

THE INFLUENCE OF THE NUMBER OF FOREIGN TOURISTS AND FOREIGN DEBT TO FOREIGN EXCHANGE RESERVES IN INDONESIA

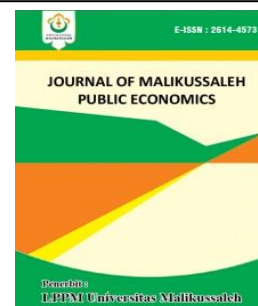
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ARTICLE INFORMATION

ABSTRACT

Keywords:

Number of Foreign Tourists, Foreign Debt, and Foreign Exchange Reserves

This study examines the effect of the number of foreign tourists and foreign debt on foreign exchange reserves in Indonesia. This study uses secondary data from 2005 to 2019. Data are analyzed by using multiple linear regression (Ordinary Least Squares). The result showed that the foreign tourists and foreign debt do not influence foreign exchange reserves. Simultaneously, the number of foreign tourists and foreign debt affected the foreign exchange reserves in Indonesia. The coefficient of determination (R^2) was 0.839184, which indicates that the influence of the number of foreign tourists and foreign debt on foreign exchange reserves was 0.839184 or 83.91%, and the remaining 16.09% was influenced by other variables outside of this study.

1. INTRODUCTION

Foreign exchange reserves are very important in economy of a country. It can be used as a tool for international transactions and the amount of foreign exchange reserves in country can show the strength of it's economy.

A country's foreign exchange reserves is usually uses for importing activities, maintaining monetary stability especially the exchange rate to pay off the government's foreign debt, and are also savings owned by state. (S & Zuhroh, 2018). Therefore, if a country have a low level of foreign exchange reserves, the country will be hampered in economic activities.

According to (Tambunan, 2001), Foreign Exchange Reserves is one of most important monetary indicators that shows the strength and weakness of a country's economic fundamentals. Foreign exchange reserves is defined as number foreign exchange reserved by Central Bank for development and financing purposes. foreign obligations include financing imports and other payments to foreign parties. There are several factors that can affect level of foreign exchange reserves in Indonesia, including number of foreign tourists and foreign debt. For foreign tourists who come from abroad, they will carried in currency.

The more tourists who visit, the more foreign currency will enter Indonesia and will increase foreign exchange reserves (Purwanti & Dewi, 2014).

Foreign exchange reserves will also increase along with increase in foreign debt, where when Indonesia makes foreign loans, the lender will provide it in foreign currency, the more Indonesia makes loans, the more foreign exchange reserves will be owned by the Indonesian state. In the short term, foreign debt can increase foreign exchange reserves, but in long term, foreign debt will become a burden on the State if it not repaid immediately. Foreign debt can be a source of threat to Indonesia's macroeconomic stability if it is not monitored and used properly, because if the level of foreign debt continues to grow and gets bigger, it is a sign that the Indonesian state will have a heavy burden in the future, Indonesia will impact in a trap (Ulfa & Zulham, 2017). Condition The number of foreign tourist arrivals, foreign debt and foreign exchange reserves in Indonesia for last 5 years can be seen in Table 1.

Table 1
Data on the Number of Foreign Tourist Visits,
Foreign Debt and Foreign Exchange Reserves in
Indonesia Year 2015-2019

Years	Number of Visits (Soul)	Foreign Debt (Million US\$)	Foreign Exchange Reserves (Million US\$)
2015	10.230.775	310.730	105.931
2016	11.519.275	320.006	116.362
2017	14.039.799	352.469	130.196
2018	15.810.000	375.430	120.654
2019	16.110.000	403.680	129.183

Source : *BPS Indonesia and Bank Indonesia, 2021*

Based on the data from Table 1, it can be seen that the Number of International Tourists from 2015 to 2019 increases every year, and the highest number occurs in 2019 as many as 16,110,000 people. Meanwhile, Foreign Debt in Indonesia also increases every year, and the highest amount occurs in 2019 which is US\$ 403,680 million.

The amount of foreign exchange reserves in Indonesia in 2018 decreases but in the same year the amount of Foreign Debt increases, and this is not in accordance with the theory that says that when Foreign Debt increases then Foreign Exchange Reserves will also increase.

