

**THE NEXUS OF EXCHANGE RATE ON TOURIST ARRIVALS, THE CASE OF IN  
INDONESIA**

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**ABSTRACT**

*The objective of this research is to analyze the impact of exchange rates on the tourist arrivals in the case of Indonesia. In the middle of accretion tourist arrival receipt, and exchange rates vulnerability. Using monthly time series data from 2004 to 2016, we identify cyclical component of the two variables using Hodrik-Prescott filtering method. The standard econometric time series procedures are applied to the cyclical components covering correlation, VAR (Vector Auto-regressive) model, and Granger causality test. The results shows that the relationship between exchange rate and tourist arrival is counter-cyclical indicated by insignificant coefficient of correlation. Granger causality test proves that causality running from tourist arrivals to exchange rates. Those results are supported by VAR model. Using Impulse Response Function, we found that the exchange rate shocks move toward the amount of tourist arrivals. In the long run, we conclude that tourist arrivals can stabilize exchange rates.*

Keywords: tourist arrivals, exchange rate, counter-cyclical

**I. Introduction**

In this century tourism sector has a significant effect on the economy a country comes from income exchange rates. Tourism revenue, as a result, developed into the fourth largest industry after oil / natural gas, palm oil, and rubber. This sector in 2011 generated foreign exchange of US \$ 8.6 billion, which is supplied by more than 7.64 million foreign tourists. The number of tourist arrivals increased by 2.5 million people since 2001 has been primarily through Denpasar, Jakarta and Batam. Foreign tourists is expected to reach more than 10 million in 2015. The growth rate of the tourism sector in 2012 was 5 percent higher than the global growth rate of international tourism in the range of 3-4 percent (UNWTO, 2012).

In line with the law of demand on the basis of economics. Expressed at every increase in demand of a commodity then, commodity prices will also climb. From these statements, it can be hypothesized that the increase in demand for the rupiah will cause an increase in the value of the rupiah. It is envisaged that each tourist arrivals will have an impact on increasing demand for the rupiah to be exchanged.

**Table 1**  
**International Tourist To ASEAN, 2008-2011**  
**(In thousand people)**

Negara Tujuan	2008	2009	2010	2011	2012	2013	2014
Brunei Darussalam	225.8	157.5	214.3	242.1	209.1	3,279.2	3,885.5
Cambodia	2,125.5	2,161.6	2,508.3	2,881.9	3,584.3	4,210.2	4,502.8
Indonesia	6,429.0	6,323.7	7,002.9	7,649.7	8,044.5	8,802.1	9,435.4
Lao PDR	2,004.8	2,008.4	2,513.0	2,723.6	3,330.1	3,779.5	4,158.7
Malaysia	22,052.5	23,646.2	24,577.2	24,714.3	25,032.7	25,715.5	27,437.3
Myanmar	660.8	762.5	791.5	816.4	1,059.0	2,044.3	3,081.4
Phillippines	3,139.4	3,017.1	3,520.5	3,917.5	4,272.8	4,681.3	4,833.4
Singapore	10,116.5	9,681.3	11,638.7	13,171.3	14,491.2	15,567.9	15,095.2
Thailand	14,597.5	14,149.8	15,936.4	19,098.3	22,353.9	26,546.7	24,779.8
Vietnam	4,253.7	3,772.3	5,049.9	6,014.0	6,847.7	7,572.4	7,874.3

Source: ASEAN Tourism Statistics Database

Based on table 1. foreign tourists in ASEAN from 2008 to 2014 showed an increase in the flow tourist arrivals to Indonesia. On the basis of asean countries, indonesia occupying the position of amounts entered fourth biggest foreign tourists. Formerly, the position of first to third by Malaysia, Thailand and Singapore. The order position five to ten largest occupied by Vietnam, The Philippines, Cambodia, Laos, Brunei darussalam, and the last position is Myanmar.

The increasing number of foreign tourist arrivals provides the opportunity to be an increase of donated foreign exchange rate and brisk activity in the domestic economy. Tourism was present as a new business in the country. Although compared with other ASEAN countries in 2014 Indonesia ranked fourth in the number of largest tourists asean, income resulting from the industrial sector is still contributed large from foreign exchange. This can be assess from how long the foreign tourists live in a country . According to data from the central bureau of statistics ( bps ) the average length of stay foreign tourists in indonesia as many as the day 8-9. This indicates takes rests silently in the mind 8-9 day there plenty costs also tends which is issued foreign tourists in the land these products. The cost of living this is what they could be used as the contribution has been paid enliven the activity of national economic situation, as an example the cost of the place of residence, eat, transportation condition, as well as tourism visited place year earlier on higher domestic.

