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What Is The Causal Relationship Between Economic Growth and Tourism in ASEAN Countries?

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Abstract

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Economic growth is defined as the process of increasing a country's production capacity. Increasing Gross Domestic Product (GDP) can be done in many ways, for example by optimizing tourism. Tourism is one of the biggest contributors to the economic sector. This research aims to determine the relationship between economic growth and tourism in ASEAN member countries, namely (way) Tourism led Growth or Economic Driven led Growth, (two-way) Bi-Directional Causality, or Neutral Causality. The method used in this research is a causality panel from 2003 to 2020 with a sample of ASEAN countries. The results of this research show that overall the international tourism indicator that is classified as good is Inite because these three approaches produce significant probabilities, which means that the relationship between economic growth and tourism in ASEAN member countries is Tourism-led Growth.

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Introduction

Economic growth is a very important parameter for measuring economic performance and reviewing the results of the economic development process country or region. Economic growth is the process of increasing output per capita in the long term. (Wildan, M. A., et. al., 2021) Economic growth determines the extent Economic activities generate additional income or social welfare within a certain period, which can show that the economy of a country or region is growing well. Every developing country wants it develop in various fields and is expected to achieve a growth high economy, become a developed country, and be able to achieve its goals of community welfare and equal distribution of income to achieve justice (Krugman & Wells, 2018).

Economic growth can be defined as the development of activities in an economy that results in increased production of goods and services in a country's society from one period to another. This capacity increase is because production factors will always increase in quantity and quality (Lorente et al., 2020). Economic growth is defined as a process of increasing the capacity of a country's production. One indicator that can be used to measure a country's economic growth is Gross Domestic Product (GDP). GDP is the market value of all goods and services produced in a country over a certain period. As an economic tool, GDP helps measure the point at which a country's economic growth must increase to a limit certain (Soekapdjo & Astrid, 2019).

The era of globalization has always been characterized by rapid changes in overall economic conditions, which have led to the emergence of a number of demands in response to the changes that have occurred (Safrizal, H.B.A., et al, 2020). ASEAN-8 is trying to increase Gross Domestic Product (GDP) so that it does not lose in competition with other countries and neighboring countries. Enhancement of Gross Domestic Product (GDP) can be done in many ways, for example by optimizing tourism. This is because tourism is one of the largest contributors to the economic sector, based on the experience of many countries which improves and maintains the economy through the industrial sector tourism that can stimulate domestic demand and contribute to an increase in GDP (Mansfeld & Winckler, 2008).

Tourism is defined as a set of activities, the temporary transfer of a person to a destination other than residence or place of work, activities they carry out while they live their objectives, and facilities provided to meet their needs on the way and at the destination. (Govdeli & Direkci, 2017). According to the United Nations World Tourism Organization (UNWTO), tourism is defined as the activities of someone who travels to or lives in a place outside their usual environment for no more than one year continuously, for pleasure, business, or other purposes.

The development of the world of tourism continues to accelerate. Even, tourism is expected to grow faster than the world economy. According to the United Nations World Tourism Organization (UNWTO) in Mardhani et al., (2021), the number of tourists in the world tourism industry is likely to increase by 2030. In 2010, the number of tourists in the world reached 940 million. This number is expected to increase to 1.36 billion in 2020 and again to 1.809 billion in 2030. The increase in tourist visits also coincides with projections. tourism 2030 in the Asia-Pacific region. World Travel Tourism Council (WTTC) reports that tourism occupies an important place in the economic world. In 2018 the contribution of tourism to the world economy reached 10.4% of global GDP, totaling 8.8 trillion US\$, with over 319 million jobs (WTTC, 2019).

