

# Effect of Tourism GDP to Human Development: Case Study of ASEAN Countries

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**Abstract**—The ASEAN Economic Community (AEC) is an initiative of ASEAN countries to realize ASEAN into a solid and calculated economic area in the international economic arena. Human Development Index (HDI) is a method used to measure the success or failure of a country or region in the field of human development. The economic growth of ASEAN countries and tourism sectors is very important for the improvement of the HDI. This study uses a quantitative method with panel data secondary to the 2011-2015 period by combining 10 ASEAN countries. The HDI in ASEAN countries is already good, it can be explained that Singapore is the country that has the highest HDI while Myanmar, Laos and Cambodia are the countries that have the lowest Human Development Index. To overcome the increasing human development index in Myanmar, Laos and Cambodia, an open economy needs to be improved by conducting international trade. Digital technology is needed to further accelerate the economy of openness. Government policies of the three countries are to be more open in their economy. It is hoped that the policies of these three countries can contribute to creating a prosperous society in ASEAN countries and having a parallel HDI.

**Keywords**—GDP; Tourism; Human Development; ASEAN

## I. INTRODUCTION

A country in realizing the welfare of its population is carried out through the development process. Development is carried out based on the development trilogy. The three foundations in the development trilogy include economic growth, national equity and stability. The quality of human resources has the most important role in economic development. Human beings act as processors and become capital in development. Human Development Index (HDI) is a method used to measure the success or failure of a country or region in the field of human development. The Human Development Index has three indicators, namely: life expectancy at birth (health), adult literacy rate and average school length (education), and purchasing power (income).

The ASEAN Economic Community (AEC) is an initiative of ASEAN countries to realize ASEAN into a solid and calculated economic area in the international economic arena. AEC was formed with the aim of achieving economic integration in the ASEAN region which is believed to provide real benefits for all elements of society.

The economic growth of ASEAN countries and tourism sectors is very important for the improvement of the human development index. If growth is high and the tourism sector increases it is also expected to increase the human development index.

According to [1] the results of the study show that the relationship between tourism and human development seen in the scope of regencies / cities in Central Java turned out to be difficult to be able to state that there was a strong relationship between the two. While [2] from the results of panel data regression can be concluded that partially GDP and Human Development Index have a negative and significant effect on the related variables (Poverty), only different levels of significance.

## II. LITERATURE REVIEW

### A. GDP

A successful development program in developing countries is often assessed based on the high and low or speed of the level of output growth and national income generated. However, the main concern of development through accelerating the growth of national income or economic growth, on the other hand there is a spread of income growth which is still very limited in scope, the strength between regions / regions in developing countries is not balanced, thus tends to widen the gap or inequality between regions / rich regions and poor regions / regions.

Economic growth is the development of activities in the economy that causes goods and services produced in society to increase so that it will increase the prosperity of the community Sukirno in [3]. Still in [3] according to Budiono that economic growth is a process of increasing output per capita in the long run.

[4] the results of the research conducted are similar to the previous research by [2] showing that GRDP has a negative and significant influence on the poverty rate in Indonesia. And also supported by the research conducted [5] shows that the GRDP variable in partial has a positive and significant effect on poverty in West Java.

## B. Tourism

[6] argued that tourism is one of the basic human needs. According to [7] tourists arriving in a foreign country, both individually and in groups, whatever their travel destination, will spend their money while staying in the destination to pay for services or tourist goods and buy services or goods that are not related to travel. The total amount of money spent is the amount of state revenue from the tourism sector and a pattern of consumption of tourists in the country. The more consumption of tourists, the more tourism services produced in Trade, Hotels and Restaurants.

According to [6], the longer tourists stay in a tourist destination, the more money spent in the tourist destination, at least for food, drink and lodging during their stay in the area. Various types of tourist needs during the tour will cause consumptive symptoms for products in tourist destinations. With the consumptive activities of both foreign and domestic tourists, it will increase revenue from the tourism sector of a region.

