foreign debt is the financial source from external, both in form of grant or loan, have an important role for completing the lack of domestic natural resources so that it can increase foreign exchange growth and saving. The development country give assumption if one country face barrier as limited saving in domestic which haven't enough yet for handling all of the investment opportunity and also as well as the scarcity of foreign exchange that does not allow it to import capital goods and intermediate goods that are essential for the development of the country.

RESEARCH METHODOLOGY

This research conducted by using time series data that is foreign exchange reserve, net export, exchange rate and foreign debt, which is secondary data from period 2009: M01 - 2016: M12. The data was taken from the legal source that is the publication of Central Bank of Indonesia in shape of monthly data.

The analysis method that is, to know how the relationship between net export, exchange rate and foreign debt in short term and long term toward foreign exchange reserve. This research use Error Correction Model (ECM) method.

DISCUSSIONS AND RESULTS

A. Classical Assumption

1. Multicolinearity

Multicollinearity test has the purpose to test whether there is high correlation or complete between independent variables in the regression model. The good model must free from the correlation between independent variables.

Result of correlation

	FD	KURS	NETEXPORT
FD	1.000000	0.754485	-0.122145
KURS	0.754485	1.000000	-0.285266
NETEXPORT	-0.122145	-0.285266	1.000000

The result is all independent variable is free from multicollinearity problem, because there is no variable which have value more 0.85, so can be concluded if there is no multicollinearity in this research.

2. Heteroscedasticity

Heteroscedasticity test have the purpose to know whether residual of the model have a constant variance or there is not constant variance. The good model is the model which is free from heteroskedasticity.

The Result of Heteroskedasticity Test

Heteroscedasticity Test: ARCH			
F-statistic	0,015416	Prob F	0,9015
Obs* R-squared	0,015748	Prob Chi-square	0,9001

Based on the table above, can be concluded if Obs*R-squared value is 0,015748 which have the probability value around 0,9001, because of the probability value 0,9001 more than 0,05, so that there is no heteroscedasticity in this model.

3. Autocorrelation Test

Autocorrelation test has the purpose to know whether is there any correlation among residual in the model or there is no correlation among them. The good model is the model which is free from autocorrelation problem.

The Result of Autocorrelation Test

Bresudh-Godfrey Serial Correlation LM Test			
F-statistic	0,515596	Prob F	0,5989
Obs* R-squared	1,100324	Prob Chi-square	0,5769

Based on the result above, the Obs*R-squared value is 1,100324 which have probability value around 0,5769, because of probability value 0,5769 is more than 0,05, so can be concluded if there is no autocorrelation in this model.

B. The Dynamic Assumption

1. Stationary test

Stationary test have the purpose to know whether research data stationery or not, if the data have stationary, so the data will avoid spurious regression or other dubious regression

a. Unit Root Test

Unit Root test in this research using Augmented Dickey-Fuller (ADF) test, based on ADF in the level, the result are:

Unit Root test with ADF test at the level

Variable	Uji Df
Foreign exchange reserve	Prob 0,1161
Net Export	Prob 0,2460
Foreign debt	Prob 0,5109
Exchange rate	Prob 0,9380

Based on table 2, all variables (Foreign exchange reserve, net export, foreign debt, and exchange rate) non-stationary at the level, since the probability value is more than 5% of the critical value.

b. Stationery test in 1st different

The result of all variable in unit root test is non-stationary in the level, then it must be the Unit root test again in the 1st different, to know at what level data will be stationer. The test integration degree from each variable is shown in the table below:

Stationery test in 1st differential

Variable	Uji Df	explanation
Foreign exchange reserve	0.0000	Stationer
Net export	0.0001	Stationer
Foreign debt	0.0001	Stationer
Exchange rate	0.0000	Stationer