The researcher chose ASEAN-8 includes Indonesia, Laos, Philippines, Thailand, Singapore, Vietnam, Cambodia, and Malaysia. The reason for selecting 8 ASEAN member countries as research objects is because the 8 ASEAN member countries have destinations famous tourist attractions for tourists. Brunei Darussalam was not included because the main component of state income and economic growth comes from oil, while Myanmar was not included because of its political conditions stable. Another reason underlying the selection of ASEAN-8 is that many ASEAN countries are currently focusing on the tourism sector as a sector leading driver of the economy of these countries. Therefore, Researchers

took ASEAN because it was to prove whether there was a relationship or not economic growth and tourism or vice versa.

Tourism is currently a sector that receives serious attention to encourage economic growth, but it can tourism can develop due to growth performance high economy, and quality. That is, the relationship between these two variables can be a Tourism-Led growth Hypothesis (TLGH), Economy-Driven Tourism Growth, Bidirectional Causality, and can also be Neutral Causality. The basis of the Tourism- Led Growth Hypothesis (TLGH) is similar to a hypothesis of export-led growth, which claims economic progress is not only a function of the quantity of a country's labor and capital but also depends on export earnings (Bilen et al., 2017). Similar logic can be extended to tourism and economic growth. Tourism causes economic growth through several channels (Muliadini & Saputra, 2019).

The relationship between tourism and economic growth in general has been discussed by researchers empirically. Economy-driven tourism Growth explains that tourism can develop or progress precisely because it is driven by high economic growth (Wu & Wu, 2019). This is the opposite of the Tourism-Led Growth Hypothesis (TLGH). Expansion of economic growth in a country leads to an increase in physical capital and human capital increasing the number of international arrivals in the form of business tourists, therefore encouraging tourism growth (Pashtoon et al., 2022). This is related to the opinion of Rasyid, M., et. al., (2023) One element that plays an important role in development is the social capital owned by the community. In this research, researchers based on the TLG hypothesis will try analyzing the validity of the TLG (Tourism Led Growth) hypothesis in 8 countries ASEAN. Then researchers focus on whether tourism encourages economic growth or economic growth encourages tourism, bidirectional causality, or neutral causality.

RESEARCH METHODS

Collecting good data is the basis for starting research. Data Good ones provide correct and accurate information, resulting in research results. The data source is the location where data can be or is obtained. The following are presented data types and sources:

Table 1. Type and Source Data

No	Variable	Code	Source Data	Data Type
1	<i>GDP (Gross Domestic Product)</i>	GDP	<i>World Bank</i>	Secondary
2	<i>International Tourism Expenditure</i>	ITE	<i>World Bank</i>	Secondary
3	<i>International Tourism Arrival</i>	ITA	<i>World Bank</i>	Secondary
4	<i>International Tourism Receipt</i>	ITR	<i>World Bank</i>	Secondary

Table 1 shows that the data source in this study is the World Bank . The data was obtained via the website <https://data.worldbank.org/indicator> which was then rearranged using Microsoft Excel. The type of data for this study is secondary data. Secondary data is data that has been collected through primary sources and is available for researchers to use for research. This research uses time series data for the period 2003-2020. The sample in this study was 8 related The research objects chosen were 8 ASEAN member countries.

Population is a collection of all the data studied (Ariefianto, 2012). The population used in this study is ASEAN with 10 member countries including Brunei Darussalam, Indonesia, Laos, Philippines, Thailand, Singapore, Vietnam, Cambodia, and Myanmar, as well as Malaysia. The sample is research data obtained from the population, so becomes part of the population (Ariefianto, 2012). Samples used in This study include 8 ASEAN member countries including Indonesia, Laos, the Philippines, Thailand, Singapore, Vietnam, Cambodia, and Malaysia. The country was selected because it has a famous tourist destination for tourists. Brunei Darussalam is not included because it is a major component of state revenue and economic growth sourced from oil, while Myanmar was not included due to unstable political conditions which are unstable. The period used in this study is 2003-2020.

