

**THE ROLE OF TOURISM RECEIPTS ON ASEAN'S GDP (PANEL DATA ANALYSIS YEAR: 1995 –  
2017)**

**MINOR THESIS**

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## THE ROLE OF TOURISM RECEIPTS ON ASEAN'S GDP (PANEL DATA ANALYSIS YEAR: 1995 – 2017)

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### ABSTRACT

*Nowadays, it is clearly visible that the importance of tourism sector particularly in the ASEAN region has been overshadowed by the importance of other sectors such as industrialization and service sectors. But the recent revival of the tourism sector by the World Bank has brought a major attention, particularly through marketing and strategy, hoping that these would open markets to increase tourism sector of ASEAN.*

*The Analysis of this research is developed by utilizing Tourism Receipts as the dependent variable; using Capital investment, Government expenditure, Employment rate, Exchange rate, and GDP as the independent variables to complement the analysis. The empirical result of the study addressed that Tourism Receipts is significant and has a positive relationship to the GDP in ASEAN region. Thus, this thesis is concerned to examine the impact of Tourism Receipts to the ASEAN's GDP by using simple panel data from the year 1995 to 2017.*

*Keywords:* ASEAN, Tourism Sector, GDP, Panel Data

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### A. BACKGROUND

In recent years there has been an upsurge of interest in the role of tourism for economic growth. Developing countries focus on economic policies to promote international tourism as a potential source of economic growth. However, our understanding of the relationship between traditional exports, tourism and economic growth is still ongoing.

Tourism is an important sector that has multiple and vital roles in the economy of any nations, particularly in the ASEAN region. Cited from Harvey (2013) There is a general agreement among policymakers and economists that tourism industry will indirectly create jobs, foreign income and lead to economic growth, the tourist arrivals and expenditures are such appropriate variables to evaluate the impact of economic factors on the tourism industry.

The tourism in ASEAN already play a huge part on generating revenue, having the possibility to take a leading role in the economy in each of the respectively ASEAN countries replacing their leading sectors in boosting the economy. ASEAN Member Countries recognize the strategic role of the Tourism Sector in their economic growth and for the ASEAN region, and in advancing the rich and diverse social, cultural and historical heritage and image of ASEAN. In 1996, ASEAN countries, including Cambodia, received 31.7 million tourists with total receipts of US \$ 31 billion. Thus, the ASEAN tourism sector collectively contributed significant gain to the regional economy, an equivalent of 9.1 % of total exports and 4.9 % of regional Gross Domestic Product (GDP). (ASEAN.org)

A huge amount of research focused on analyzing the relationship between exchange rate and tourist demand. However, the inflation rate might also affect tourism demand, especially for the inbound recreational visitors and this variable have been neglected by the literature. Additionally, many of the studies so far applied the data for a specific

country or continent, which may ignore the heterogeneity among destinations and also worldwide effects however; these studies lack universality, making it difficult to apply their results and conclusions to a larger extent. To increase the scope and reduce the error, this paper is going to analyze data from a bigger scale of countries and regions in ASEAN, with additions of variables.

### **Statement of the Problem**

The author wants to know how big is the impact of tourism receipts to ASEAN countries and how much the tourism demand. Second, the author wants to know in what extend does Tourism Receipt, Employment Rate, Capital Investment, Government Expenditure, and Exchange Rate, effect on the ASEAN GDP?

### **Purpose of the Research**

It is expected that this research can conclude a solution and produce contributions to the government or related institutions, providing information that will later become the basis or reference for making government policy.

This research is expected to provide benefits to:

1. For government agencies, this research is able to be able to provide information for the Central Government in terms of preparing future policies.
2. For science, this research is expected to increase knowledge, especially development economics. Special benefits for science are that it can complement studies on travel and tourism by revealing empirically the factors that influence it.
3. It is expected as reference material and additional data for other researches in the future.

## **B. THEORITICAL FRAMEWORK**

### **Capital Investment**

The theory of investment is agreed that investments are made until the present value of expected future revenues, at the margin, is equal to the opportunity cost of digital. This means that investment is made until the net present is equal to zero. An investment is expected to generate a stream of future cash flows. Under the internal fund's theory of investment, the desired capital stock and, hence, investment depends on the level of profits. Several different explanations have been offered. Jan Tinbergen, for example, has argued that realized profits accurately reflect expected profits.