Foreign tourists coming need an instrument payments recognized as lawful on the country to be visited. So, fluctuations exchange rates influence the price of international travel and tourism. The other important prices including a living and tourism services in the destination, and also transportation costs between place of origin tourist places the intended. Indonesia is a country with economies small open, to cause the presence of the influence of foreign currency exchange rate is dollars america with currency in city, the rupiah. Demand for country ceiling of foreign currency are very much influenced by the needs of economic agents against country ceiling of foreign currency as well as to support the international economic transactions. Tourism is being one of international economic transactions taking a role that causes appreciation or depreciation of the rupiah.

According to the data obtained from tirto.id infographic, the highest point the rupiah depreciate worth Rp14.728 against us dollars in 2016. While, the the value of the rupiah which appreciated the experience of the rupiah rate against the US dollar in the 2008 to 2018 . The highest appreciation of the past year 2011, namely Rp8.460 appreciation against the us dollar.

Various studies have appeared devoted to analyzing fluctuations in the inflow of tourism in relation to the balance of payments (Belloumi, 2010; Lorde, Lowe, and Francis, 2010; Malik et al., 2010; Cheng, Kim, and Thompson, 2013), exchange rates (Balaguer and Cantavella-Jorda, 2002, Gunduz and Hatemi, 2005; Oh, 2005), and in general economic growth (Dritsakis, 2004, Ongon and Demiroz, 2005, Cortes-Jimenez and Pulina, 2006). These studies find that inflows as tourism is a significant source of foreign exchange to boost economic growth.

From the perspective of the researcher, the rapid growth in tourist arrivals is interesting because tourism tends to be relatively stable and often counter-cyclical as a source of external funding for developing countries. Therefore, international tourism acts as a significant macro-economic stabilization in developing countries that provide sustained support for the balance of payments and reducing dependence on external assistance.

Regardless of the fluctuation, the empirical literature latest in advanced countries and the developing of the volatility of the influx of tourists and the exchange rate give different results (Ghartey, 2010, Naupane, Shrestha, and Upadhyaya 2012) ie exchange rate volatility can have a positive or negative effect on tourist arrivals. In fact, tourist arrivals have a positive impact on exchange rates (Nowjee et al., 2011; Tang, 2011). Meanwhile, Geyikdagi (1997) argued that tourism plays a stabilizing role in the flow of foreign exchange earnings. It seems there is no clear consensus among the results of research on this issue.

Has been much research about the case, the difference this paper with the other is research doing in Indonesia, a developing country with superior tourism spread out thousands of the islan of Indonesia. Using monthly data made this research is more detailed because the value of exchange rate a month and also tourist arrivals are observed. This paper direct into the formulation problem such as, to analyze the relationship and a causal relationship of exchange rate and tourist arrivals in Indonesia. Second, we can see a cyclical flow between two variabel. Third, is the flow of foreign tourist in the long run can stabilize the exchange rate.

Moreover, after 1997 with depreciation conditions. Indonesia consistently take care of running some macro-economic policies to prepare for the case when the medium-term back depreciation. In order to loosen the international reserves that would give space for speculation. Therefore, the implementation of *pro-rebalancing* of monetary policy, such as an increase in international reserves to stabilize the exchange rate requires an increase in international tourism.

This research are important to enrich knowledge of researchers, and as considering materials for policy makers, and also contributes literature on exchange rate stabilization in developing countries with a focus on Indonesia. Encouraged by the fact Indonesia as a country with a small economy open for on international economy with little chance of space to actively stabilize the international monetary conditions.

Literature reviews contains discussion about research that has been done in different areas. Then, there is a discussion of the manner of calculation or research method. After that, there are discussion of the results of research and discussion. Conclusions and recommendations are available in the final chapter .

## II. Literature Review

It has become a mutual agreement that the rupiah as a medium of exchange transactions in Indonesia. The amount of money given the buyer valued the same as the amount of money received by the seller. Had so also happens when the seller or the buyer is a citizen of a foreign country.

Based on the research ever conducted into the wealth of literature, the relationship between international tourism and the exchange rate can be explained through multiple channels. The economic impact of a broader range of international tourism in the country of destination can be seen by the number of tourist arrivals / departures, reception / tourism spending, long the night, the average length of stay (Witt and Song, 2000; Ouerfelli 2008), employment in the sector tourism (Witt, Song, and Wanhill, 2004), and import and export of tourism services (Smeral, 2004). In the context of the exchange rate, which is called the first two seem to be most relevant.

Simple channel that connects tourist arrivals and exchange rate based on the conventional demand theory. According to neoclassical theory, the flow of international tourists dependent on consumer incomes, the relative prices of goods / services in the destination country than the country of origin, the prices of goods / services related to (substitute and complementary), the cost of transportation, distance, tourism in neighboring countries, qualitative factors in countries of origin or destination, and the slider (shifter) other requests (see for example: Rosello, Aguilo, and Riera, 2005).

The need for the rupiah should be run simultaneously with the presence of foreign tourists. The quantity theory of money which was initiated by Keynes, which focuses there is a relationship between the supply of money to the value of money. Changes in the money supply or money supply interact with the demand for money and then determine the value of money.