The operational definition functions to explain the variables used in research. GDP (Gross Domestic Product) is the total value of all finished goods and services produced within the boundaries of a country within a period certain time. The GDP used is constant GDP 2015. GDP units namely US\$, therefore the natural logarithm is used. International Tourism Expenditure (ITE) is the total consumption expenditure carried out by visitors, or on behalf of visitors, for and during travel and stay at tourist destinations. International tourism The expenditure used in this study is constant or real over the year basic CPI 2015. The unit of international tourism expenditure is US\$, and then from that the natural logarithm is done. International Tourism Arrival (ITA) is used as the unit of measurement most commonly used to measure international tourism volume. International Tourism Arrivals are visitors who stay overnight for at least one night in collective or private accommodation in the country visited. The International Tourism Arrival (ITA) unit is per visit, therefore using the natural logarithm. International Tourism Receipt (ITR) is the total received by the country's tourist destination for international visitors. The variable data is in US\$. The International Tourism Receipt (ITR) used in this study is constant or real with the 2015 CPI base year. International Tourism Receipts (ITR) are transformed into natural logarithms.

The first step taken in the analysis of this study was testing the root unit panel. The tests used in testing the unit root panel consist of two types, namely common unit root - Levin, Lin, and Chu (LLC) and individual unit root Im, Pesaran, and Shin (IPS) (Baltagi, 2005). Unit root panel testing is more robust and more reliable than the unit root test applied to time series data because the information in the existing time series data is complemented by cross-data available sections. Therefore, the unit root panel is used to improve the quality of the data tested in a particular study.

Levin et al., (2002) test assumes that all panels have the same autoregressive parameters, requiring strongly balanced panel data, and adding a model with lags of the dependent variable. H_0 is rejected if the probability of LLC is lower than 1 percent, 5 percent, and 10 percent, while H_0 is not rejected if the probability of LLC is greater equal to 1 percent, 5 percent, and 10 percent. If H_0 is not rejected, it means the variable is not stationary. The main limitation of the LLC test is the assumption that all panels have the same autoregressive parameter values. Im et al., (2003) developed a series of tests that relax the assumption of common autoregressive parameters. Additionally, the IPS test does not require a balanced data set. Basic unit root tests The IPS (Im et al., 2003) is Dickey-Fuller. H_0 is rejected if the probability of IPS is lower than 1 percent, 5 percent, and 10 percent, while H_0 is not rejected if the probability of greater IPS is equal to 1

percent, 5 percent, and 10 percent. If H0 is not rejected, it means the variable is not stationary.

The concept of causality was introduced by Wiener (1956) and Granger (1969) as a basic idea for analyzing the dynamic relationship between variables *x* and *y*. This study uses several causality testing approaches, such as the Wald Test (1990), Dumitrescu & Hurlin, (2012), and Juodis et al., (2021). These three methods are used to strengthen the causality results of this study, so it is not considered subjective. Wald test (1990) tests that the coefficients on all lag variables endogenous are jointly zero. Wald statistics follow a chi-square distribution asymptotic with the value of the degree of freedom equal to the value of the minus variable number of lags. Furthermore, Dumitrescu & Hurlin (2012) developed a model causality estimation of panel data with a short observation period. Dumitrescu & Hurlin (2012) calculated p-values and critical values based on the bootstrap procedure. The causality test developed by Juodis, Karavias, and Sarafidis (2021) has two other useful properties, namely that it can be used in a Multivariate system and has strength against both homogeneous and heterogeneous alternatives. The causality model used in this study can be written as follows:

$$\ln gdp_{it} = \alpha_1 + \sum_{k=1}^K \beta_{11} \ln gdp_{it-k} + \sum_{k=1}^K \beta_{12} \ln ITE_{it-k} + \varepsilon_{1it} \dots\dots\dots (1)$$

$$\ln gdp_{it} = \alpha_2 + \sum_{k=1}^K \beta_{21} \ln gdp_{it-k} + \sum_{k=1}^K \beta_{22} \ln ITA_{it-k} + \varepsilon_{2it} \dots\dots\dots (2)$$

