

# THE INFLUENCE OF TOURISM SECTOR AND TRADE ON ECONOMIC GROWTH IN INDONESIA

Tetty Tiurma Uli Sipahutar  
Universitas Prima Nusantara  
Email: ratuhapis.tetty@gmail.com

## **Abstract**

*The results showed some conclusions: (i) in the long term that the variables of tourism foreign exchange and net exports positive and significant impact. Dummy variables and the exchange rate and no significant positive effect. (ii) in the short term that the variables of tourism foreign exchange and net exports positive and significant impact. And a dummy variable exchange rate and no significant positive effect. (iii) of the coefficient of determination ( $R^2$ ) showed that the variables studied could explain the long-term and short-term equal to 94.01 percent, while the remaining 5.99 percent is explained by variables out of models (which was not studied).*

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*Key words: Foreign Tourist, Exchange Rate, Net Exports, GDP, Engle-Granger Cointegration, Regression Dummy, ECM Domowitz-El Badawi*

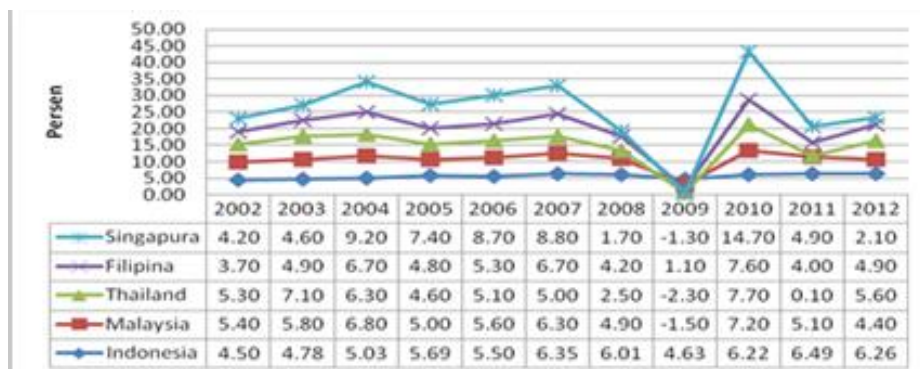
## **INTRODUCTION**

**9** In principle, economic growth can be stimulated by trade and tourism or in certain terms tourism leads growth, tourism led growth or other reciprocal causality. Trade is not only the exchange of goods and services across borders, but also provides movement to technology transfer, physical accumulation and capital. Tourism has been considered an export product (service) of international trade since the term tourism expenditure is calculated as export revenue. The development of the tourism industry will contribute to a country's economic growth. It is now considered an efficient means of enhancing the economic growth of the host country.

Williams (1991) stated that during the last six decades, tourism has experienced expansion and has become a significant source of global economic output. Tourism has become one of the fastest growing industries in the world economy with countries, and communities funding tourism councils, to promote their location and attract further investors. Tourism has emerged since World War II and is one of the largest industries in the world. International tourism has grown rapidly over the last two decades and it is currently one of the largest and fastest growing industries in the world.

UNWTO (2011) tourism consists of the activities of people who travel to and live in places outside the ordinary environment for not more than one consecutive year for leisure, business and other purposes. According to records of the World Tourism Organization (UNWTO), The United Nations which specializes in tourism related statistics and topics, tourism has been steadily growing since the 1950s, worldwide, and as such has become one of the main pillars for social and economic progress. The

tourism movement began to gain momentum in the 1980s along with the world tourism movement. After the 1980s, tourism was considered a driving force for economic growth and hence economic resources were allocated to tourism. In the mid-19th century, the number of people traveling was still limited because it took a long time and was expensive, security was not guaranteed, and the facilities were still simple. But after the Industrial Revolution the situation changed, it was not only the elite that could travel but the middle class as well. This is also supported by the existence of a train. In the 20th century, especially after World War II, advances in production techniques and aeronautical engineering led to a tourism boom. World tourism recovered strongly in 2010 and even exceeded expectations. Tourist arrivals grew 6.7 percent in 2010 against a 4.0 percent fall the previous year, the year hardest hit by the global economic crisis. Indonesian tourism is tourism based on nature and culture. Indonesia's geographic location, which is flanked by 2 continents (Asia and Australia), is a strategic location for foreign tourists to have a vacation. Plus the low exchange rate of the Rupiah against foreign currencies certainly adds to the attractiveness of the Indonesian tourism sector. With the potential for the tourism sector in Indonesia, this can increase national and regional economic growth both in the form of foreign exchange and the circulation of money in the country. The high rate of world economic growth, the increasing income of the world community and the advancement of communication technology in the last decade, have encouraged the world tourism industry to develop rapidly. The bright development of the world tourism industry is also experienced by the ASEAN tourism industry, which has played an important role in the economy of ASEAN countries. This is reflected in the development of the Gross Domestic Product of ASEAN countries, which can be seen in Figure 1.



