Significant Relationships In The Value Of Currency Exchange Rate In Southeast Asia

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Abstract: This study aims to investigate significantly among the exchange rates of several countries in the Southeast Asia region. The data in this study consisted of mature currency exchange rates from Malaysia, Philippines, Thailand, and Indonesia, with standards converted into US dollars. This study uses a simple regression analysis model to see the significant level that occurs by proposing four simple regression models. The result of this study is that there is a significant relationship between the exchange rates of several countries in the region of Southeast Asia with the proposed model in the study.

1 INTRODUCTION

The rupiah currency has been used for a long time by Indonesia. The exchange rate against other countries' currencies continues to decline from the first time used. Formerly in the early days of independence, Indonesia has not used the rupiah currency but uses an official currency known as ORI or Oeang Repoeblik Indonesia. ORI has a circulation period in Indonesia for four years, ORI has been in use since 1945-1949. However, the legitimate use of ORI has only begun since the launching of this currency by the government as the Indonesian currency on October 30, 1946. In November 1949 recorded the exchange rate of the rupiah against an American dollar worth Rp 3.80. In November 1965 or about 16 years later, the rupiah exchange rate slumped to one US dollar worth Rp 4.995, or dropped by 1314%. This slump was caused by denomination as a policy of the Third Deputy Prime Minister, Chairul Saleh, he replaces the old money with new money with the exchange rate of Rp 1,000 old money to Rp 1 new money. This denomination immediately led to inflation of up to 650%.

Years change, the rupiah continues to decrease in value against the world's benchmark currency, namely the US dollar. Until the peak occurred in December 1997 - January 1998 from the exchange rate of one US dollar worth Rp 5.915 to reach Rp 14,800. It was the impact of the monetary crisis that swept across Southeast Asia. The government at that time, kept trying to control it by continuing to flush the rupiah to the market. Until February and April 1998 the rupiah exchange rate was Rp 7,400 and Rp 8,000. However, the monetary crisis was too strong for Indonesia, until June 1998 the rupiah exchange rate became Rp 16,800 against one US dollar, which resulted in a rampant demo to the government and ended with the fall of President Suharto. The government changed, but the rupiah continued to erode against the US dollar until it was recorded on September 2015 one US dollar worth Rp 13,500. So from the beginning of the use of rupiah has been eroded Rp 3.80 to Rp 13,500 or 3,552%.

This study aims to see how significant the rupiah currency, especially with some countries in Southeast Asia region, such as Malaysia, Philippines, and Thailand.

2 THE CURRENCY VALUE THEORY

Can be defined as the exchange rate is the sum of money from a particular currency that can be exchanged with one unit of currency in another country. The increase in the exchange rate of domestic currency is called the appreciation of the foreign currency. The decline in the domestic currency exchange rate is called depreciation of the foreign currency. Meanwhile, devaluation is a government policy to reduce the rupiah exchange

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rate to foreign currency. Moreover, revaluation is a government policy to increase the rupiah exchange rate to foreign currency.

The exchange rate system is highly dependent on a country's monetary policy. The shape of the exchange rate system can be divided into two forms: Karim, A. (2002)

a. Fixed Exchange Rate System

It is an exchange rate system in which the value of a currency is maintained at a certain level against a foreign currency. Moreover, if the exchange rate moves too big, then the government intervenes to return it. This system began to be applied in the post-World War II marked by the convening of a conference on exchange rate system held in Bretton Woods, New Hampshire in 1944.

b. Floating Exchange Rate System

After the collapse of the Fixed Exchange Rate System, a new concept of the Floating Exchange Rate System emerged. In this concept, the exchange rate is allowed to move freely. The exchange rate is determined by the power of demand and supply of the currency in the money market.

Facts that occur in many countries of the world embrace the variance of the two central systems of exchange rates above. According to Gilis (1996), in Abimayu, there are six exchange rate systems based on the magnitude of foreign exchange interventions and views owned by a country's central bank, which is used by many countries in the world, among others, Abimanyu, Y. (2004).

1) Fixed-Rate (fixed exchange rate)

In this system, the monetary authority always intervenes the market to maintain its currency exchange rate against one particular foreign currency. These interventions require relatively sizeable foreign exchange reserves. Pressure on foreign exchange rates, which usually originate from trade balance deficits, tends to result in devaluation policies.

2) Free Floating Rate System (free-floating exchange rate)

This system is at the poles as opposed to fixed systems. In this system, the monetary authority is theoretically unnecessary to intervene in the market so that the system does not require vast foreign exchange reserves. This system is valid in Indonesia today.

3) Wider Band System

In such systems, the exchange rate is allowed to float or fluctuate between two points, highs, and lows. If the state of the economy causes the exchange rate to move beyond the upper and lower limits, then the monetary authority will implement

intervention by buying or selling rupiah so that the rupiah exchange rate is between the two points that have been determined.