According to Mill in [6] foreign tourists are every person who visits a country, other than the country usually occupied for a period of approximately 24 hours. Foreign tourists are suppliers of foreign exchange reserves for the area they visit. The entry of foreign tourists will increase foreign exchange, which means that it will strengthen the balance of payments and trade. According to [8] The Role of Education in Improving the Capability of Human Resources in the Development of Tourism Areas Humans are the most important element in the success of an organization.

## C. Human Development

According [9] explained Human Development According to UNDP (1990), human development is a process of expanding choices for people to build their lives that are considered valuable. Some essential things in human development are so that people can feel a long and healthy life, knowledgeable, and have access to the resources needed for a decent life..

Human Development Index In 1990, UNDP introduced an indicator that had been developed, which is an indicator that can describe human development in a measurable and representative manner. Human Development Index(HDI) figures range from 0 to 100. The closer to 100, then it is an indication of better human development. Based on the value of the HDI, UNDP divided the human development status of a country or region into three groups, namely:

1. HDI <50 (low)
2.  $50 \leq \text{HDI} < 80$  (medium / medium)
3. HDI  $\geq 80$  (high)

## III. METHOD

The population that became the object in this study came from secondary data obtained from the company Knoema, one of the digital economic data provider companies. The sampling method uses purposive sampling method, namely the

determination of samples with certain considerations. In this study the sample was used using panel data obtained by time series data for 5 years and cross section data of 10 ASEAN countries namely Indonesia, Malaysia, Singapore, Philippines, Thailand, Vietnam, Myanmar, Laos, Brunei, Cambodia.

### A. Variable Identification

Research variables are independent and dependent. for the independent variables that exist in this study are GDP (X1), Tourism (X2) while the dependent variable Human Development Index (Y).

### B. Data analysis

The analytical method used in this study is a quantitative technique that uses mathematical and statistical models that are classified in certain categories to facilitate analysis using the Eviews program. While the analysis technique used is multiple linear regression analysis techniques to see the relationship between the independent variable and the dependent variable. The data used is the panel data there are three kinds of data panel estimation techniques, namely pooled least square, fixed effect model, and random effect model. Test the suitability of the model to determine the most appropriate model is to use the Chow test. After that, the classic assumption test is normality test and also hypothesis testing, namely partial t test, simultaneous F test, test of the coefficient of determination.

### C. Econometry Model

The analysis technique in this study is panel data regression analysis, while the regression model in the form of logs can be written as follows:

$$\ln Y_{it} = \beta_0 + \beta_1 \ln X1_{it} + \beta_2 \ln X2_{it} + e_{it}$$

Where:

Y = Human Development Index X1 = GDP; X2 = Tourism, i = Country; and t = time.

## IV. RESULTS

There are three estimations of panel data regression, namely common effects (OLS), fixed effect models (FEM) or Random Effect (REM) models. Determining the panel model that will be used in this study, several tests must be carried out. Chow Test that can be used to determine whether the panel data model can be regressed with common effect models (OLS), fixed effect models (FEM) or Random Effect (REM) models. Chow test is used to determine whether the panel data model is regressed with the Common Effect model or with the Fixed Effect model. From chow test, we choose fixed effect model.

Dependent Variable: HUM\_DEV  
 Method: Panel Least Squares  
 Date: 16/11/18 Time: 22:38  
 Sample: 2011 2015  
 Periods included: 5  
 Cross-sections included: 10  
 Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	4.88E-05	7.69E-05	0.633724	0.5301
TOURISM	2.73E-09	7.91E-10	3.451405	0.0014
C	0.664907	0.017600	37.77905	0.0000

  

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.997103	Mean dependent var	0.700200
Adjusted R-squared	0.996264	S.D. dependent var	0.122865
S.E. of regression	0.007509	Akaike info criterion	-6.739746
Sum squared resid	0.002143	Schwarz criterion	-6.280861
Log likelihood	180.4937	Hannan-Quinn criter.	-6.565000
F-statistic	1189.010	Durbin-Watson stat	0.968050
Prob(F-statistic)	0.000000		

Fig. 1. Fixed Effect Model

From the results of panel data regression with the selected model is the Fixed Effect model, the regression model equation is obtained as follows:

$$\text{Human Development Index} = 4.88 (\text{GDP}) + 2.73 (\text{TOURISM}) + e$$

**T test (Partial)**

Based on the results above as follows:

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The t-statistical probability value obtained is 0.5301, then the statistical probability  $\alpha = 5\%$  is  $0.5301 > 0.05$ . So that it can be concluded that the GDP variable partially not influences but positive significance of the Human Development Index variable.