**Figure 1:** Graph of Gross Domestic Product Development of ASEAN Countries in 2002-2012

Source: Statistics Indonesia, various editions, processed data

Singapore is a well-known travel destination, encouraging its interest in the country's tourism industry by promoting itself as a health tourism link. About 200,000 foreigners seek medical care in the country each year, and Singapore's healthcare services target one million foreign patients annually starting 2012 and obtain revenue of USD 3 billion.

The Philippine government has budgeted one billion Pesos (US \$ 214 million) for the tourism sector in 2013 or about double the previous year's budget. In 2002, economic

growth in Thailand was targeted to be above 5 percent per year. However, Thailand is able to quickly recover from a crisis which in some other countries is still difficult to overcome by developing the tourism industry as a mainstay sector for generating foreign exchange and state revenue. Thailand's tourism sector contributes around 50 percent of the country's total revenue.

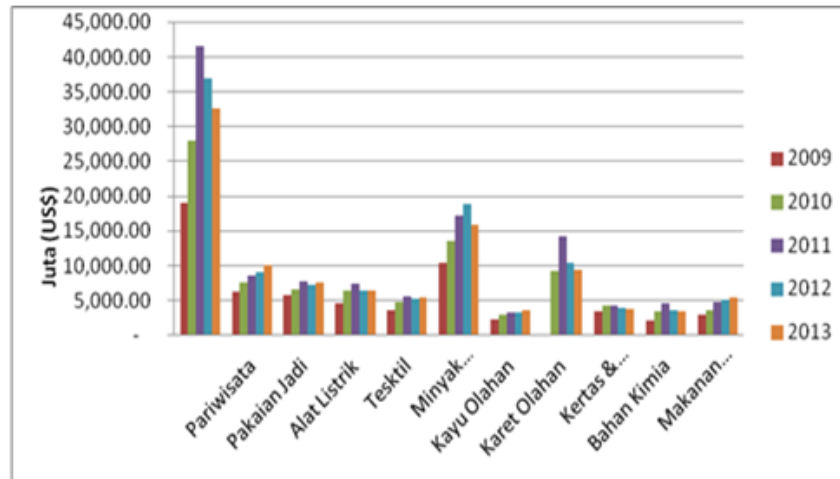
Malaysia, which is not free from the impact of the global crisis in 2009, has thus also experienced negative growth. The Malaysia Tourism Transformation Plan in 2020 is targeted for 36 million foreign tourists to enter with a state revenue of 168 billion Ringgit. And Indonesian tourism is very prospective to be sold to domestic and foreign tourists but is still far behind compared to neighboring countries in ASEAN. The current Gross Domestic Product (GDP) of the tourism sector is only 9 percent. Malaysia has reached 15 percent, while Thailand has reached 20 percent. This shows that the development of the tourism industry in Indonesia has not been carried out well. Although Indonesia's tourism ranking in 2015 has increased from 70 to 50, there is still much that needs to be addressed from the Indonesian tourism industry. In 2019, it is targeted that the tourism sector can contribute 15 percent of the total GDP or equivalent to the achievements of the current Malaysian tourism sector. To achieve this target, the visa-free policy is considered an absolute requirement that must be issued by the government immediately.

Foreign exchange income from tourism has an important role in the structure of national foreign exchange earnings through foreign tourists (tourists), contributing to sustainable economic growth and development of developed countries, especially when compared to foreign exchange originating from export activities of other goods. Exports are also one of the sources of foreign exchange that are urgently needed by countries or regions with an open economy, such as in Indonesia, because broad exports to various countries allow an increase in the amount of production which encourages economic growth so that it is expected to contribute significantly to the growth and stability of their economy.

Indonesia's exports in the 1970-1980 period were dominated by oil and natural gas commodities, which have always been the largest foreign exchange earner in Indonesia. This period is often known as the oil boom. High oil prices caused foreign exchange flows from oil exports to increase rapidly, but as it is known that oil and gas and other export commodities are natural resources that cannot be renewed and will one day run out and have the potential to also damage the environment with various pollution caused by the production process. Foreign exchange earners from the tourism sector are different from those received from other sectors. In export activities, foreign exchange earnings are obtained by sending goods or other export commodities abroad. However, in the tourism industry, the commodities that are sold do not move, but the buyers who come to enjoy the products offered. The more tourists who come, theoretically, it will increase the country's foreign exchange earnings. As payment for export goods, exporters receive money in rupiah or foreign currency. The amount of incoming foreign currency will determine the amount of foreign exchange flows. Until now, Indonesia has continued to promote export commodities, especially from the non-oil and gas sector. For oil and

gas exports, foreign exchange earnings are affected by fluctuations in oil and gas prices on the international market.