$$\ln gdp_{it} = \alpha_3 + \sum_{k=1}^K \beta_{31} \ln gdp_{it-k} + \sum_{k=1}^K \beta_{32} \ln ITR_{it-k} + \varepsilon_{3it} \dots\dots\dots (3)$$

$$\ln ITE_{it} = \alpha_4 + \sum_{k=1}^K \beta_{41} \ln gdp_{it-k} + \sum_{k=1}^K \beta_{42} \ln ITR_{it-k} + \varepsilon_{4it} \dots\dots\dots (4)$$

$$\ln ITA_{it} = \alpha_5 + \sum_{k=1}^K \beta_{51} \ln gdp_{it-k} + \sum_{k=1}^K \beta_{52} \ln gdp_{it-k} + \varepsilon_{5it} \dots\dots\dots (5)$$

$$\ln ITR_{it} = \alpha_6 + \sum_{k=1}^K \beta_{61} \ln gdp_{it-k} + \sum_{k=1}^K \beta_{62} \ln gdp_{it-k} + \varepsilon_{6it} \dots\dots\dots (6)$$

where GDP, ITE, ITA, ITR are endogenous gross domestic variables product, International Tourism Expenditure, International Tourism Arrival, and International Tourism Receipt. Next, *ln* is the natural logarithm, *i* am the cross - section data subscript, and *t* is the time subscript series, and combined with it is a panel data subscript. *K* is the lag order. The test criteria is that H0 is rejected if the probability is less than 1 percent, 5 percent, and 10 percent, otherwise if H0 is not rejected if the probability is more than equal to 1 percent, 5 percent, and 10 percent. If the estimation results show that ITE, ITA, and ITR cause economic growth, it is called the tourism-led growth hypothesis (TLGH), while economic growth causing ITE, ITA, and ITR to be called economy-driven tourism growth (EDTG) if they cause each other it is called bidirectional causality hypothesis (BCH), and if they do not cause each other it is called neutral causality hypothesis (NCH) (Muliadini & Saputra, 2019).

RESULT

The following are the results of descriptive statistical data processing of panel data in 8 member countries of ASEAN:

Table 2. Statistics Descriptive

Variables		Mean	Std. Dev.	Min	Max	Observations	
Ingdp	overalls	25.61564	1.459788	22,501	27,679	N =	144
	between		1.524386	23.11689	27.28478	n =	8
	within		.2889251	24.96281	26.14475	Q =	18
Initr	overalls	17.63908	1.527062	11,871	20,158	N =	144
	between		1.421479	14.70339	19.41983	n =	8
	within		.7426483	13.49703	18.72069	Q =	18
Lita	overalls	15.52335	1.266906	10,615	18.102	N =	144
	between		.7409431	14.45767	16.66017	n =	8
	within		1.058924	10.54308	18.03008	Q =	18
Inite	overalls	17.14626	1.772689	11,231	19,357	N =	144
	between		1.716571	14.20894	18.99633	n =	8
	within		.7389913	14.16831	18.89131	Q =	18

Table 2 shows that the number of observations is 144 (8*18) with 8 countries (Indonesia, Cambodia, Singapore, Malaysia, Thailand, Vietnam, and the Philippines) and the number of time series is 18 (2003-2020). On average Ingdp is 25.61, the average Initr is 17.64, the average Inita is 15.52, and the Inite average is 17.14. The maximum value of Ingdp is 27.68 and the value minimum of 22.50. The maximum In itr value is 20.158 and the minimum value amounts to 11,871. Inita's maximum value is 18.10 and the minimum value is 10.61. The maximum Inite value is 19.35 and the minimum value is 11.23.