While based on the theory of Cambridge and Irving Fisher said the demand and supply of money is constant. In this case, the arrival of foreign tourists flow is still equated with the demand and supply of the domestic community economic transactions. That is, both theories are still in the tradition of the classical theory of money that has not considered the presence of the flow of tourists that probably will affect the exchange rate due to an increase in transactions in the country's society.

Regarding the price of goods / services consumed by tourists in the destination country, there are two measurements commonly used by many researchers (see for example: Crouch, 1993). The first indicator is that the price of tourism based on the consumer price index (CPI) in the visited country is divided by the CPI from the country of origin. Demand theory hypothesizes that the demand for international tourism is a inverse function of relative prices, that is, the lower the cost of living in the destination relative to the country of origin, the greater the demand for tourism; and vice versa.

The second indicator is the exchange rate. The exchange rate is an important determinant of travel destination (Webber, 2001). By definition, the exchange rate is the ratio between the currency of the host country and the country of origin of tourists. Changes in exchange rates, as a component of cost of living, will affect the value of home currency. Any change in the exchange rate will lead to currency appreciation or depreciation of travelers (Salman, 2003; Lim, 2004; Dritsakis 2004, and Toh, Habibullah, and Goh, 2006). In short, any appreciation in the currency of tourists (or depreciation of the currency in the country of destination) can encourage more people to travel. Thus, the traditional theories propose hypotheses demand exchange rate led to the arrival of tourists.

The second channel is in the opposite direction, namely the tourism hypothesis causes the exchange rate level. The increase in tourism sector gains will balance the balance of payments through a substantial reduction in the current account deficit and then increase GDP growth. Finally, the shift of foreign currency offerings will affect the appreciation of currency exchange rates of destination countries (Obstfeld and Rogoff, 1996).

In the study Muhammad Afdi Nizar (2012), development of tourism foreign exchange and the movement of the rupiah in the period 1998 to 2010 does not necessarily represent an ideal form of relationship, in accordance with the framework set forth above. In the first year of implementation of the free floating exchange rate system (1998), foreign tourism reached USD 4.3 billion and the rupiah exchange rate was at an average level of Rp9,874.6 per USD. Furthermore, in 1999 tourism foreign exchange increased to USD4.4 billion (up by 2.3% compared to 1998) and followed by appreciation of the Rupiah exchange rate to Rp7,808.9 on average per USD. In 2001, tourism's foreign exchange increased by 6.1% compared to 2000 to USD5.3 billion, while the average Rupiah exchange rate was at Rp10,265.7 per USD, weakened (depreciated) compared to 2000. In 2002, increased to USD5.7 billion (up by 7.7%) and in the same period the Rupiah exchange rate rose (appreciation) to Rp9,261.2 on average per USD.

Thus the increase in the exchange rate has not had a steady relationship ideal from time to time according to a literature review of literature. Between exchange rate and tourist arrivals do not always have the ideal relationship (see for example: I Nyoman Widhya Astawa and Ni Luh Putu Budiardi, 2014) The number of foreign tourist arrivals and a real positive effect partially to the local revenue of Bali Province. US dollar exchange rate have a negative impact and no significant effect on the regional income in the province of Bali. The number of foreign tourist arrivals and US dollar exchange rate real impacts simultaneously to the regional income of Bali Province.

Some notes reveal that there is no agreement on the relationship of causality between the exchange rate with the arrival of tourists. More than that, some previous research has not using indonesia in recent years as observation his research.

### III. Research Method

This paper is an attempt to investigate whether domestic tourism to contribute to the stabilization of the economy, particularly on the exchange rate with a focus on monthly data Indonesia. Given the monthly international tourism arrivals have a cyclical pattern associated with economic conditions in the country of visitors, this study would prefer to take into account cyclical rather than volatility.

The de-trending process allows for the separation of fluctuations (the cyclic component) around the trend of each data series, and allows also to examine the statistical properties of co-movement with other variables to be examined in terms of their respective trends (Lucas 1977; Kydland and Prescott, 1990).

In line with the above definition, the cyclical component of all the variables,  $t_c$  seasonally adjusted series  $y_t \in \{TA, ER\}$  where  $N$  is the flow of tourists, and  $ER$  expressing the nominal exchange rate (all in the natural logarithm). The process of de-trending each series  $y_t$  to separate the components of the trend (growth),  $\tau$ , from the cyclical component,  $ct$ :

$$C_t = y_t - \tau t \tag{1}$$

Approach de-trending the Hodrick-Prescott filter to estimate the trend of the unknown  $t$  of each of the series is Hodrick-Prescott filter (HP). This method is widely used among the macro economy to get an estimate of the flow of long-term trend component of a series of data series.