As an illustration, how is the ranking of tourism compared to other commodities and how much foreign exchange the country earns from the tourism sector, along with the data on tourism foreign exchange earnings, as listed in Graph 2 below.



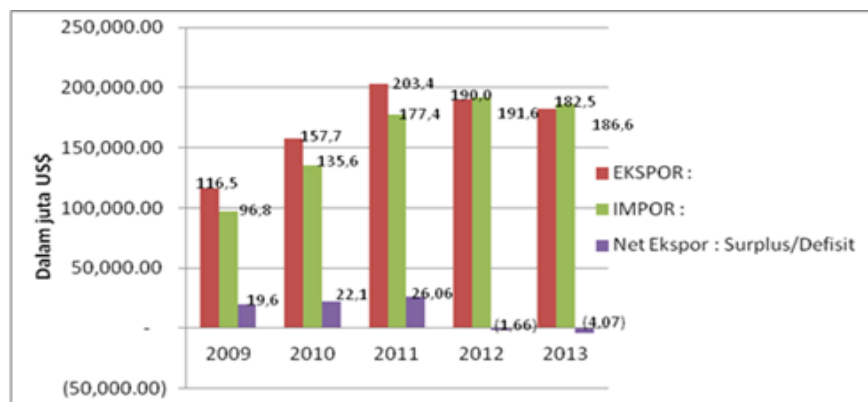
**Figure 2:** Graph of the Development of Tourism Foreign Exchange Revenues Compared to Other Export Commodities in Indonesia in 2009-2013

Source Statistics Indonesia, various editions, processed data

The tourism industry is one of the largest industries and the service sector with the fastest growth rate in the world today, although the tourism sector has not succeeded in becoming the largest foreign exchange contributor compared to other sectors, it turns out that tourism contributes to Indonesia's foreign exchange earnings in fourth place in 2013, after oil and gas (oil and gas), palm oil, and processed rubber. When compared with the foreign exchange generated, the order of the other main commodities, namely (1) oil and gas, (2) palm oil, (3) processed rubber, (4) tourism, (5) apparel, (6) electric tools, (7) textiles, (8) processed food, (9) paper and paper goods, (10) chemicals, and (11) chemically processed wood. Foreign exchange income from tourism has an important role in the structure of national foreign exchange earnings, especially when compared to foreign exchange originating from other export activities. If we look at the development every year from 2009 to 2013, although it is not too big, the foreign exchange income from tourism shows a significant change. By packaging tour packages attractively, foreign tourists are expected not only to come to one tourist spot, but also to stop at several locations. It should be noted to know that foreign exchange is important in the decision of tourists to consume in the host country. Additional foreign exchange from the tourism sector has been supporting the strengthening of foreign exchange reserves. The strong position of foreign reserves will in turn encourage the strengthening (appreciation) of the rupiah exchange rate against foreign currencies, especially against the US dollar (Nizar, 2012). Therefore the main determinants of tourism are the income of the tourist origin, the relative price of the host country, the cost of living of the host country as measured by the relative exchange rate or exchange

rate of the host country, international trade as measured by the number of exports and imports as a ratio of GDP, and transportation costs or distance between host and origin countries (Gray, 1966; Lim, 1997).

Since August 14, 1997, the exchange rate system adopted by Indonesia is the free floating exchange rate, which means that the rupiah exchange rate will be formed and fully submitted to the market mechanism or based on the law of supply and demand in the market. Indonesia, which adopts a free foreign exchange system and a floating exchange rate system, causes the rupiah exchange rate to depend heavily on market mechanisms. The rupiah exchange rate at any given moment reflects the balance point between supply and demand. An increase in demand for the rupiah will cause the rupiah exchange rate to increase and vice versa, an increase in demand for currencies of other countries will cause the rupiah to weaken. The impact of tourism on the economy through tourist spending on different (mostly non-traded) goods and services (Hazari and SGRO, 1995: 243). Thus, tourist spending can be considered as an inflow of foreign exchange which can lead to an appreciation of the exchange rate hence a reduction in the domestic export price, which acts as a disincentive for exporters. The government is targeting that in 2019 Indonesia's tourism sector will be in the top 30 positions at the global level and can become a major foreign exchange earner for the country. The contribution of tourism to the national GDP increased significantly from 2009 to 2013. This foreign exchange was obtained, among others, from the arrival of foreign tourists who were targeted to reach 20 million people, as well as Indonesian tourists with 275 million movements. Extreme conditions that can describe the form of an un-ideal relationship between tourism foreign exchange and exchange rates, namely: First, when tourism foreign exchange has increased, the Rupiah exchange rate against the USD shows a tendency to weaken (depreciate). This can be seen for example in 2009 and 2013. Conversely, Second, when tourism foreign exchange has increased, the Rupiah exchange rate against the US dollar strengthens (appreciation). This can be seen in the conditions in 2010, 2011, 2012. The form of the relationship that is not ideal and extreme is interesting to study further, by trying to elaborate on how the influences of tourism foreign exchange entering Indonesia to fluctuations in the Rupiah exchange rate.