Source: Appendix 2B

Based on data in table 3, can be concluded if all variables are stationer in the 1st different, because the probability is lower than 5% critical value, so that the result can be continue to the cointegration and ECM test

c. Cointegration test

This research use cointegration with residual-based test, and also use Augmented dickey-fuller to observe whether residual regression of cointegration is stationer or not. The value of ADF can be resulted by cointegration regression equation with OLS method (Ordinary Least Squares). The cointegration regression equation, they are :

$$CD_t = \alpha_0 + \alpha_1 \, NX + \alpha_2 \, FD + \alpha_3 \, ER + \mu t$$

This table below shows the result of cointegration regression equation:

The Result of OLS Cointegration Regression

Dependent variable	coefficient	t-statistic	Probability	Adjusted R
Foreign Debt	911,2438	34,44837	0,0000	0,90
Exchange Rate	-15,40939	-1,046729	0,0000	
Net Export	0,007285	0,001056	0,0000	

Based on the table above, foreign debt, exchange rate, and net export give the significant influence at 5% critical value toward foreign exchange reserve. R squared value around 0.90 which is means if the variation of endogenous variables can be explained by Independent variables at the equation around 90%, meanwhile another factor around 10% is explained by other factor beyond the research.

The next step is to test unit root test toward residual value ect by using ADF method. The formula below shows the result of regression equation:

$$ect = CD = \beta_0 + \beta_1 \, FD + \beta_2 \, ER + \beta_3 NX + e \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$

The next step after having residual value is to test residual value, whether it has stationer or not stationer.

This table showing the result of cointegration test with ADF method in level:

The Value of Cointegration Test with ADF method in level

Variable	Adf Value	Critical value 5%	Probability	Decision
Residual	-4,776555	-2,892200	0,0001	Stationer

Source : Appendix 2D

Based on cointegration test with ADF method, in the table above show if residual value absolut ADF -4,9776555 > 5% critical value that is -2,892200, so that residual value have stationer in the level and be conclude if there is cointegration in the model, so that ECM formulation can proceed.it have meaning if there is balance or stabilization among variables in the long-term.

d. Error Correction Model Test (ECM)

The next step after do cointegration test is to establish Error Correction Model equation, the equation will be set as follows:

$$\Delta CD = \Delta\beta_0 + \Delta\beta_1 FD + \Delta\beta_2 ER + \Delta\beta_3 NX + \Delta\beta_4 e - 1 + e \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$

Explanation:

CD = Cadangan Devisa (Foreign Exchange Reserve)

FD = Foreign Debt

ER = Exchange rate

NX = Net Export

e-1 = Residual Equation

The equation was built based on the result if all variables have stationer in *first difference* which is shown by Δ notation.ECM model is used to estimate the effect of short term and long term which is caused by fluctuation and time lag for each independent variable. The table below shows the result of ECM test:

The result of ECM Model

Variable	**Coefficient**	**Std Error**	**t-statistic**	**Prob**
C	-644,1174	792,6851	-0,812577	0,4186
D(Foreign debt)	1031,064	240,2754	4,291175	0,0000
Exchange rate	0,829128	2,506600	0,330778	0,7416
Net export	0,002614	0,000679	3,848709	0,0002
ECT (-1)	-0,282344	0,058388	-4,835631	0,0000
R-squared	0,365756	Probability (F-statistic)	0,000000	

The equation below obtained from the result of ECM test:

$$CD = \beta_0 + \beta_1 FD + \beta_2 ER + \Delta\beta_3 NX + ect\ (-1)$$

CD: -644,1174+ 1031,064 FD+ 0,829128 ER+ 0,002614 NX – 0,282344 ect (-1)

The equation above shows if coefficient value ECT in this model is negative and significant for foreign exchange reserve estimation. The result of ECM estimation above explains if there is the significant influence of model toward foreign exchange reserve in the long term and short term. If ect value smaller, so the correction process of short term is faster to reach the balance of long-term, because of that ect variable in ECM is often called by the factor of inaction, which has the value smaller than 0,ect < 0. The ect coefficient in this model, reach -0,282344 and have probability which is significant at 5% critical value that is around 0,0000, because of that the ECM model is valid. The speed of error correction to correct the behavior of each variable in the short term is around 27%, so that can reach the balance in the long term.