That is, the HP filter chooses to minimize:

$$\sum_{t=1}^T (y_t - s_t)^2 + \lambda \sum_{t=2}^{T-1} ((s_{t+1} - s_t) - (s_t - s_{t-1}))^2 \tag{2}$$

The parameters to control the pattern of the series. The larger, the more subtle the series. If  $s$  = series will approach the linear trend. Values in Eviews program is set at 1,600 to 14,400 for the quarterly data and monthly data.

Cyclical component remaining ( $C_t$ ) must stationary with an average of zero. To check it out, root test units that standard to be applied. Series the data represent components stationary cycle output, the exchange rate for any identifying characteristic cycle tourists by counting correlation cross contemporary and asynchronous between them. The correlation (Negative) positive contemporary taken to imply that tourists who pro-siklikal (counter-cyclical series) with the exchange rate concerned.

In general, the variable is said to be pro-cyclical (counter-cyclical) with - movement cyclical component - real output, if the cross-correlation of contemporary (cross-correlation at time  $t = 0$ ) is positive (negative) in the sense of statistically significant (Kydland and Prescott, 1990; Pallage and Robe, 2001; Alper, 2002). Pro-cyclicity (counter-cyclicity) of tourists in this context refers to the tendency of tourism receipts to move above trend, whenever variables corresponding real output is above (below) the trend of each. In the absence of such a tendency, tourism and the output is said to be a-cycle.

To evaluate the statistical significance of the correlation coefficient computed, the null hypothesis is that the unknown population correlation,  $\rho$ , equal to zero is tested against the alternative two sides  $\rho \neq 0$ , by using the correlation coefficient,  $r$ , is calculated from the relevant samples. In deciding whether to reject or not reject the null hypothesis, the critical value of t-test is determined by:

$$t - test = r \cdot \sqrt{\frac{n-2}{1-r^2}} \tag{3}$$

where  $n$  is the number of observations on each sample. This means that the correlation coefficient falls outside the range limit  $[-2 / \sqrt{(n+2)}, +2 / \sqrt{(n+2)}]$  will be member conclusion that the null hypothesis is rejected, that would be considered statistically significant.

VAR models have certain advantages, the dependent variable is expressed as a self-function and the lag values of each and all variables are allowed to influence each other (Enders, 2004). This research takes the general form of VAR

$$y_t = \alpha a + \alpha a_p \square y_{t-p} + \beta a_p \square x_{t-p} + \square a_t \tag{4a}$$

$$x_t = \alpha b + \alpha b_p \square x_{t-p} + \beta b_p \square y_{t-p} + \square b_t \tag{4b}$$

According to (4),  $y$  and  $x$  respectively performed for tourists, international reserves and the exchange rate to respond to the impact of the business cycle in the country visited.

This study uses several indicators such as tourists and exchange rates. Foreign tourists are defined as the number of people coming and is not a domicile with a specific purpose. Then, the exchange rate is the US dollar price against the domestic currency (Rupiah) at the middle rate of Bank Indonesia

The sample period chosen for this study at the start of 2004 (Q1) until the year 2012 (Q4). Total each observation amounted to 36 and 108 sample points. The data comes from the balance of payments published electronically by the Central Bank of Indonesia ([www.bi.go.id](http://www.bi.go.id)), the Central Bureau of Statistics ([www.bps.go.id](http://www.bps.go.id)), and the Ministry of Tourism and Creative Economy ([www.budpar.go.id](http://www.budpar.go.id)).

#### IV. Empirical Research

Before outlining the results of the calculation and testing. The following shows the *descriptive statistics* of the variables tested using *Eviews 8.0*, the following table 2:

**Table 2.**  
**Descriptive Statistic**

	TA	ER
<b>Mean</b>	607268.7	10254.70
<b>Median</b>	593828.5	9457.170
<b>Maximum</b>	1035612.	14396.10
<b>Minimum</b>	326796.0	8394.950
<b>Std. Dev.</b>	166443.0	1619.071
<b>Skewness</b>	0.4114	1.028.1
<b>Kurtosis</b>	2.240	2.613
<b>Jarque-Bera</b>	8.152	28.456
<b>Probability</b>	0.0169	0.0001
<b>Sum</b>	94733911	1599733.
<b>Sum Sq. Dev.</b>	4.29E+12	4.06E+08
<b>Observatio</b>	156	156