**Figure 3:** Graph of Indonesia's Trade Balance Development for 2009-2013

Source: Statistics Indonesia, various editions, processed data

The last deficit in Indonesia's trade balance occurred in 1961 and occurred again in 2012 and 2013, as can be seen in Figure 4 Efforts to overcome this deficit are undoubtedly necessary, among others, by increasing export earnings. Tourism as one of the main unstable non-oil and gas export commodities is a commodity that can be relied on to heal Indonesia from a trade balance deficit. Therefore, it requires special attention to the tourism industry as one of the mainstay sectors for Indonesia's export foreign exchange earnings.

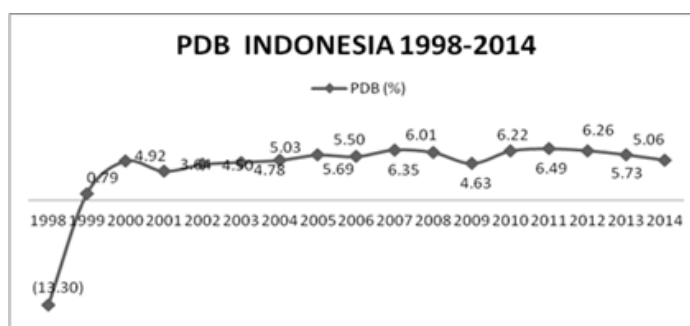
## RESEARCH METHOD

This research was conducted in the territory of Indonesia to examine the variables that have an influence between the tourism sector and trade on economic growth. The data variables used are data on foreign exchange tourism, the exchange rate of rupiah against the dollar, and net exports using time series data in the 1998-2014 period. Research is limited to using secondary time series data in the form of annual reports that have been compiled and published by related parties, namely from Bank Indonesia, the National Statistics Agency, and the World Travel and Tourism Council in various editions as well as various other relevant sources such as journals, theses, internet, books and other research results related to the research carried out. The data collection technique used in this research is the documentation method, which is the collection of data from various related sources. The data collection technique is through literature study. This empirical research method uses dummy variable regression analysis with a quantitative approach using the Domowitz-Elbadawi Error Correction Model estimation and Engle-Granger cointegration to see the relationship between the long and short run in gross domestic product in Indonesian macroeconomics.

## RESULT AND DISCUSSION

### Development of Gross Domestic Product in Indonesia

Overall development results are reflected in the level of national economic growth as measured by Gross Domestic Product (GDP), both calculated at current prices and at constant prices. To see the development of GDP in this paper it is calculated based on constant 2000 prices. Based on data from Statistics Indonesia 1998-2014, figures on real GDP in Indonesia which are calculated based on constant prices show growth in Figure 4 below:



**Figure 4:** Development of Gross Domestic Product in Indonesia

Source: Statistics Indonesia, various editions, processed data

Real GDP growth in 1998 fell sharply to around minus 13.30 percent (Figure 4). The slowdown in real GDP growth that worsened in 1998 was mainly due to the impact of the rupiah exchange rate crisis which had disrupted almost all pillars of the national economy. Since 1999 the Indonesian economy has increased every year. In 1999 the amount of Indonesia's real GDP continued to increase. This indicates that the Indonesian economy is gradually starting to show better growth after the crisis that hit in 1998.

In 2000, all elements of aggregate expenditure made a positive contribution to Indonesia's economic growth. This positive contribution continued in 2001. However, in 2002, although economic growth was relatively steady, the formation of fixed capital (investment), exports and imports had a negative contribution to economic growth. The biggest contribution is from consumption, especially government consumption. The weak response to investment activities which has a multiplier effect that is higher than consumption is due to the low level of investment. The low investment realization in Indonesia is inseparable from the unfavorable investment climate, in addition to the relatively high investment credit interest rates.

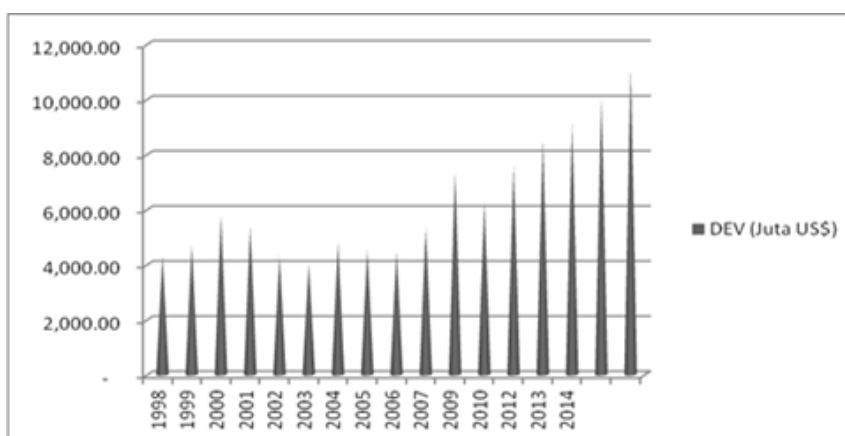
During the recovery period after the economic crisis (2000-2007), economic growth in Indonesia continued to rise. In 2008, the world economy was shaken by the global financial crisis that was experienced by the United States, but it did not really have an effect on Indonesia's economic growth. During 2008, the public was still able to enjoy low interest rates, when BI lowered the BI rate to 8%. It was only after the price of oil continued to accelerate that the BI rate rose, and the consumption sector began to slow its growth. Economic growth experienced a turning point, when the prices of various export commodities declined following the drop in world oil prices.