The same thing also occurs to the Number of Foreign Tourists, where in 2018 the Number of Foreign Tourists increased is compared to the previous year. When the number of Foreign Exchange Reserves in Indonesia decreases. This is not in line with the theory which says that when Number Foreign Tourists increases then Foreign Exchange Reserves will also increase.

Previous studies of foreign tourists have published such as (Nizar, 2012), (S & Zuhroh, 2018), (Sitorus, 2020), (Tambunan, 2001), and (Gandhi, 2006). Furthermore, the second part of this study will examine the theoretical review, then the third part will discuss research methods, in the fourth part the results and discussion will be presented, and finally the fifth part, this study will discuss conclusions and suggestions.

2. LITERATURE REVIEW

Foreign exchange reserves

Foreign Exchange Reserves are government deposits in form of foreign currency, gold and securities kept by Bank Indonesia as Central Bank which will be used as a means of payment for international transactions. (Munanda & Amar, 2018).

A country's foreign exchange reserves is usually used for import activities, maintaining monetary stability (especially the exchange rate), to pay off the government's foreign debt, and is also savings owned by state. This shows that foreign exchange reserves are very influential on economy in a country. According to international monetary funds, a country's foreign exchange reserve position can be said to be safe if it can meet three months of import needs (S & Zuhroh, 2018).

Number of Foreign Tourists

Tourists are actors in tourism activities. Traveling is a human experience to enjoy the times in life. (Ismayanti, 2010 in Munanda, 2018).

According to (Yoeti, 2015 in Munanda, 2018), tourism is a conscious human activity that gets services alternately between people within a country itself or abroad, including the people from other regions.

Foreign debt

According to (Ulfa & Zulham, 2017) Foreign debt is part of total debt of a country obtained from creditors outside country. Recipients of foreign debt can be governments, companies or individuals. The form of debt can be in form of money obtained from private banks, governments of other countries or international financial institutions.

Conceptual Framework

The Conceptual Framework in this study is as follows:

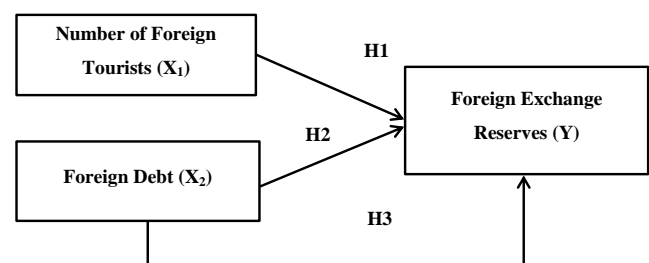


Figure 1 Conceptual Framework

The conceptual framework in the picture above explains the influence of the Number of Foreign Tourists and Foreign Debt on Foreign Exchange Reserves.

Hypothesis

The hypothesis is a temporary answer to research problem. The following are the hypothesis in this study:

H1: It is suspected that number of foreign tourists will positive and significantly affect the foreign exchange reserves in Indonesia.

H2: Allegedly Foreign Debt affects the Foreign Exchange Reserves in Indonesia.

3. RESEARCH METHODS

Types of Data and Sources of Data

The type of data used in this research is secondary data. According to (Bambang & Indrianto, 2002), secondary data is a source of research data obtained by researchers indirectly and obtained and recorded from other parties. In this study, data are obtained from the Central Statistics Agency (BPS) and from Bank Indonesia (BI).

Data collection technique

The data collection technique used in this research is to use the documentation method. The documentation method is a method of collecting data by recording existing data obtained from Central Statistics Agency (BPS) and Bank Indonesia (BI) for 15 years starting from 2005-2019.

Definition of Operational Variable

Operational definitions of the variables used in this study are described as follows:

- a. Foreign Exchange Reserves (Y)
Foreign Exchange Reserves are government deposits in form of foreign currency which are used as international transactions. Data on foreign exchange reserves are expressed in units (Million US\$) and obtained from Bank Indonesia.
- b. Number of Foreign Tourists (X1)
The number of foreign tourists is the total number of people who visit from one country to another country for one year for fun, business, or other purposes that are done consciously to seek satisfaction. The number of foreign tourists is expressed in units (Soul) and is obtained from the Indonesian Central Statistics Agency (BPS).
- c. Foreign Debt (X2)
Foreign debt is an income from abroad obtained from foreign lenders which is used to stimulate domestic economic growth and other purposes as loans that must be repaid with certain conditions. Data on foreign debt is expressed in units (Million US\$), and is obtained from Bank Indonesia (BI).