4) Controlled Floating System

In this system, the monetary authority does not determine to maintain a particular exchange rate. However, monetary authorities continually implement interventions based on specific considerations, such as depleting foreign exchange reserves. The monetary authority will intervene in order for the currency to strengthen to encourage exports.

5) Peg System Crawling

The monetary authority in this system links the domestic currency with several foreign currencies. The exchange rate is periodically changed gradually in small percentages. This system was used in Indonesia in the period 1988-1995.

6) Adjustable Peg System

In this system, the monetary authority other than committed to maintaining the exchange rate is also entitled to change the exchange rate in the event of a change in economic policy.

3 Factors Affecting the Exchange Rate

In a fixed exchange rate system, the local currency is fixed steadily against foreign currencies. While in a floating exchange rate system, the exchange rate or exchange rate may vary at any time, depending on the amount of supply and demand of foreign currency relative to the domestic currency. Any change in the supply and demand of a currency will affect the exchange rate of the currency concerned.

In the case of the demand for foreign currency relative to the rising domestic currency, the value of the domestic currency will decrease. Conversely, if the demand for foreign exchange decreases, the value of the domestic currency increases. Meanwhile, if the foreign exchange offerings increase relative to the domestic currency, then the domestic currency exchange rate increases. Conversely, if the supply decreases, the exchange rate of the domestic currency decreases. Judging from the factors that influence it, three main factors affect the demand for foreign exchange, namely:

1) Import payment factor

The higher the import of goods and services, the greater the demand for foreign exchange so that the exchange rate will tend to weaken. Conversely, if imports decline, then demand for foreign exchange

decreases to encourage the strengthening of the exchange rate.

2) Outflow capital factor

The higher the capital out, the higher the demand for foreign exchange and in the future will weaken the exchange rate of money. Capital outflow involves repayment of Indonesian (both private and government) debt to foreigners and placement of Indonesian citizens overseas.

3) Speculation activities

The more speculative foreign exchange activity conducted by speculators, the higher the value of demand for foreign exchange, thus weakening the exchange rate of the local currency against foreign currencies.

3 MAIN FACTOR INFLUENCE FOREIGN EXCHANGE OFFERING

Meanwhile, foreign exchange offerings are influenced by two main factors, namely:

1) Factors of receipt of export proceeds

The higher the volume of export revenues of goods and services, the higher the amount of foreign exchange held by a country and in the future the exchange rate against the foreign currency tends to strengthen or appreciate. Conversely, if exports decline, then the amount of foreign exchange owned young decreased so that the exchange rate also tends to depreciate.

2) Capital inflows factor

The higher the capital inflows, the exchange rate will tend to strengthen. The capital inflows can be in the form of foreign debt receivable, short-term fund placement by outside party (Portfolio investment), and foreign direct investment (foreign direct investment).

The definition of exchange rate or exchange rate (foreign exchange rate), among others, stated by Abimanyu in his book 'Understanding foreign exchange rates' is the price of a country's currency relative to other currencies. Because this exchange rate covers two currencies, then the balance point is determined by the supply and demand side of both currencies.

Exchange rates or more popularly known as currency rates are the quotation of the market price of a foreign currency in the domestic currency or its reciprocal currency, the domestic currency price in foreign currency. The exchange rate represents the exchange rate of exchange from one currency to another and is used in various transactions, including international trade transactions, tourism, international investment or short-term cash flow between countries, which passes geographic boundaries or boundaries law.

The exchange rate of a currency can be determined by the government (monetary authority), as in countries using fixed exchange rates system or is determined by a combination of interacting market forces as well as government policies such as those in the regime system 'flexible exchange rates.

Since each country has a relationship in investment and trade with another country, no exchange rate can adequately measure the purchasing power of the domestic currency over foreign currencies in general. Therefore, several concepts of effective exchange rate have been developed to measure the weighted average of foreign currency prices in domestic currency Karim A. (2004).

4 RESEARCH METHODS

This research was conducted in June 2017 using variable data from currency exchange rates of several countries in Asia such as Indonesia, Thailand, Philippines, and Malaysia. The analysis in this study using the proposed model as follows:

1. $IDRit = \alpha0 + b1\ MR\ it + b2PPit + b3TBit + \varepsilon it$

2. $IDR\ (-1)\ it = \alpha0 + b1\ MR\ (-1)\ it + b2PP\ (-1)\ it + b3TB\ (-1)\ it + \varepsilon it$

3. $D(IDR)it = \alpha0 + b1\ D(MR)\ it + b2D(PP)it + b3D(TB)it + \varepsilon it$

4. $D(D(IDR))\ it = \alpha0 + b1\ D(D(MR))\ it + b2D(D(PP))\ it + b3D(D(TB))\ it + \varepsilon it$

IDR it is Indonesian rupiah, MR it is a Malaysian ringgit, PP it is Philipina Peso, TB it is Thailand bath. D is different first, DD is twice different. (-1) Is a derivative first year.