Economic growth in 2009 turned out to have a bigger decline compared to the decline in economic growth in 2008. The economic growth was still positive and the inflation rate was 2.8% or the lowest in the last 10 years. In 2010, Indonesia's economic conditions again showed quite good conditions, Indonesia's economic growth in 2010 grew 6.22 percent, an increase compared to 2009 and was able to be higher than 2008. This figure continued to increase until 2011 achieving economic growth of 6.49. percent.

Indonesia's economic growth in 2011 was also boosted by the recognition of Indonesia's economy by developing countries. Several developing countries consider that Indonesia is able to manage its economy well. Optimism for the economic outlook for 2012 was also driven by an increase in Indonesia's rating to the investment grade level. Thus, several developing countries have shown a high level of confidence in investing their funds in Indonesia.

### **The Development of Tourism Foreign Exchange in Indonesia**

The motive that is considered the most relevant between trade and tourism is travel for business. Because this trip is a professional travel and is usually related to work or position. The following is an overview of the development of foreign exchange tourism in Indonesia is presented in Figure 5.



**Figure 5:** Development of Tourism Foreign Exchange in Indonesia

Source: Statistics Indonesia

Based on 2010 data, the number of foreign tourists coming to Indonesia was more than 7 million or grew by 10.74% compared to the previous year, and contributed foreign exchange to the country amounting to 7,603.45 million USD. In fact, this can be improved again if the facilities and natural and cultural resources that we have are upgraded and maintained for their beauty in a way that does not damage and promote maximally what we have.

Meanwhile, the contribution of tourism to the country's foreign exchange earnings in 2010 was ranked fourth after oil & gas, palm oil and processed rubber. The success of tourism development has not been accompanied by a ranking of Indonesia's competitiveness in the global market.

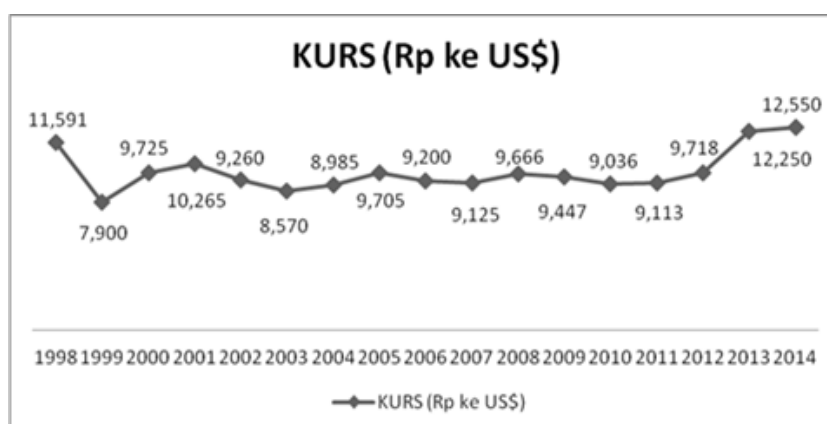
Based on The Travel & Tourism Competitiveness Report issued by the World Economic Forum (WEF), Indonesia's tourism competitiveness ranking in 2013 increased to 70 out of 140 countries, from the 2011 competitiveness position, which was ranked 74 out of 139 countries. However, the ranking is still below Singapore (10th place), Thailand (43), and Malaysia (34), as well as China (45). The highest growth occurred in 2014, which was due to the facilities for foreign tourists, including the provision of visa-free for 2 months for foreign tourists in 26 countries, strengthening the Indonesian Tourism Promotion Headquarters (P3I) abroad and developing and increasing tourist attractions, while the lowest occurred during the Transition era (Propenas).

### **Development of Exchange Rate in Indonesia**

The exchange rate (Kurs) has a central role in international trade relations, because the exchange rate allows to compare the prices of goods and services produced by a country. In conducting trade transactions between countries, use foreign currency instead of the country's currency.

The following is an overview of the development of exchange rates in Indonesia during the 1998-2014 research year is presented in Figure 6.