### **GDP**

The goal of GDP is to summarize economic activity in a certain value of money over a period of time (Mankiw, 2016). There are two ways to see GDP statistics. First, is look at GDP as the total income of everyone in the economy. Second, GDP is the total expenditure on the output of economic goods and services. GDP is an indicator of the level of economic growth and welfare in a country. However, GDP still considers as a not perfect measure for economic welfare, for several reasons, such as first, GDP calculations ignore the reduction of resources and the environment; second, not paying attention to the inequality in GDP income distribution; third, does not include non-material activities; last, ignore underground economy activity.

### **Government Expenditure**

The notion that more government expenditures can stimulate growth is still controversial. Some researchers found positive relationship between government expenditures and growth with bi-directional causation, while others indicated that growth caused government spending to expand. The causation between government expenditures and economic growth in ASEAN was examined using the granger causality test. There was no cointegration between government expenditures to economic growth existed. However, the causality from economic growth to government expenditures was not observed

### **Employment Rate**

The Theory of the-Labor Market Fluctuations in aggregate economic activity and employment result from changes in the aggregate demand for and supply of output. The timing of the changes is uncertain. The changes may be positive or negative, and may be temporary or persistent. Workers and employers in individual firms do not know whether shocks or changes are temporary or long lasting, real or nominal.

### **Exchange Rate**

From the previous studies of (Ilmu, Suci, Asmara, & Mulatsih, 2015) the monetary and exchange rate frameworks of ASEAN 5 have been evolved over time, and been used as parameters as instrument of its monetary policy directed at price stability, and reflected in the behavior of ASEAN, particularly before ASEAN financial crisis, where their currencies were tightly managed against US dollar. After the financial crisis, the exchange rates have become significantly more flexible.

### **Tourism Receipt**

Spending within the country by international tourists for both business and leisure trips, including spending on transport, but excluding international spending on education. When foreigners visit your country for tourism that is an export for your country because funds are ultimately being transferred from outside your country. It can also be observed that both inbound tourism and exports Granger cause economic growth, meaning that both are good indicators for the impact.

### **Framework ASEAN GDP**



Source: WTTC

The five important factors will have an impact on the increase in the number of GDP. The relationship between tourism receipts and GDP is very close, if in the economy the rate of tourism receipts lowers there will be a weak capital investment that enters and results in low GDP as example. This action will have bad impact and decrease the existing GDP. A country that has a rapid growth of tourism can be indicated that the economy in the region is well. From the good of the economy, it reflects that the GDP increases and social welfare is better.

List of ASEAN Countries that are observed

<i>NO</i>	<i>Country</i>
1	<i>Indonesia</i>
2	<i>Malaysia</i>
3	<i>Singapore</i>
4	<i>Brunei</i>
5	<i>Thailand</i>
6	<i>Vietnam</i>
7	<i>Laos</i>
8	<i>Myanmar</i>
9	<i>Cambodia</i>
10	<i>Philippines</i>

### **C. METHODOLOGY**

#### **Type of Research**

In this research, researcher uses descriptive kind with quantitative method. Quantitative research is a kind of research used to analyze numerical data. Quantitative research makes the topic with numerical data easier to understand with analysis regression using STATA application.

#### **Type of Data**

The data taken for this research is secondary data collected its respective websites.

#### **Source of Data**

This research uses secondary data. The technique is outsourcing from related websites and sources such as WTTC and ASEAN.

#### **Model and Variables**

Variables and Source of Data

Variables	Source of Data
Tourism GDP	WTTC
Tourism Employment	WTTC
Tourism Investment	WTTC
Visitor Export	WTTC
Government Expenditure	WTTC
Exchange Rate	World Bank

In order to investigate the impact of exchange rate on ASEAN Economic Growth through tourism, this research applies the following model:

$$TGDP_{it} = B_0 + B_1 TEmp_{it} + B_2 TInv_t + B_3 GExp_{it} + B_4 Jobs + B_5 VisExp$$

Where

<i>TGDP</i>	=	Value of GDP generated by tourism sector
<i>TEmp</i>	=	Number of Employment generated by tourism sector
<i>TInve</i>	=	Value of capital investment to tourism sector
<i>Exchrates</i>	=	ASEAN agricultural employment rate
<i>Jobs</i>	=	Number of jobs contributed from tourism
<i>VisExp</i>	=	Spending of tourists in another country
<i>i</i>	=	10 ASEAN countries
<i>t</i>	=	1995 - 2017
<i>e</i>	=	Error term

### Panel Data Analysis

Panel data, also called longitudinal data or cross-sectional time series data, are data where multiple cases were observed at two or more time periods. With panel data, it is possible to control for some types of omitted variables even without observing them, by observing changes in the dependent variable over time.