Following This results exercise data test stationary with approach ADF data panel in 8 country member ASEAN:

Table 3. Results Test Stationary ADF

Variable	Levin-Lin-Chu (LLC)	Im-Pesaran-Shin (IPS)
Ingdp	0.0000***	0.0246**
Initr	0.0015***	0.0131**
lita	0.0829*	0.0179**
Inite	0.0219**	0.0659*

Information: ***, **, * sign stationary on level 1%, 5%, And 10%

Table 3 shows that Ingdp, Initr, Inita, and Inite are stationary on level, both using LLC and IPS. Lngdp variables with using LLC are stationary at 1 percent while using IPS is stationary at 5 percent. Initr variable using stationary LLC at 1

percent, while using stationary IPS at 5 percent. Lnita Variable uses a stationary LLC at 10 percent while using IPS is stationary at 5 percent. The variable Inite uses a stationary LLC at 5 percent while using stationary IPS at 10 percent. Therefore, these variables do not contain the unit root problem. The next step estimating VAR to identify causality analysis.

The following are the results of causality test data processing using the Wald test approach, Dumitrescu and Hurlin (DH) test, and Juodis, Karavias, and Sarafidis (JKS) test panel data on 8 ASEAN member countries:

Table . Results Test Causality with Three Approaches

Variable	Wald Test	DH test	JKS test
Initr → Ingdp	0.596	0.1673	0.347
lita → Ingdp	0.101	0.2435	0.812
Inite → Ingdp	0.046**	0.0574*	0,000***
Ingdp → Initr	0.275	0.3961	0.751
Ingdp → lita	0.107	0.0231**	0.912
Ingdp → Inite	0,000***	0.8644	0.245

Information: ***, **, * sign significant on level 1%, 5%, and 10%

Table 4 shows that there is a two-way relationship or bidirectional causality between Inites as indicators of international tourism with Ingdp as economic growth. This gives the meaning that Inite and Ingdp are based on the Wald test for mutual causality. The results are different if using the DH test approach, namely, there is a one-way relationship or unbicausality between Inite and Ingdp and Ingdp with Inita. These results give the meaning that using the DH test approach finds tourism-led growth and economic-driven tourism growth. The JKS test results show that there is a one-way relationship between Inite with Ingdp. This estimate is in contrast to the estimation results using the Wald test approach. Based on using the JKS test then found that there was tourism-led growth. Overall tourism indicators Relatively good international is Inite because all three approaches produce significant probability.

Based on the estimation results using the causality panel, the hypothesis in this study is that there is a two-way relationship or bidirectional causality between Inites as indicators of international tourism with Ingdp as economic growth. DH test shows the relationship one way or unidirectional causality between Inite and Ingdp and Ingdp with Inita. The JKS test results prove that there is a one-way relationship between Inite and Ingdp.

DISCUSSION

There has been a surge in research related to growth relationships economy and tourism in recent decades. This indicates that the performance of economic growth and development of the tourism sector is important to be studied extensively in both developed and developing countries (Ardra & Martawardaya, 2017). Existing literature has found a relationship between economic growth and tourism, namely Tourism-led Growth (TLG), Economic Driven Tourism Growth (EDTG), bidirectional causality, and Neutral causality. These empirical findings have produced diverse findings and sometimes conflicting results. Therefore, this study also analyzes these relationships (Devi, 2022).

Several studies postulate that the rapid growth of tourism in the last few decades has had a positive and significant impact on the growth economy, giving birth to the Tourism-Led Growth Hypothesis (TLGH), which recommends that the development of the tourism sector is a strategy potential to increase economic growth (Mardhani et al., 2021). Economy-driven tourism Growth explains that tourism can develop or progress is driven by high economic growth (Wu & Wu, 2019). In contrast to Yano & Matanda, (2021) which shows results estimation of bidirectional causality, meaning mutual causes between economic growth and tourism.