Based on the estimation of ECM above the constant value is around -644,1174 which is means if all of the variable is considered constant or there is no change, then the rate of foreign exchange reserve is around -644,1174

Based on that estimation in short-term shows if R-squares is around 0,365756 which is mean if foreign exchange reserve model can be explained by foreign debt, exchange rate and net export around 37%, meanwhile the other explanatory is explained beyond the model

C. Discussions

The Recapitulation of Influence Independent Variable toward Dependent Variable in Short term and Long term

Variable	Short-Term		Long-term	
	Coefficient	Probability	Coefficient	Probability
C	-644,1174	0,4186	24788,07	0,0026
Foreign debt	1031,064	0,0000	911,2438	0,0000
Exchange rate	0,829128	0,7416	-15,40939	0,0000
Net Export	0,002614	0,0002	0,007285	0,0000

1. The influence of Foreign Debt variable toward Foreign Exchange Reserve in Indonesia

The coefficient value of foreign debt in the short term around 911,2438 that shows if foreign debt increasing 1 unit, then foreign exchange reserve will increasing around IDR 91.12438 with the assumption if exchange rate and net export constant and there is no change. The coefficient foreign debt has positive value toward foreign exchange reserve in the short term, the probability value of foreign debt around 0,0000, this value is smaller than critical value 5% which is mean if the foreign debt have significant influence toward foreign exchange reserve, meanwhile the coefficient of foreign debt in the long term is around 1031,064 that shows if foreign debt is increasing 1 unit, then foreign exchange reserve will increasing around IDR 1.031,064, with the assumption if exchange rate and net export are constant and there is no change. The coefficient of foreign debt has positive value, so that foreign debt have significant influence toward foreign exchange reserve in the long term, which is mean if the test is suitable with the hypothesis which is used in this research.

This research also strengthened by the goal of research was conducted by (Maulana 2014), the goals is foreign debt have positive influence toward foreign exchange reserve and also suitable with the theory of Michael Todaro, foreign debt is one of financial source from outside (whether grant or loan) and also have important role to complete the lack of domestic resources to encourage the growth of foreign exchange and saving (the analysis of foreign loan "two gaps"). The goals of this research also suitable with other research was conducted by (Febriyanti 2013), the goals are foreign debt have a positive impact toward foreign exchange reserve, because the calculation of foreign debt can give additional toward capital account. increasing capital account can give influence to the asset in the balance of payment, and the calculation of foreign debt in the asset can give additional toward foreign exchange reserve, which is mean foreign exchange reserve will be increasing because of foreign debt calculation.

The research above indicates if foreign debt has the positive influence toward foreign exchange reserve in the short term and long term, as we know the government use and maintain the foreign debt to increase infrastructure and cover budget deficit which is occurs at APBN in Indonesia. Indonesia as the developing country need to develop their infrastructure, health sector, education sector and others, because the infrastructure one of the source to give positive impact toward economic growth. Even though foreign debt always increasing until reach U$ 316,0 million, but the prediction of foreign debt still safety in 2016, the accumulation of foreign debt which is not controlled by good management will make burden to the economy growth and can reduce the foreign exchange reserve, meanwhile the private sector maintain the foreign debt as fund to protect their activity, whether to make investment continuously or to protect the market which is controlled by them, if that investment from foreign country have good control toward productive sector and also it produces foreign exchange in the future, so the burden of foreign debt payment can be overcome, in order to avoid monetary crisis which is occurs in several years ago.

2. The influence of Exchange Rate toward Foreign Exchange Reserve in Indonesia

The coefficient value of exchange rate in the short term is around 0,829128, that show if exchange rate value is increasing 1 unit, then foreign exchange reserve will be increasing around IDR 0,829128 with the assumption if foreign debt and net export is constant and there is no change. The coefficient value of exchange rate has positive value toward foreign exchange reserve in the short term. However, it have probability value around 0,62, this value is higher than 5% which is mean if there is no impact of exchange rate toward foreign exchange reserve in the short term.