#### Common Effect/Pooled Least Square

The common effect is the simplest technique in panel data regression. This is because the common effect only combines cross-section with panel data, regardless of the individual components as well as time. It is assumed that the behavior of the same cross-section data is in different periods.

#### Fixed Effect

Fixed effects regression is the model to use when you want to control for omitted variables that differ between cases but are constant over time. It lets you use the changes in the variables over time to estimate the effects of the independent variables on your dependent variable, and is the main technique used for analysis of panel data.

#### Random Effect

If you have reason to believe that some omitted variables may be constant over time but vary between cases, and others may be fixed between cases but vary over time, then you can include both types by using random effects.

### Causality Model / GMM Panel Data

The Granger Causality model is a statistical hypothesis test for determining whether one time series is useful in forecasting another. The method is a probabilistic account of causality, it uses empirical data sets to find patterns of correlation. Causality is closely related to the idea of cause and effect.

#### D. FINDINGS AND DISCUSSION

Variable	Coefficient	Std. err.	T	p> t
GovntExpenditure	-4.233	4.2731.	-0.99	0.323
Foreign Spending	.9824 ***	.07075	13.89	0.000
Capital Invest	.7699 **	.25717	2.99	0.003
Employment Rate	3.763***	.1952027	19.28	0.000
Exchange rate	-.738885**	.08929	-8.27	0.006

**Table 1: The result of Common Effects test**

\*P<0.10; \*\* p< 0.05; \*\*\* p< 0.01

We approach the fixed effect and interestingly the outcome differs to the common effect. According to R-Squared and adjusted R-Squared, they indicate that the model explains 74% of the behavior of the data, which is pretty high. Moreover, by observing Prob (F-statistic), Moving forward to the variables, most variables are significant and have positive relationships to GDP. However, the other two variables, which are Government Expenditure and exchange rate, are considered to be insignificant as it has negative sign.

#### Fixed Effect/Least Square Dummy Variable

**Table 2: The Result of Fixed Effects**

Variable	Coefficient	Std. err	T	p> t
Govt Expend	11.555 **	3.8361	3.01	0.003
Foreign Spending	.71465 ***	.0535	13.34	0.000
Capital Invest	.5484 *	.2399	2.34	0.020
Employment Rate	4.877 ***	.35633	13.69	0.000
Exchange rate	.07869	.16373	0.47	0.639

\*P<0.10; \*\* p< 0.05; \*\*\* p< 0.01

#### Random Effect



Following the Chow Test, the random effect should be conducted. Observing from the R-Squared and adjusted R-squared, we can conclude that the model is explaining 77% the behavior of the variables. From our observation through figure 4.3, we can observe that the variables are all almost significant. Yet, exchange rate has negative impact to GDP.

Result of Robust Test

**Table 3 The Result of Robust Test**

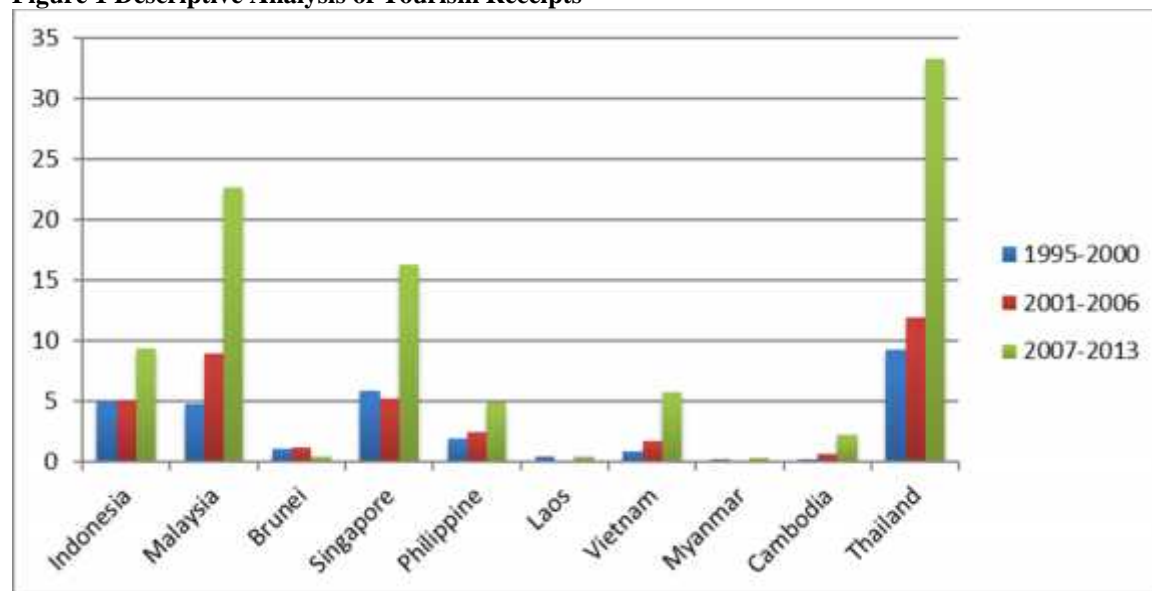
Variable	Coefficient	Std. err	P> t
<b>GovtExpenditure</b>	.5484176	. 3.836138	0. 076
<b>Foreign Spend</b>	11.5508	. 053889	0. 008
<b>Capital Invest</b>	.71465	2339038	0. 007
<b>Employ Rate</b>	4.877923	.3563392	0. 060
<b>Exchange rate</b>	. 0786919	.1673705	0. 744