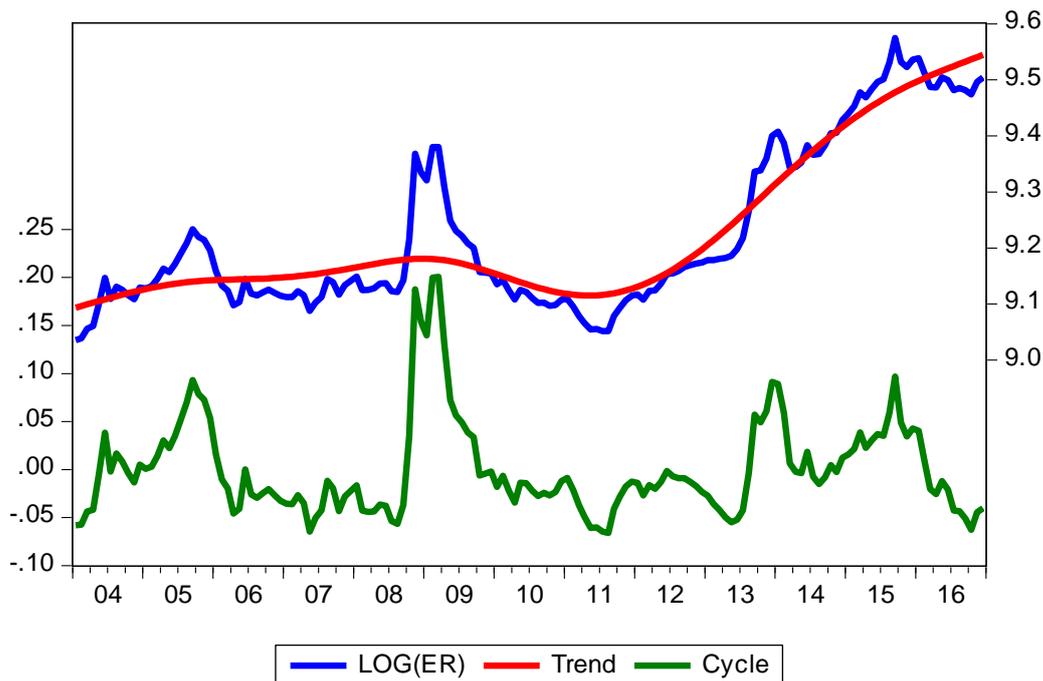
Based on statistical data in table 2, presented basic statistics include the mean, median and extreme values, namely, the maximum and minimum. It is known that Tourist Arrival (TA) and Exchange Rate (ER) variables has a median value that is not too far away with the average value of each variable. The median proximity to the average value indicates that these variables distributed normally.

Jarque-Bera's value can be based on the value of probability. The probability of these two variables are worth less than the critical value is 0.05. Indicates data is normally distributed. Symmetrical distribution of variable ER TA and confirmed by the moderate slope value. Skewness measure symmetric or normal distribution whose value is estimated to be zero. If a variable has a lower slope value of zero or even negative, indicating that the series slanted to the left. Meanwhile, when the value is in the position variable slope greater than zero then, the corresponding series tilted to the right, as do both of the above variables. Shows that the series slanted to the right tail (rear) distribution right is thicker than the lower tail. Thus, the data are normally distributed.

Furthermore, the value of kurtosis serves to measure peakednes (peak point) distribution distribution with the expected value equal to 3.0. Variables of kurtosis value 3.0 indicate normal distributed data with flatter peaks. In the TA and ER variables, together have a value of kurtosis nearing 3.0 or Platikurtik. This indicates that the frequency is rather diffused throughout the class, and has a flatter and more normal peak.

**Graph 1. Hodrik Prescott ER**

Hodrick-Prescott Filter (lambda=14400)



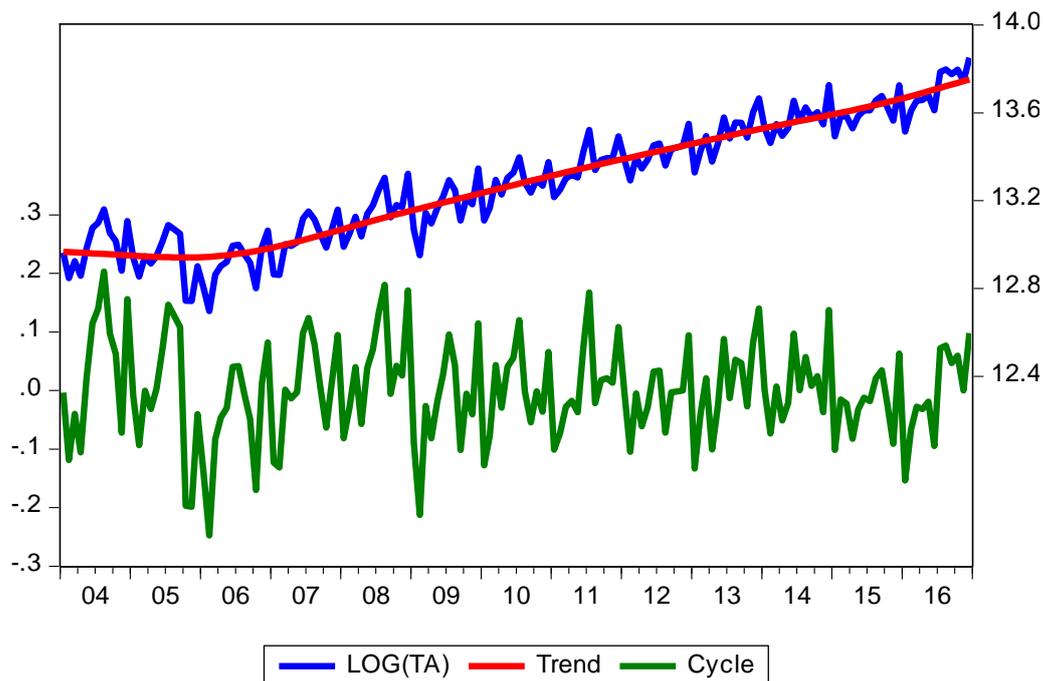
The exchange rate is one of the drivers that influence the movement of inflation, it can be said inflation may occur due to the exchange rate. If inflation persists continuously, it will be able to reduce the economic growth of a country. More broadly, if domestic inflation is higher than the inflation rate of neighboring countries. Resulting in uncompetitive domestic interest rate. This will put pressure on the rupiah.