Meanwhile, the coefficient value of exchange rate in the long term is around -15,40939 that shows if the exchange rate is increasing 1 unit, then foreign exchange reserve will decreasing around IDR15,40939, with the assumption, if foreign debt and net export is constant and there is no change. The coefficient of exchange rate has the negative value and have probability 0,0000 which is mean if exchange rate has the negative impact on foreign exchange reserve in the long-term.

The result above is suitable with other research was conduct by (Maulana 2014) the goal of research is exchange rate have negative influence toward foreign exchange reserve, the reason is because if there is transaction in international trade, the demand of valas will increasing and make the exchange rate depreciate toward dollar, so that makes the decreasing value in foreign exchange reserve. The research was conducted by (Pundy Sayoga 2017) also have result, if exchange rate give negative influence toward foreign exchange reserve, when exchange rate increase which is mean depreciate, because of dollar is appreciated toward rupiah, then exchange rate(Rupiah) will depreciate and causes the foreign exchange reserve decreasing, so that exchange rate has negative influence toward foreign exchange reserve.

According to the theory of (Syarifuddin 2015) Exchange rate itself have relations with foreign exchange, when exchange rate depreciate that can give influence toward import, the import will be increasing, and the demand of foreign exchange is higher, so that can give influence toward deficit in the balance of payment. This deficit can give negative influence toward foreign exchange reserve, oppositely when the exchange rate appreciate toward dollar. The export activity will be increasing and make the supply of foreign exchange will be increasing, finally this foreign exchange can give additional toward the balance of payment, and it will give positive influence toward foreign exchange reserve.

Several months previously, the exchange rate is fluctuated and reach IDR 14.000,00 in the end of 2015, this condition makes bank Indonesia give intervention from foreign exchange reserve to make stabilization toward exchange rate, because that intervention, foreign exchange reserve decrease, meanwhile exchange rate return to the IDR 13.000,00 in the beginning of 2016. Exchange rate still fluctuated until the end of 2016, therefore foreign exchange reserve still safety to adequate import liabilities around 7-8 monthly import. According to the international regulation, the safety of foreign exchange reserve measurement is based on the capability of foreign exchange reserve to make stabilization toward exchange rate and also can adequate import liabilities around 3 months, meanwhile the fluctuation of exchange rate not give influence toward foreign exchange reserve in the short term, because of foreign exchange reserve still capable to make exchange rate more stable, when exchange rate depreciate toward dollar.

3. The Influence of Net Export toward Foreign Exchange Reserve in Indonesia

The coefficient value of net export in the short term is around 0,007285 that shows if net export increasing 1 unit, then foreign exchange reserve will decreasing IDR 0,007285, with assumption, if exchange rate and foreign debt is constant and there is no change. The coefficient of net export has positive value toward foreign exchange reserve in the short term. the probability value of net export is around 0,002, this value is smaller than critical value 5% which is mean if there is positive influence on net export and foreign exchange reserve in the short term.

Meanwhile, the coefficient value of net export in the long term is around 0,007285, that shows if net export is increasing 1 unit, then foreign exchange reserve will increasing IDR 0,07285, with assumption, if exchange rate and foreign debt is constant and there is no change. The Coefficient of net export have positive value toward foreign exchange reserve and have probability value around 0,0000 which is mean if net export have significant value and there is significant influence between foreign exchange reserve in the long term for period (2009:01- 2016:12)

This goal of research also strengthened by the research was conducted by (Febriyanti 2013), the result is net export have the positive influence toward foreign exchange reserve.net export is the one source of calculation in the balance of payment. The total of net export surplus, when export activity is higher than the import activity, because the next export will give positive influence toward the balance of payment and after that BOP can give influence toward foreign exchange reserve. Meanwhile the export activity is one component of the source in foreign exchange reserve, in contrast when the import activity is higher rather than export activity it means the net export is deficit. The deficit in balance of payment can give negative influence toward foreign exchange reserve, so that the calculation of foreign exchange reserve will decreasing when the net export faces deficit in the balance of payment. This result also suitable for the theory of advantage export activity was written by (Sutedi 2014) in the book of law export-import, explain if one of advantage from export activity is one source for increasing foreign exchange reserve in the country. Meanwhile the export activity always increases from 2014 until 2016 even though oil import is higher rather than export from oil sector. The influence of net export toward foreign exchange reserve is positive significant in the short term, even though the import liabilities is bigger than export spending, so that make the balance of payment is deficit in several months at 2013, the calculation of net export still show positive and safety toward foreign exchange reserve, this condition is because foreign exchange reserve still to adequate import liabilities. according to the (Dumairy,1997), the position of foreign exchange reserve is safety if can adequate import requirement at least 3 months payment, although oil import is higher rather than oil export, but this condition does not give negative influence toward foreign exchange reserve in Indonesia