\*P<0.10; \*\* p< 0.05; \*\*\* p< 0.01

After conducting several tests in order to determine the best model to explain the variables, the result comes into conclusion that the Robust regression is the best-fit model to explain the behavior of the variables, and also an alternative to least squares regression when data is contaminated with outliers or influential observations and it can also be used for the purpose of detecting influential observations.

### Descriptive Analysis of Tourism Receipts in ASEAN

**Figure 1 Descriptive Analysis of Tourism Receipts**

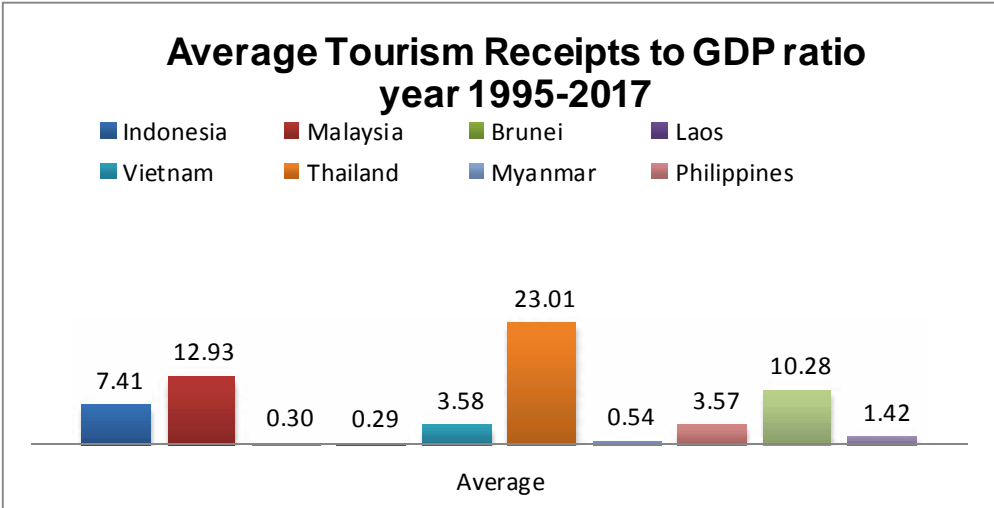


Source: WTTC

One of the key factors that can results in economic growth in a region. As mentioned from the studies by (Ludmila Novacka), the multiplier models represented by Keynes in 1936 are the basements for theory of economic impact generally and in the area of travel and tourism as well. Economic impacts by multiplier model had been enormously influential in macroeconomic analysis over the last century. Samuelson and other economists proclaimed the thesis, that multiplier model provides a simple way to understand the impact of aggregate demand on the level of out-put (Samuelson,1998).

Based on the results of the description of the research variables, it is known that that the number of open tourism receipts in ten countries of ASEAN has fluctuated from year to year. Thailand is the region with the highest number of tourism receipt in the period of 1995 to 2017, while Laos is the region with the lowest average tourism receipt in the same period. In addition, Thailand is also the country that has the highest government expenditure compared to other countries in Southeast Asia, while Laos is the region with the lowest average population. This shows that Thailand is the country with highest optimism to maximize their destinations points to become visitor’s preferences, yet to increase their GDP, since their primary source is from Tourism sector. In comparison, other ASEAN countries are catching up as well although they are not putting the tourism sector on top of their list. This puts Thailand as their strength closely racing next to Indonesia, Malaysia, and Singapore. Although in Singapore case, the country is different with others since it is a major hub and lacks natural resources, uses advantage of its position as exporting industrial sector such as chemicals, electronics, and services.