In 2005 the exchange rate strengthened compared to the previous year (2004). However, intermittent one-quarter, the rupiah plummeted. When paired with the inflation rate at the time, in early 2006 reached 17.03% in January, as well as rises in February reached 17.92%. Drastic weakening exchange rate is also due to the declining inflation rate. In addition, interest rates of Bank Indonesia (BI rate) as an Indonesian central bank reached 10.54%. At the same time, the number of tourist arrivals in rhythm with the rise and fall of the exchange rate.

However, in 2008 to 2009 formed a phenomenon. Where the number of tourist arrivals is declining, coupled with a strong exchange rate. This phenomenon indicates that the appreciation of the exchange rate is not only influenced by factors of tourist arrivals that make demand as a means of living expenses in the destination country. Instead, exchange rate appreciation is caused by falling inflation. In 2008 the inflation rate reached 10 percent, and in 2009 the inflation rate dropped dramatically around the 4 percent level.

Graph 2. Hodrik Prescott TA

Hodrick-Prescott Filter (lambda=14400)



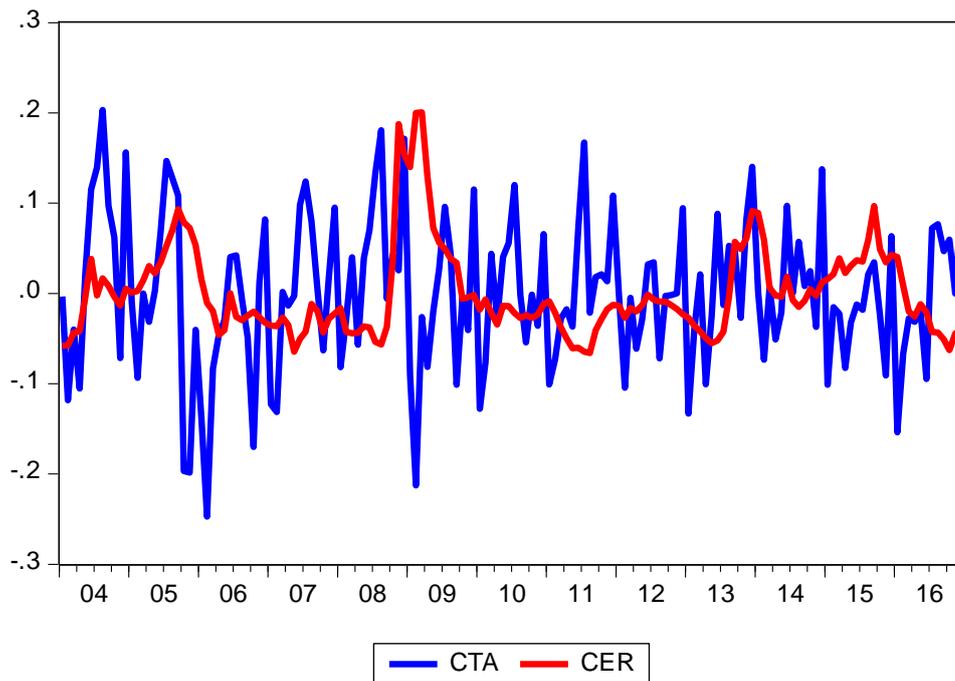
At that time, inflation also occurred due to the interference of Indonesian political conditions that will welcome the new president. The hustle and bustle of democracy parties along with outstanding issues will directly and indirectly affect the state of the economy, and deeper may affect the decision of foreign tourists to visit.

Furthermore, the opposite condition occurs. In 2009 to 2012, the number of tourist arrivals has increased, and the exchange rate has decreased. This condition can be associated with the cause-effect relationships. Exchange rate caused the destination country (Indonesia) to depreciate, providing stimulus to foreign tourists to visit Indonesia. Resulting in the number of tourist arrivals increased.