Data Analysis Method

The data analysis method used in this research is multiple linear regression analysis method. To analyze the effect of Number of Foreign Tourists and Foreign Debt on Foreign Exchange Reserves,

the data processing is carried out using the analytical method with the Ordinary Least Square (OLS) model which is formulated as follows:

$$\text{Ln } Y = \alpha + \beta_1 \text{Ln } X_1 + \beta_2 \text{Ln } X_2 + e$$

Information :

Y : Foreign Exchange Reserves

α : Constant

$\beta_1 \beta_2$: Regression Coefficients

X1 : Number of Foreign Tourists

X2 : Foreign Debt

e : Error term (residual value)

Normality test

According to (Priyatno, 2012), the normality test is to test whether residual value resulting from regression is normally distributed or not. A good regression model is one that has a normally distributed residual value. The normality test used in this study is the Jarque Bera test. If Jarque Bera value is smaller than the Chi-Square value and if the probability value is greater than the error degree value = 5% (0.05), then this study does not have normality problems. In other words, data is normally distributed. If the probability value is less than degree of error = 5% (0.05), then in this study occurs problem of normality.

Classical Assumption Test

Multicollinearity Test

A multicollinearity problem means that there is strong relationship between independent variables in regression equation. The existence of multicollinearity in the regression equation model used will result uncertainty in estimation. Thus leads the conclusion to accept the null hypothesis. This causes regression coefficient to be insignificant and the standard deviation is very sensitive to changes in data. (Gujarati, 2006).

Heteroscedasticity Test

Heteroscedasticity test aims to test whether in regression model occurs an inequality variance from residuals one observation to another observation. If the residual equal in term of variance is called homoscedasticity and if it is different then this will happen heteroscedasticity. In this study, heteroscedasticity test is performed using White test. If the Probability value < 0.05 then heteroscedasticity occurs and if Probability > 0.05 then there is no heteroscedasticity.

Autocorrelation Test

An autorelation test is to know the relationship between errors that appears in time series data. If there agrees autocorrelation then the least square estimator is still unbiased so that it becomes inefficient. Thus the estimated coefficient obtained is inaccurate (Gujarati, 2006).

Statistical test

Partial Test (t - Test)

This t-test is employed to see the effect of the independent variables on dependent variable individually. If $t_{\text{count}} > t_{\text{table}}$ with a significant level below 5%, it can be concluded that partially independent variable has a significant effect on dependent variable. If $t_{\text{count}} < t_{\text{table}}$ with a significant level above 5%, it can be concluded that independent variable has no effect on dependent variable.

Simultaneous Test (F Test)

The F-test is used to see simultaneously the effect of all independent variables on dependent variable. If $F_{\text{count}} > F_{\text{table}}$ with significant level of 5%, it can be concluded that together independent variables have a significant effect on dependent variable. On other hand, if $F_{\text{count}} < F_{\text{table}}$ with a significant level of 5%, it can be concluded that together the independent variables have no effect on dependent variable.

Coefficient of Determination Test (R^2)

According to (Ghozali, 2011), the coefficient of determination (R^2) is meant as the contribution of the influence given by the independent variable (X) to the dependent variable (Y). In other words the value of the coefficient of determination is useful for predicting and see how big contribution of the influence given by all of variables independent simultaneously to variable Y.

Correlation Coefficient Test (R)

The correlation coefficient test is used to measure how big linear relationship of independent variables studied is to dependent variable. The correlation coefficient has value between -1.00 to +1.00. The closer the R approaches the number of 1.00, the stronger relationship will between independent variables and dependent variable (Kuncoro, 2013).