**Figure 2 Average Tourism Receipts to GDP**



Notes: Processed by author in excel

Based on the figure above, Tourism Receipts play a huge role in developing with high government expenditures and various destinations, as you can see, Thailand is highest rank again in holding the average from year 1995-2017, this due of their high government expenditure that resulted in high visitors which contributes in tourism receipts as well. While not surprisingly, Brunei has the lowest Tourism Receipts due to their lack of foreign visitors, Brunei is place lower below countries such as Laos, Cambodia, and Myanmar due to their Highly stricter Islamic Sharia Law.

Tourism Receipts that plays a huge role in determining the GDP of ASEAN, is considered to be a vital part of this thesis. The Author decides to explore deeper inside the variable. As it can be seen, Tourism Receipts has become the main character in deciding whether a country’s GDP is increasing or decreasing. For example, developing countries with varieties of tourism destinations are maximizing them in order to attract as many tourists as possible, such as Thailand. While for Singapore, one of the two only developed countries in ASEAN that is a high reputation since it is a major hub in ASEAN to connect flights from other continents such as Europe and America, has received a lot of Tourism Receipts for its tourist arrivals rather than the tourist spending inside the country. Whereas the underdeveloped countries where tourism is on its rising are experiencing a booming of tourism receipts, when there is a push of investment for the tourism, there will also be a push in Tourist arrivals.

**Implication**

From the perspective of the results of the discussion of Tourism Receipts on ASEAN's GDP, the implications obtained are related to the need for an active role from both ASEAN countries government and all elements to the society in order to maximize the tourists destinations and receiving Tourism receipts. The act that needs to be taken by the government is considering by monitoring the tourists arrivals on each of the countries by the amounts, origins of the visitors, and duration of visits so that it can be analyzed to become a policy and facilitate the Government expenditure to give a safe and comfortable environment for tourists to travel. Given that information, each government should also be able to gain the benefits by using technology to monitor and receive feedbacks of their countries receipts. This will help to receive objectives and solutions for each ASEAN countries problems and receive benefits for all parties; the government, tourists and the society. What participation of the society also plays a chance for their own benefit, with the tourists arrivals, society can build small medium enterprises such as guest house, restaurants, and shops that facilitates the tourist, which in return receives profits for the society welfare.

## E. CONCLUSION

### Main Conclusion

1. The result includes Tourism Receipts, which is significant and has a positive relationship to GDP. It explains that an increase in Tourism Receipt will raise GDP in our case. This covers reciprocity theory, which states that if a country is kind enough to be open and accept foreign export from other countries, thus it will also be kindly regarded and in our case export rise. Moreover, exchange rate is non-significant and has a negative relationship to GDP.
2. Furthermore, despite the role of openness index in most empirical results remained questionable or mixed, in our case, Tourism openness index is significant and plays an important role in boosting the Tourism Receipts. In fact, tourism openness index, in our case, has the largest influence in boosting the foreign export to the ASEAN region. An increase in one percent of tourism openness index will raise tourism receipts.
3. The GDP of growth of 10 countries in Southeast Asia in the period of 1995-2017 has able to make social welfare to the society by increasing Employment rate. This can occur because of the Tourism receipts that experience an increase in GDP and contribute through the society. The Tourism sector requires a big labor intensive and human labor for its development, where it all plays a part in an indirect way.

### Author's Recommendation

1. The government needs to design an economic activity to encourage the creation of economic growth in ASEAN region. This is based on the ongoing population growth from year to year in the region, which is not balanced by an increase in employment opportunities, leading to a decrease employment.
2. The Government needs to prioritize economic development in Travel and tourism sectors to increase economic growth. This is because economic growth and development in ASEAN on 1995- 2017 is still concentrated in capital-intensive business sectors only.
3. Efforts to improve tourism development have indeed been a program for long time. However, these efforts need to be prioritized in concrete efforts to overcome the roots of poverty, namely the inability of community to develop their potential and resources around them. Therefore, each ASEAN government can implement a capacity-building program for the community, to improve the capacity of the community and encourage economic welfare through the increase of GDP.
4. Future research with the similar topics should conduct a closer range of years given with concrete data from

similar sources, so the results of the study can be compared throughout short term and long run. By having variety of methods and researches, it can be a subject to be applied for policies and functions to improve the subject given.

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