A. CONCLUSIONS

Based on the research by using the title “The Determinant Analysis of Foreign Exchange Reserve in Indonesia (Period 2009:01-2016:12)”there is several conclusion as follows:

1. Based on the result of analysis between independent variable foreign debt of foreign exchange reserve in Indonesia have the goal if foreign debt have the positive influence and significantly toward foreign exchange reserve in the short term and long-term.
2. Based on the result of analysis between independent variable net export toward foreign exchange reserve in Indonesia have the goal if net export have the positive influence and significantly toward foreign exchange reserve in the short term and also long term.
3. Based on the result of analysis between independent variable exchange rate toward foreign exchange reserve in Indonesia, have the goal if exchange rate have the negative influence and significantly toward foreign exchange reserve in the long term, meanwhile the exchange rate did not give influence in short term.

B. RECOMMENDATIONS

Based on the conclusion above, so the writer want give the suggestion to the related parties, so that this research has big benefit. There is several suggestions, they are:

1. For the government

   a) The government should maintain the foreign debt, even though the foreign debt give positive influence toward foreign exchange reserve in Indonesia, but sometimes the higher value of foreign debt can give the burden toward foreign exchange reserve and also economic growth like the problem which occur in several years before, so that foreign debt should be arranged well.

   b) Net export as one contribution toward the calculation of foreign exchange reserve in Indonesia, so that net export has the important role for it. The government should give attention toward net export and protect the surplus in the balance of payment by maintaining export activity and reducing import activity, because if import more higher than export can make the deficit in the balance of payment and also can give influence toward foreign exchange reserve.

   c) The government should protect the stabilization of exchange rate whether from external or internal, because the bad fluctuation can give negative influence toward foreign exchange reserve, so that the government should maintain the fluctuation of exchange rate as the fundamental of economy

2. For the next researcher
    a) There are only three variables which is used in this research they are: Foreign debt, net export and, exchange rate. Therefore the next researcher can add the other variables which have big influence toward independent variable.
    b) The next researcher can add the other methodology, so that can give better result
    c) The next researcher can give Islamic value to the next research, so can compare between conventional and Islamic perspective

REFERENCE

Adegbola. "Principle and Practice of International Trade." *National open University of Nigeria*, 2017: 26.

Agustina, Reny. "Pengaruh Eskpor,Impor,Nllai Tukar dan Tingkat Inflasi Terhadap Cadangan Devisa Indonesia." *Wira Ekonomi Mikrosil*, 2014: 1-10.

Andrian Sutedi, SH MH. *Hukum Ekspor dan Impor.* Jakarta, 2014.

Andrian Sutedi, SH.MH. *Hukum Ekspor dan Impor.* Jakarta: Raih Asa sukses, 2014.

Beny, Jimmy. "Ekspor dan Impor Pengaruhnya Terhadap Posisi Cadangan Devisa di Indonesia." *Jurnal EMBA*, 2013: 1-10.

Naqib Danesjho, Ph.d. "International Trade." *Transfer Inovacii*, 2014: 1-3.

Kardoyo. "*Perdagangan Internasional".* Kementrian Pendidikan dan Kebudayaan Direktorat Jendral Guru dan Tenaga Kependidikan, 2016.

Dumairy. *Perekonomian Indonesia.* Jakarta: Erlangga, 1997.