In the following years, the inflation rate and the number of tourist arrivals go hand in hand. Starting from 2013, even in 2014 to 2016 the exchange rate is slightly higher than the number of tourist arrivals. Perhaps because tourist arrivals help stabilize a country's exchange rate.

Under the conditions illustrated Graph 3. Can we draw conclusions relations tourist arrivals and exchange rate countercyclical. Because the response of the exchange rate after the shock of the arrival of tourists is negative, and often contrary.

**Graph 3. Trending CTA CER**



Next from the table 3. A correlation coefficient found the number of -0,0554. This outcome reveals contrary or negative relations between the exchange rate with the arrival of tourists. So that we can conclude the number of exchange rates will contrary to the number of tourists.

**Table 3.**  
**Correlation Coefficient of CTA CER**

VARIABLE	CTA	CER
CTA	1.000000	-0.055381 (-0.6905)
CER	-0.055381 (-0.6905)	1.000000

Before performing the test VAR, first calculating the *lag*. optimum length *Lag* is determined to find out the length of the response period of a variable against his past with other endogenous variables. According to Table 4. Optimum *Lag*, shows *lag* 3 is *lag* optimal. Confirmed with significant t-test alpha 0.05 which means that tourist arrivals today related to tourist arrivals in the previous 3 months. Because of *lag* the time analyzing backward.

VAR models used to estimate the *lag* 3. Meanwhile, to *lead* the response function to see how long a variable against in the future. On the VAR calculation, commonly used *lag* approach to analyze the optimum *lag*.

**Table 4.**  
**Lag Optimum**

i	Lag	lead
0	-0.0554	-0.0554
1	-0.1508	-0.0085
2	-0.2539	0.0754
3***	-0.2556***	0.1950**
4	-0.2476	0.1928
5	-0.2222	0.1888
6	-0.1299	0.2208**
7	-0.1158	0.1590
8	-0.0695	0.1346

9	-0.0361	0.1513
10	-0.0661	0.0785
11	-0.0399	0.1210
12	-0.0033	0.1315

Furthermore, to answer whether in the short term foreign tourists are able to dampen exchange rate fluctuations, we can parse the answer with the causal relationship of the two variables. For that is used to parse the *Granger* causality test in the subject because of the consequences.

**Table 5.**  
**Grenger Causality CTA CER**

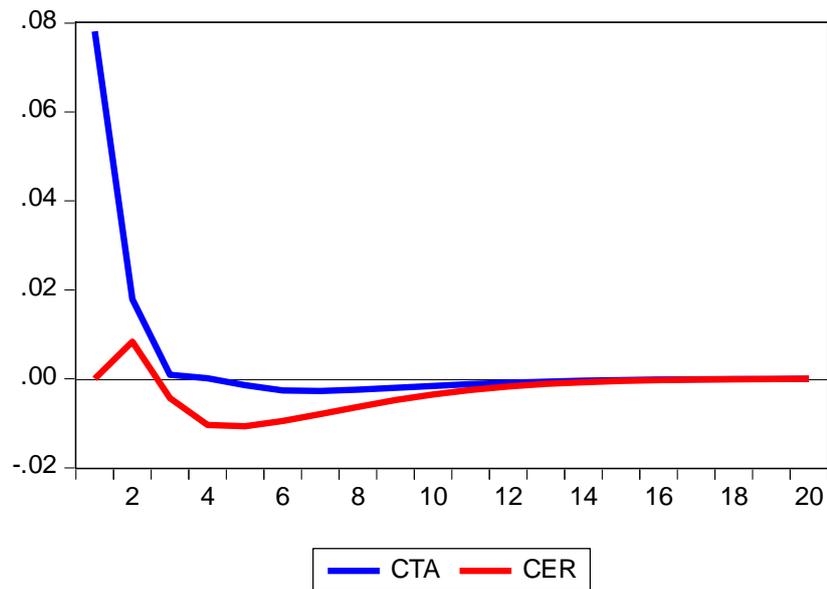
Null Hypothesis	Obs	F-Statistic	Prob.
CER does not Granger Cause CTA	153	3.30480	0.0220
CTA does not Granger Cause CER		4.13206	0.0076

From Table 5. In the test of causality it is found that the true exchange rate influences the arrival of tourists. Seen from a table that has a *lag of* three statistical probability F 0.02 which is less than 5% alpha or 0.05. As well as when examined more deeply, when using the second largest *lag 6* with probability statistics F 0136 using the alpha of 10%. Therefore, it can be concluded that exchange rates affect the arrival of foreign tourists. Not the arrival of tourists first form the exchange rate. This description is in line with Tang (2011) concludes that both at short-term and long-term rates, real effective exchange rates lead to monthly tourist arrivals, while tourist arrivals also cause real effective exchange rates.