4. RESEARCH RESULTS AND DISCUSSION

Multiple Linear Regression Estimation

The results of multiple linear regression analysis in this study can be seen in table 4.1 below:

Table 2
Multiple Linear Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.268887	3.746936	0.071762	0.9440
LOG(WISMAN)	-0.173481	0.354313	-0.489625	0.6332
LOG(UJLN)	1.278895	0.384190	3.328810	0.0060
R-squared	0.862158	Durbin-Watson stat		1.066871
Adjusted R-squared	0.839184			
F-statistic	37.52806			
Prob(F-statistic)	0.000007			

Source: Eviews 10 Processed data (2021)

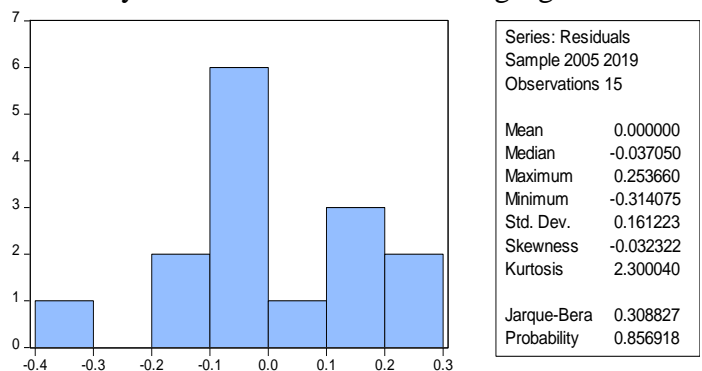
From results of regression output above, it can be formulated a model as follows:

$$\text{Ln } Y = 0.269 - 0.173 \text{ Ln } X_1 + 1.279 \text{ Ln } X_2$$

1. From the model above, it shows that the constant value is 0.269 which means that if the Number of Foreign Tourists and Foreign Debt are constant, the value of Foreign Exchange Reserves in Indonesia is also constant, as 0.269%.
2. Foreign Tourists regression coefficient is -0.173. This means that if the number foreign tourists increases by 1%, the Foreign Exchange Reserves will decrease by 0.173%, assuming a constant foreign debt.
3. The foreign debt regression coefficient is 1.279. This means that if Foreign Debt increases by 1%, then the Foreign Exchange Reserves will increase by 1.279%, assuming the Number Foreign Tourists is constant.

Normality Test Results

The results of processed data from the normality test can be seen in following figure:



Source: Eviews 10 Processed data (2021)

Figure 2
Normality test

Based on Figure 2 above, it can be seen that the Jarque-Bera value is 0.308827, this value is

smaller than the Chi-Square (5.99). In addition, it can be seen that the probability value of 0.856918 is greater than value of the error degree $\alpha = 5\%$ (0.05), so this study does not have normality problems. In other words it is normally distributed.

Classical Assumption Test Results

Multicollinearity Test Results

The following are the results of multicollinearity test which can be seen in table 3 below:

Table 3
Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	14.03953	6944.563	0.160816
LOG(WISMAN)	0.125538	15805.70	9.102981
LOG(ULN)	0.147602	2163.186	9.102981

Source: Eviews 10 Processed data (2021)

Based on the printout of results in table 3 above, it shows that the Variance Inflation Factor (VIP) for the Variable Number of Foreign Tourists and Foreign Debt is $9.102981 < 10$, so this model is free from the assumption of multicollinearity.

Heteroscedasticity Test Results

The following are results of heteroscedasticity testing which can be seen in table 4 below:

Table 4
Heteroscedasticity Test

Heteroskedasticity Test: White

F-statistic	0.745396	Prob. F(5,9)	0.6092
Obs*R-squared	4.392615	Prob. Chi-Square(5)	0.4944
Scaled explained SS	1.827384	Prob. Chi-Square(5)	0.8725

Source: Eviews 10 Processed data (2021)

Based on table 4 above, it can be seen from Obs*R-squared of 4.39 and the λ^2 table in df (5) of (11.07). So $4.39 < 11.07$, then in this model there is no indication of heteroscedasticity. This can also be seen from probability of $0.4944 > 0.05$ which means that Independent Variable in this study does not experience heteroscedasticity and meets the requirements of the classical assumption test.

Autocorrelation Test Results

The following are results of autocorrelation test which can be seen in table 5 below:

Table 5
Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.710986	Prob. F(2,10)	0.5144
Obs*R-squared	1.867417	Prob. Chi-Square(2)	0.3931

Source: Eviews 10 Processed data (2021)

Based on table 5 above the Obs*R-square value of 1,867 is smaller than the λ^2 table in df (2) of 5.99. So indicates that this model is free from autocorrelation indications because $1.867 < 5.99$. It can also be seen from the Chi-Square Probability of $0.3931 > 0.05$.