**Figure 6:** Development of Exchange Rate in Indonesia

Source: Indonesian Agency (processed)

Indonesia adheres to an open economy system with the implementation of a free floating exchange rate system (free floating system) which began in August 1997, the position of the rupiah exchange rate against foreign currencies (especially the USD) is determined by the market mechanism. Domestic conditions as well as conditions abroad greatly affect the movement of the Indonesian exchange rate which is determined by market supply and demand. When a country's economic conditions change, it is usually followed by changes in exchange rate.

In 2005, the soaring world oil prices which had reached the level of US\$ 70 / barrel contributed significantly to the increasing demand for foreign exchange as a consequence of oil importing countries. This condition caused the rupiah exchange rate to weaken against US\$ and was in the range of Rp. 9,200 to Rp. 10,200 per US \$. Tourism is an important economic sector in Indonesia. In 2009, tourism ranked third in terms of foreign exchange earnings after oil and gas commodities and palm oil.

During the period of financial crisis, namely the period August 1997 to 2000, where the exchange rate fluctuated very sharply resulting in the fall of the New Order Government (President Soeharto's Leadership Period) was replaced by his then deputy President BJ Habibie. At the beginning of 2000, the condition of the rupiah exchange rate had begun to recover from the September 1997 crisis, namely Rp. 7,400. The peak of the exchange rate crisis occurred around June 1998, when the rupiah exchange rate against the dollar was greater than Rp 14,000. Then, after various government policies were implemented in dealing with the exchange rate, including: signing of LOI (foreign debt) to the IMF, tight money policy (increasing interest rates) and freezing several banks, the rupiah exchange rate strengthened to the level of Rp. 8,000-. This condition was supported by a change in political leadership towards Habibie which brought hope to market players. This condition persisted with relatively slight fluctuations until the era of Gus Dur. However, during 2000, the exchange rate experienced a weakening, opening at the level of Rp 7,425 in January 2000 and gradually increasing to reach Rp 9,500 per US dollar. In fact, this condition continued in 2001, the peak reached the level of Rp. 11,675 in April 2001. It had strengthened to the level of Rp. 8,865 per US dollar in August 2001 but again weakened to the level of Rp. 10,400 until the end of 2001. So it can be said that During

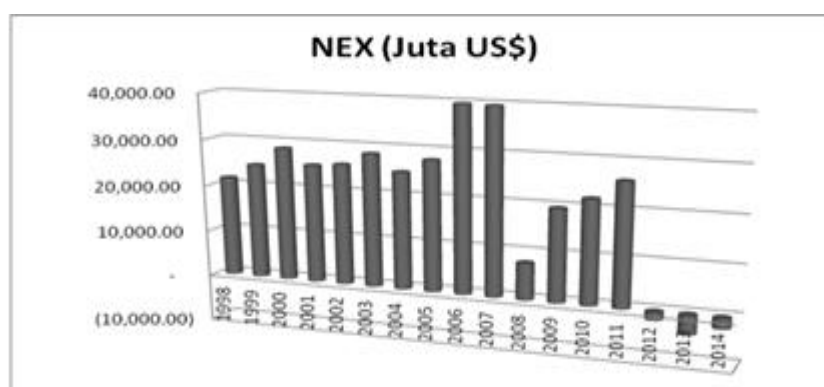
this period the rupiah exchange rate against the US dollar returned to fluctuations, although it was still under control. This happened because the government was looking for the right formulation to address the various demands for economic recovery. Apart from that, political conditions also returned to turmoil with the change of national leadership from Gus Dur to Megawati.

Apart from that, external factors also influenced the strengthening of the rupiah exchange rate against the USD, namely the decline in the fed funds rate, symptoms of a weakening USD on a global scale; and the strengthening of regional exchange rates in 2002. The strengthening of the rupiah exchange rate during 2002 continued until the end of 2003. During 2003, the rupiah exchange rate was in the range of Rp 8,285-Rp 8,900. However, from the beginning of 2004 to the first semester of 2005, the rupiah exchange rate against the US dollar showed a fluctuating tendency. The lowest rupiah exchange rate occurred in July 2005 (Rp 9,800 / US dollar) and the highest rupiah exchange rate occurred in January 2004 (Rp 8,384 / USD). High fluctuations occurred in the period April 2004-August 2004, this was related to the concerns of money market players regarding the implementation of the 2004 elections.