Febriyanti, Mega. "Faktor Faktor yang Mempengaruhi Cadangan Devisa dan Net Ekspor di Indonesia." *Kajian Ekonomi*, 2013: 1-16.

Gandhi, Dyah Virgoana. "Pengelolaan Cadangan Devisa." *Seri Kebanksentralan Bank Indonesia*, 2006: 3.

Gandhi, Dyah Virgoana. "Pengelolaan cadangan Devisa di Bank Indonesia." *Seri Bank Kesentralan*, 2006: 1-74.

Indonesia, Bank. "Statistika (SEKI)." *Satitistik*, 2016: 1.

Kamalia, Farah. "Pengaruh Ekspor Impor terhadap PDB." 2011: 66-67.

Kamaludin, Rustian. *Pengantar Ekonomi Pembangunan.* Jakarta: Fakultas Ekonomi Universitas Indonesia, 1998.

Killic, Rehim. "Absolute and Comparative Advantage." *Ricardian model*, 2002: 3-10.

M.S, Amir. *Ekspor dan Import,Teori dan Penerapannya.* Jakarta: PPM, 2001.

Mankiw, N.Gregory. *Macroeconomics.* Harvard: Worthpublishers, 2005.

Marulitua, Sahat. "Pengaruh Hutang Luar Negri,Net Ekspor dan Belanja Wisatawan Mancanegara terhadap Cadangan Devisa di Indonesia Periode 1994-2013." *E-jurnal EP UNUD*, 2017: 1-29.

Maulana, Asep. "Pengaruh Inflasi,Kurs Rupiah dan Hutang Luar Negri terhadap Cadangan Devisa di Indonesia." *Universitas Sultan ageng Tirtayasa*, 2014: 1-10.

Obstelfd, Paul Krugman and Maurice. *International Economics.* USA, 2003.

Pasaribu, Rowland P F. "Hutang Luar Negri dan Pembiayaan Pembangunan di Indonesia." n.d.: 385.

Prawoto, Agus Tri Basuki and Nano. *Analisis regresi.* Jakarta: Raja Grafindo, 2016.

Pundy Sayoga, Syamsyurijal Tan. "Analisis Cadangan Devisa dan Faktor yang Mempengaruhinya." *Jurnal Paradigma Ekonomika*, 2017: 1-6.

Rizieq, Rahmatullah. "Analisis Faktor Faktor yang Mempengaruhi Cadangan Devisa di Indonesia." *Jurnal Equlibirium*, 2006: 1-17.

Robert f, engle and C.W.J granger. "Co integration and Error Correction Representation Estimation and Testing." *Ekonometrika*, 1987: 1-26.

Salvator, Dominick. *International economics.* Jakarta: Erlangga, 1990.

Sayekti, Nidya Waras. "Kebijakan Indonesia atas Utang Luar negri dan Keuangan Global." *Ekonomi dan Kebijakan Publik*, 2015: 2.

Silitonga, Roma Dear. "Pengaruh Ekspor Import dan Nilai Tukar terhadap Cadangan Devisa di Indonesia Periode 2009-2014." 2015: 12-13.

Simorangkir, Iskandar. "Sistem dan Kebijakan Nilai Tukar." *Seri Kebanksentralan*, 2015: 1-19.

Sukirno, Sadono. *Ekonomi Pembangunan.* Jakarta: Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia, 1985.

Syarifuddin, Dr.Ferry. "Konsep,Dinamika dan Respon Nilai Tukar di Indonesia." *Seri Kebanksentralan*, 2015: 53-61.

Tarmidi, Lepi T. "Krisis Moneter Indonesia." *Buletin Ekonomi Moneter*, 1999: 1-5.

Todaro, Michael P. *Ekonomi Pembangunan.* Jakarta: Erlangga, 2008.

wiguna, Ega. "Analisa Determinasi Cadangan Devisa di Indonesia." 2016: 1-27.

Zhang, W.B. "International Trade Theory." *Springer*, 2008: 1-30.

Bank Indonesia. (2015). Cermat Kelola Nilai Tukar Rupiah.*Gerai Info BI,* 1-5