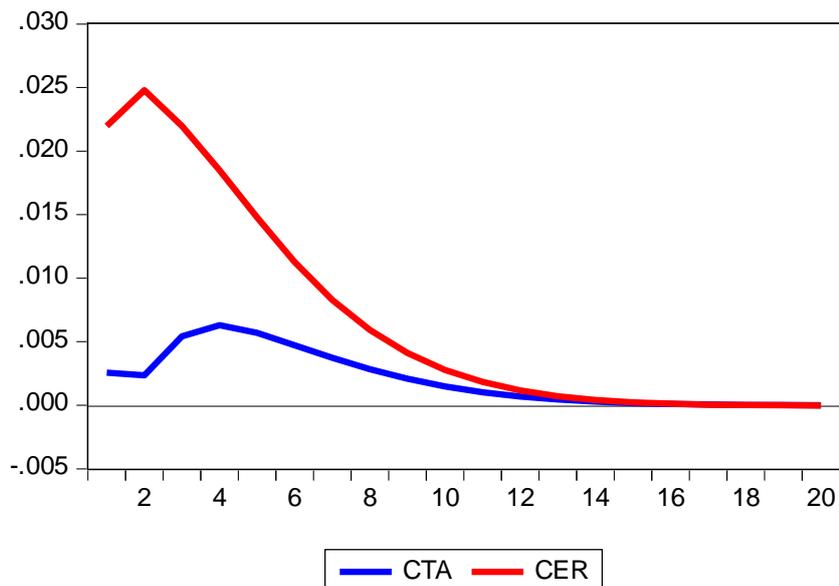
Next to know the behavior of a variable in response to a shock, the VAR model *Impulse Response Functions* are typically used. In this case, the analysis of IRF or *Impulse Response Function* is used to see the response to the *shock* of exchange rate changes and changes in foreign tourist in the number of tourists. At that time, the graph *CTA to Cholesky*, the exchange rate has increased resulting in the number of tourist arrivals decreased. The continuous decline in tourist arrivals due to the response of exchange rate movements that also declined and was in negative territory. Perhaps causing by distrust of foreign tourists to Rupiah cause. As the continuous exchange rate attempts to raise the Graph convergent to zero, tourist arrivals even slide down in negative territory until the two variables meet at zero. At Graph *CER to Cholesky*, stems from the exchange rate is positioned on a hike while tourist arrivals grew less well. Perhaps it is because high exchange rates make the number of tourist arrivals low. However, when the exchange rate began to start to depreciate, then the level of tourist arrivals began to show movement of the increase. Then the phenomenon also occurs when the number of tourist arrivals decreased after the peak is at stake, while the exchange rate is continuously decreasing or depreciation due to the low level of tourist arrivals.

**Graph 4. Impulse Response**

Response of CTA to Cholesky  
One S.D. Innovations



Response of CER to Cholesky  
One S.D. Innovations



Thus, the analysis *Impulse response Function* above turned out to be in line with previous prescott hodrik analysis, which suggested a counter cyclical trend. In the description of the impulse response, although starting from the position of the exchange rate led to an increase or decrease in foreign tourist arrivals. However, in the last quarter reflected that at the time of the arrival of tourists has decreased, while the exchange rate is still declining. This means that the relationship of these two variables is negative. Their position at the previous time the exchange rate also affects the position of the exchange rate at the time of the walk.

**V. Concluding Remarks**

The aims of this research are to analyze the relationship and a causal relationship of exchange rate and tourist arrivals in Indonesia. Second, we can see a cyclical flow between two variabel. Third, is the flow of foreign tourist in the short term able to dampen exchange rate fluktuations. Using time series data period 2004 until 2016, with hodrik presscott, VAR model, Impulse Response as a research method we can conclude, relations tourist arrivals and exchange rate countercyclical. Because the response of the exchange rate after the shock of the arrival of tourists is negative, and often contrary. The number of exchange rates will contrary to the number of tourists. This means that the relationship of these two variables is negative. Their position at the previous time the exchange rate also affects the position of the exchange rate at the time of the walk.

Virtue of discussion result research above, said between the arrival of foreign tourists have ties causality with the exchange rate. Began from a position exchange rates next will affect position the number of foreign tourists. Of course upon the influence of lag before. Can be expressed the influence of them is counter cyclical. In the long run, we conclude that tourist arrivals can stabilize exchange rates.

Thus, based on research *Granger*, which states that all stems from the exchange rate to affect the position of foreign tourist arrivals. Indicates the government should undertake a strategic exchange rate determination. In that sense, the system is *managed free floating* exchange rate or setting a free floating exchange rate. Stabilizing the exchange rate may be targeted in the monetary sector. So as to stimulate an increase in tourist arrivals which will give you an advantage over foreign donations. Then, over time can become a stable exchange rate in accordance with the calculation of the *lag*, that the position of the previous exchange rate also affect the position of the running time.

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