*Effect of tourism on Human Development Index*

The obtained t-statistical probability value is 0.0014. Then the statistical probability  $\alpha = 5\%$  is  $0.0014 < 0.05$ . So it can be concluded that the tourism variable partially influences the positive significance of the Human Development Index variable.

**F Test (Simultaneous)**

From the calculation of F value, it is known that F arithmetic > F table ( $1189.010 > 3.18$ ) then H0 is accepted and H1 is rejected (F arithmetic is in H1 reception area). Then also the probability (prob.) Of the table above is equal to  $0.000 < 0.005$ , then H0 is accepted and H1 is rejected. So that simultaneously or together the independent variables have a significant effect on the dependent variable.

**Coefficient Determination**

Based on the table above, the Adjusted R-Square value is 0.9971. This shows that the model is able to explain 99,71% of

the dependent variable, while the remaining 0.29% is influenced by other factors outside the regression model.

TABLE I. HUMAN DEVELOPMENT INDEX

Human Dev Index	Indonesia	Malaysia	Singapore	Thailand	Philippines	Vietnam	Myanmar	Laos	Brunei	Kamboja
2011	0,67	0,67	0,92	0,73	0,67	0,66	0,53	0,55	0,85	0,54
2012	0,68	0,68	0,92	0,73	0,67	0,67	0,54	0,56	0,86	0,55
2013	0,68	0,68	0,92	0,74	0,68	0,68	0,55	0,57	0,86	0,55
2014	0,69	0,69	0,92	0,74	0,68	0,68	0,55	0,58	0,86	0,56
2015	0,69	0,69	0,93	0,74	0,68	0,68	0,56	0,59	0,87	0,56

The human development index in ASEAN countries is already good, as can be seen in table 2 it can be explained that Singapore is the country that has the highest Human Development Index while Myanmar, Laos and Cambodia are the countries that have the lowest Human Development Index. To overcome the increasing human development index in Myanmar, Laos and Cambodia, an open economy needs to be improved by conducting international trade. Digital technology is needed to further accelerate the economy of openness. Government policies of the three countries are to be more open in their economy. It is hoped that the policies of these three countries can contribute to creating a prosperous society in ASEAN countries and having a parallel human development index.

**V. CONCLUSION**

This study aims to analyze the relationship between GDP, tourism towards ASEAN countries human development index in the period 2011-2015 using panel data regression analysis techniques. Based on the results of statistical tests, the following conclusions can be drawn:

1. From T test (Partial), based on the result, Effect of GDP on Human Development Index, the t-statistical probability value obtained is 0.5301, then the statistical probability  $\alpha = 5\%$  is  $0.5301 > 0.05$ . So that it can be concluded that the GDP variable partially not influences but positive significance of the Human Development Index variable. Effect of tourism on Human Development Index, The obtained t-statistical probability value is 0.0014. Then the statistical probability  $\alpha = 5\%$  is  $0.0014 < 0.05$ . So it can be concluded that the tourism variable partially influences the positive significance of the Human Development Index variable.
2. From F Test (Simultaneous), the calculation of F value, it is known that F arithmetic > F table ( $1189.010 > 3.18$ ) then H0 is accepted and H1 is rejected (F arithmetic is in H1 reception area). Then also the probability (prob.) Of the table above is equal to  $0.000 < 0.005$ , then H0 is accepted and H1 is rejected. So that simultaneously or together the independent variables have a significant effect on the dependent variable. Koefisein Determination, the Adjusted

R-Square value is 0.9971. This shows that the model is able to explain 99,71% of the dependent variable, while the remaining 0.29% is influenced by other factors outside the regression model.

3. The results of this study show that ASEAN countries have been good in GDP, Tourism and Human Development but still need to be further improved. This study only analyzes the influence of GDP, Tourism, on Human Development for ASEAN Countries for 2011-2015, so that the results will be different if they are outside the year or use other independent variables.

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