The rupiah exchange rate against the USD has experienced movements due to external and internal factors that influence it. Internal factors are influenced by the performance of the Indonesian economy as reflected in the balance of payments, while external factors are influenced by US monetary policy and the global financial crisis. At the end of 2008, the rupiah exchange rate against the USD was Rp. 10,000, - weaker than in 2007. At the end of 2009, the rupiah exchange rate strengthened by Rp. 9,400, - In 2009 the rupiah exchange rate depreciated by 5.78% from the previous Rp. 9,757 to Rp. 10,356. This depreciation condition should be able to increase exports and reduce imports. But in fact, Indonesia's exports decreased by 139.606 million USD to 119.646 million USD in 2009 and Indonesia's import performance decreased from 116.69 million USD to 89.499 million USD in 2009. The same condition occurred in 2012 and 2013, the rupiah exchange rate experienced depreciation of 11.10%. This condition had a negative impact on Indonesia's export performance, namely from 188.146 million USD down to 182.089 million USD in 2013 and the import performance also decreased to 176.256 million USD from the previous 179.729 million USD in 2012. (BI).

### **Development of Net Exports in Indonesia**

The development of Indonesia's net exports to various destination countries is fluctuating and is strongly influenced by international economic conditions. The development of the tourism sector also has links to international trade (exports and imports).



**Figure 7:** Development of Net Exports in Indonesia

Source: Indonesian Agency (processed)

Based on Figure 7 above, it shows that the 2006 trade balance recorded a larger surplus, supported by rapid growth in exports, while imports slowed due to the lack of recovery in domestic demand. The improvement in export performance is supported by relatively strong global economic growth and high prices for primary commodities on the international market. Meanwhile, the Indonesian economy in 2007 experienced a positive growth rate increase of 0.78 percent. Meanwhile, viewed from the source of growth, the components that make a large contribution or contribution to the calculation of GDP in Indonesia from year to year are exports, followed by imports, and household consumption.

In 2008, the contribution or contribution of exports as a source of growth in the calculation of GDP was 4.70 percent, while the contribution or contribution of imports was 4.01 percent, and household consumption was 3.05 percent. This means that exports are the largest contributor to the calculation of GDP in 2008 in Indonesia. The development of Indonesian exports from 2012-2014 did not increase, on the contrary, it continued to decline every year from. It can be concluded, starting from 2012-2014, the decline in export value was 26.16%. For the development of import value itself, there was a fluctuation in value from 2012-2014, which means that there was still an increase in certain years. Based on the 2012-2014 period, the highest import value was in 2012, but after that it decreased again until it reached its lowest point in 2015, for exports, Indonesia's main import commodities are also in the non-oil and gas sector.

Besides the fiscal deficit, in 2012 Indonesia also experienced a trade balance deficit of US \$ 1.7 billion which is also the first experience since 2009 with a surplus of US \$ 19.6 billion, in 2010 a surplus of US \$ 22.1 billion and in 2011 a surplus of US \$ 26 billion<sup>5</sup>. This trade balance deficit occurs due to a combination of domestic factors (increasing oil and gas imports and decreasing domestic oil lifting) and decreasing exports due to falling demand for goods and services, especially from America and Europe.

### **Results of Error Correction Model Domowitz-El Badawi Regression**

The ECM approach used in this study is Error Correction Model Domowitz-El Badawi Model approach. According to this approach, the ECM model is valid if the sign of the ECT coefficient is positive and statistically significant (Widarjono, 2009). The Domowitz-

El Badawi Error Correction Model (ECM) approach will explain the short and long term parameters of the variables that affect the Gross Domestic Product in Indonesia. The results of processing that have been carried out using the E-Views 9.0 computer program, with the ECM linear regression model are shown the results of data processing in table 1.

**Table 1:** Regression Estimation Results with the Domowitz-El Badawi Error Correction Method

Variable	Coefficient	t-stat	Probability	Adjusted R2
C	-0.265452	-0.699592	0.5104	0.940140
<b>SHORT-TERM</b>				
D(LNDUM)	0.218760	2.139650	0.0762	
D(LNDEV)	0.031989	2.648062	0.0381	
D(LNKURS)	0.039531	1.322604	0.2341	
D(LNNEX)	0.008871	2.148839	0.0752	
<b>LONG-TERM</b>				
LNDUM(-1)	0.411517	2.313832	0.0600	
LNDEV(-1)	0.030052	2.805859	0.0309	
LNKURS(-1)	0.012676	-0.298177	0.7756	
LNNEX(-1)	0.016956	2.429576	0.0512	
ECT	0.064559	5.610703	0.0014	

Source: Eviews 9.0 (processed data)

The Error Correction Model (Domowitz-El Badawi) obtained a coefficient value that is positive and significant (probability value < absolute value critical value for  $\alpha = 0.05$  and  $0.10$ ). This indicates that the ECM model used in the study is valid (appropriate). In this study, the ECT (Error Correction Term) value of  $0.064559$  with a t-statistic value of  $5.610703 > t$ -table  $10\%$   $df 44 = 1.6802$  significant at  $\alpha = 5\%$ . The ECT coefficient value is positive and statistically significant, it means that the Domowitz-El Badawi ECM specification model used in this study is valid.