Statistical Test Results

Partial Test (t- Test)

Based on test results states in table 2, it can be seen that foreign tourists variable has a t_{count} of -0.489625 with significance level of 0.6332, then $t_{\text{count}} (-0.489625) < t_{\text{table}} (3.05454)$ and a significance t value of $0.6332 > 0.05$, then this shows the variable foreign tourists have no effect on foreign exchange reserves.

Furthermore, Table 2 also shows that foreign debt variable has a t count of 3.328810 with a significance level of 0.0060, then $t_{\text{count}} (3.328810) > t_{\text{table}} (3.05454)$ and a significance t value of $0.0060 < 0.05$, so foreign debt has a significant effect on foreign exchange reserves.

Simultaneous Test (F Test)

Based on test results in table 2, it shows that the variable Foreign Tourists and Foreign Debt on Foreign Exchange Reserves in Indonesia has an f_{count} of 37.52806 with a probability value of 0.000007. And value of F-table with $df = (k-1)(nk) = (3-1)(15-3) = (2)(12)$ so that it can be seen from second column (2) the twelfth row (12) obtained f value of 3.89. It can be concluded that $f_{\text{count}} (37.52806) > f_{\text{table}} (3.89)$. This means that together the variables foreign tourists and foreign debt affect the foreign exchange reserves.

Coefficient of Determination Test Results (R^2)

The coefficient of determination is used to measure the percentage of the ability of independent variable to run dependent variable. In this study, results of test in table 2 obtains a value of (R^2) is 0.839184, which means that the influence of variable foreign tourists and foreign debt on foreign exchange reserves is 83.9184% or 83.91%, while the remaining is 16.09% influenced by other variables outside of this study.

Correlation Coefficient Test Results (R)

The correlation coefficient is used to determine how strong or weak the relationship

between Foreign Tourists and Foreign Debt is on Foreign Exchange Reserves in Indonesia. To calculate the correlation value, it can be seen from R-square value of 0.8621, then $R = \sqrt{0.8621} = 0.9285$. So relationship between number of foreign tourists and foreign debt to foreign exchange reserves is very strong because the value is close to +1.

Discussion

The Influence of Foreign Tourists on Foreign Exchange Reserves

Based on test results above, it can show that foreign tourists has no effect on foreign exchange reserves. The results of this study are in line with research conducted by (Siahaan, 2020) which states that foreign tourists has no effect on foreign exchange reserves. According to (Bisnis.com 2013) the high demand for foreign exchange currency for import payments is the cause of decline in foreign exchange reserves. In addition, according to Bank Indonesia (2021) decline in position of Foreign Exchange Reserves is also influenced by the use of Foreign Exchange Reserves for government payment on foreign debt.

The Effect of Foreign Debt on Foreign Exchange Reserves in Indonesia

Based on test results above, it shows that Foreign Debt has an effect on Foreign Exchange Reserves. The results of this study are in line with research conducted by (Santana & Adiyadnya, 2017), (Sayoga & Tan, 2017), and (Febriyenti, 2013), in which the increasing Foreign Debt will affect Foreign Exchange Reserves.

The increase of Foreign Debt will increase Foreign currency, so that the more loans made, the more foreign currency will enter Indonesia. This will increase the Total Foreign Exchange Reserves in Indonesia.

5. CONCLUSIONS AND SUGGESTIONS

Conclusions

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

1. Foreign tourists has no effect on foreign exchange reserves in Indonesia.
2. Partially Foreign Debt affects the Foreign Exchange Reserves in Indonesia.

Suggestion

Based on conclusions that have been described above, the suggestions from the authors are as follows:

1. It is hoped that government will always develop tourism sector, where the government can strengthen promotion national tourism abroad. In addition, government can also carry out digital promotions, develop of tour packages, expansion of tourism promotion packages, as well promotions of regional tourism so that foreigners will know more and come to State of Indonesia.
2. The results of this study can be taken into consideration for government to be more careful in determining tourism sector policies in order to be able to generate a better income contribution.
3. It is hoped that further researchers will add other variables or add years of observation and other methods in analyzing data so that they can contribute to enrich of academic literature.

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