5 RESEARCH RESULT

In this study, proposed four models of multiple regression analysis that aims to answer the problem, whether among the exchange rates of several

countries in the Southeast Asia region is significantly related.

Model 1

Model 1 proposed, and has the following results:

Table 1: Result for regression model 1

Dependent Variable: IND_RUPIAH			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.1360	0.0580	88.5001	0.0000
MALAY_RINGGIT	1.4524	0.0791	18.3560	0.0000
PHIL__PESO	-0.6684	0.0518	-12.9084	0.0000
THAI_BAHT	-0.5246	0.0693	-7.5700	0.0000
R-squared	0.1407	Mean dependent var		3.9842
Adjusted R-squared	0.1398	S.D. dependent var		0.0424
S.E. of regression	0.0393	Akaike info criterion		-3.6336
Sum squared resid	4.1459	Schwarz criterion		-3.6248
Log likelihood	4887.5190	Hannan-Quinn criter.		-3.6304
F-statistic	146.5332	Durbin-Watson stat		0.0174
Prob(F-statistic)	0.0000			

Source : Proceed by author with software

Model 2

Model 2 proposed, and has the following results:

Table 2: Result for regression model 2

Dependent Variable: IND_RUPIAH(-1)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.135080	0.058044	88.46886	0.0000
MALAY_RINGGIT(-1)	1.452388	0.079123	18.35602	0.0000
PHIL__PESO(-1)	-0.667129	0.051797	-12.87975	0.0000
THAI_BAHT(-1)	-0.525341	0.069305	-7.580171	0.0000
R-squared	0.140556	Mean dependent var		3.984184
Adjusted R-squared	0.139595	S.D. dependent var		0.042372
S.E. of regression	0.039303	Akaike info crit.		-3.633528
Sum squared resid	4.144566	Schwarz criterion		-3.624751
Log likelihood	4885.645	Hannan-Quinn crit.		-3.630353
F-statistic	146.2616	Durbin-Watson stat		0.017317
Prob(F-statistic)	0.000000			

Source : Proceed by author with software

Model 3

Model 3 proposed, and has the following results:

Table 3: Result for regression model 3

Dependent Variable: D(IND_RUPIAH)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.74E-05	4.97E-05	-1.3559	0.1753
D(MALAY_RINGGIT)	0.241796	0.020966	11.5327	0.0000
D(PHIL__PESO)	0.066097	0.011073	5.9693	0.0000
D(THAI_BAHT)	0.050366	0.012412	4.0578	0.0001
R-squared	0.074862	Mean dependent var		-6.02E-05

Adjusted R-squared	0.073828	S.D. dependent var	0.002678
S.E. of regression	0.002577	Akaike info crit.	-9.083038
Sum squared resid	0.017815	Schwarz criterion	-9.074260
Log likelihood	12207.06	Hannan-Quinn crit.	-9.079863
F-statistic	72.36940	Durbin-Watson stat	2.198009
Prob(F-statistic)	0.000000		

Source : Proceed by author with software

Model 4

Model 4 proposed, and has the following results:

Table 4: Result for regression model 4

Dependent Variable: D(D(IND_RUPIAH))				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.30E-06	7.36E-05	0.031200	0.9751
D(D(MALAY_RINGGIT))	0.195998	0.019394	10.10623	0.0000
D(D(PHIL__PESO))	0.060425	0.010880	5.553943	0.0000
D(D(THAI_BAHT))	0.038948	0.010857	3.587254	0.0003
R-squared	0.057388	Mean dependent var		2.33
Adjusted R-squared	0.056333	S.D. dependent var		0.0039
S.E. of regression	0.003816	Akaike info criterion		-8.2980
Sum squared resid	0.039047	Schwarz criterion		-8.2892
Log likelihood	11148.15	Hannan-Quinn crit.		-8.2948
F-statistic	54.42807	Durbin-Watson stat		3.0488
Prob(F-statistic)	0.000000			

Source : Proceed by author with software

The results presented in Table 1, 2, 3 and 4 for the simple regression of the proposed model, almost all of the variables for currency exchange rates in some countries in Southeast Asia are significantly related, as seen from the probability value generated are all significant for models 1, 2, 3 and 4. Thus there is a significant relationship between the exchange rates of Thailland, Malaysia, Philippines, and Indonesia.

6 CONCLUSION

From the research that has been done, it can be explained that the exchange rate of some countries in Southeast Asia, including Indonesia, Malaysia, Thailand, and the Philippines has a significant relationship by using the model of simple regression which is made in analysis tool basic research.

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