#### **Result of Partial Hypothesis Testing (t-statistical test)**

The partial test results can be seen in the output obtained. Through the t test with a significant level of  $\alpha = 5$  percent. In the long run the t-statistic value and probability of each dummy variable t-statistic =  $2.313832$  (prob =  $0.0600$ ) indicates that the dummy variable has a positive and insignificant effect on gross domestic product in Indonesia, the tourism foreign exchange variable t-statistic =  $2.805859$  (prob =  $0.0309$ ) indicates that the tourism foreign exchange variable has a positive and significant effect on gross domestic product in Indonesia, the exchange rate variable t-statistic =  $-0.298177$  (prob =  $0.0762$ ) shows that the exchange rate variable has a negative and insignificant effect on gross domestic product in Indonesia, The export nex variable t-statistic =  $2.429576$  (prob =  $0.0512$ ) shows that the export nex variable has a positive and insignificant effect on gross domestic product in Indonesia.

In the short term the t-statistic value and the probability of each dummy variable t-statistic = 2.313832 (prob = 0.0600) indicates that the dummy variable has a positive and insignificant effect on gross domestic product in Indonesia, the tourism foreign exchange variable t-statistic = 2.648062 (prob = 0.0381) indicates that the tourism foreign exchange variable has a positive and significant effect on gross domestic product in Indonesia, the exchange rate variable t-statistic = 1.322604 (prob = 0.02341) shows that the exchange rate variable has a positive and insignificant effect on the gross domestic product in Indonesia. export nex t-statistic = 2.148839 (prob = 0.00752) shows that the export nex variable has a positive and insignificant effect on gross domestic product in Indonesia.

### **Test Results (Test-f)**

In the long and short term, the estimation results can be seen that the F-statistic value is 10.47047 with a statistical probability of 0.0014 smaller than  $\alpha = 0.05$  indicating that together (simultaneously test) all independent variables are dummy, tourism foreign exchange, exchange rate, nex exports and the Error Correction Term (ECT) have a significant effect on gross domestic product in Indonesia.

### **Test Results for Estimated Accuracy (R<sup>2</sup> Test)**

Based on the estimation results, the value of the coefficient of determination (R-square) in the long term and short term is 0.940140 or equal to (94.01 percent), so that in the long term and short term there is 94.01 percent variation in changes in dummy variables, tourism foreign exchange, exchange rates. and net exports. While the rest in the long term and short term of 5.99 percent is explained by variables outside the model (which are not studied).

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusion**

Based on the estimation results of the Domowitz-El Badawi Error Correction Model regarding the influence of independent variables such as Tourism Foreign Exchange, Exchange Rates, and Net Exports on the dependent variable Gross Domestic Product in Indonesia 1998-2014, it can be concluded as follows :

1. From several independent variables that are tried and included in the equation of gross domestic product in Indonesia using the Domowitz-El Badawi Error Correction Model, namely Tourism Foreign Exchange, Exchange Rate (Kurs), and Net Exports. In the long term, there are 2 (two) significant variables, namely Tourism Foreign Exchange (TFE) and Net Export (NEX), while in the short term, there are also 2 (two) variables namely Tourism Foreign Exchange (TFE) and Net Export (NEX). Thus, it can be concluded that the tourism foreign exchange (TFE) and Net Exports (NEX) variables both in the long and short term are the main determinants that affect the increase in economic growth in Indonesia, in this case increasing Gross Domestic Product income in Indonesia.
2. Other independent variables such as the exchange rate (Kurs) on the dependent variable gross domestic product (Y) in Indonesia in the long run the exchange

rate variable (KURS) has a negative and insignificant effect, while in the short term it has a positive and insignificant effect on the variable gross domestic product (Y).

3. From the value of the coefficient of determination ( $R^2$ ) in the estimation results of the Domowitz-El Badawi Error Correction Model, it can be explained that the variation of gross domestic product (Y) in the long term and in the short term can be explained by tourism foreign exchange variables (DEV), exchange rate (KURS), net exports (NEX) in Indonesia amounted to 0.940140 or 94.01 percent. While the remaining 5.99 percent of the variation in changes in gross domestic product in Indonesia is explained by other variables not included in the research model.

### **Suggestion**

Based on the conclusion, there are several suggestions that can be used as recommendations, as follows:

1. The government needs to integrate policies to increase tourism and national foreign exchange with exchange rate policies so that the Rupiah exchange rate remains competitive and policies to increase international trade in an effort to encourage an increase in the number of foreign tourists.
2. The government is expected to maintain the stability of macroeconomic variables as an effort to increase the gross domestic product in Indonesia. In particular, tourism foreign exchange variables, exchange rates and net exports can significantly affect gross domestic product in Indonesia.
3. In further research, it is necessary to add variables or other factors related to gross domestic product that have not been included in this research by improving the stages of this method or combining it with other methods so that it shows more optimal results.

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