The estimation results in this study use a causality panel with three approaches namely Wald test, DH test, and JKS test. Estimation results with Wald The test shows that there is a two-way relationship or causality between Inite as an indicator of international tourism with lngdp as a growth economy in ASEAN 8. This gives the meaning that Inite and lngdp are based on the Wald test mutual cause. The results of this study are in line with Yano's research & Matanda, (2021) which shows the results of bidirectional causality estimation. Soylu, (2020) shows that there is bidirectional causality between growth and tourism expenditure and tourism income. Mitra, (2019) also found bidirectional causality between tourism and economic growth in low income, medium income, and high income.

The DH test estimation results show a one-way or unidirectional relationship causality between Inite and lngdp and lngdp and Inita in ASEAN. Results This means that by using the DH test approach find tourism-led growth and economic-driven tourism growth. Results This estimate is also strengthened by the results of the JKS test which shows that there is a one-way connection between Inite and lngdp. In line with research by Mardhani et al., (2021), namely, tourism led growth hypothesis in Indonesia. Songling et al., (2019) conducted research in Beijing, China also found that the tourism-led growth hypothesis. Lin et al.(2019) researched the relationship between tourism and economic growth in China. The estimation results show that it supports growth led-tourism (Economic Driven Tourism Growth Hypothesis) including Anhui province, Guangdong, Hainan, Inner Mongolia, Ningxia, Shaanxi, and Shanghai, and tourism-led growth for two provinces, namely Jiangxi and Shaanxi.

Overall, international tourism indicators are relatively good in Inite because the three approaches (Wald Test, DH test, and JKS test) yield a significant probability. Therefore, it is concluded that at 8 ASEAN member countries, the relationship between economic growth and tourism is tourism-led growth with Inite indicators as tourism. Tourism in 8 ASEAN countries has experienced an acceleration from small to small-size industries one of the largest industries that makes an important contribution to the growth economy. Efforts to increase economic growth and development include international trade. Priyadi, U., et. al., (2022)

ASEAN as a region located on the equator, has abundant tourism potential. International tourists have recognized that ASEAN is rich in cultural heritage and natural environment. If tourism ASEAN is being developed massively and will make a significant contribution to regional economic growth, however, the importance of tourism is not only about its contribution to economic growth but also can influence social conditions so that it can encourage improvement population welfare (Maneejuk et al., 2022).

Several ASEAN countries such as Thailand, Malaysia, and Singapore most successful in expanding and promoting their tourism potential to the world. Apart from that, the three countries, Vietnam and Indonesia, have also done so encouraged tourism promotion, so that tourist arrivals in Vietnam and Indonesia have grown significantly. This might imply that the Vietnamese and Indonesian governments have developed good strategies for the tourism sector. Indonesia has sufficient opportunities as a tourist country good, because Indonesia has the potential to become one of the countries with the widest tourism resources consisting of a combination of tourist attractions culture, and attraction of natural resources. On the other hand, the position of Laos and Cambodia need to improve the tourism sector so that it can catch up with Thailand's success, Malaysia, and Singapore. ASEAN seeks to further integrate connectivity between member countries to facilitate access to regional tourism so that it can generate greater profits. ASEAN forms the Tourism Forum (ATF). The beginning of the formation of the ASEAN Tourism Forum as a reference for the development of tourism in ASEAN countries is based on the Roadmap for Integration of the Tourism Sector (RITS) (Lisbet, 2020). ASEAN Tourism Forum (ATF) is a regional collaboration to promote the ASEAN region as a tourism destination. ATF is the key to tourism development in the ASEAN region. The government and private sector gather at ATF every year to discuss, discuss, and develop strategies to continue promoting ASEAN as a destination the most popular tourist destination in the world. The main objectives of the ASEAN Tourism Forum (ATF) are as follows promote ASEAN as an attractive and diverse destination side, create and increase awareness of ASEAN as a region- competitive tourist destination in Asia Pacific, attract more tourists to each ASEAN member country or combination between countries, promote internal ASEAN tourist travel, and strengthen cooperation between sectors in the ASEAN tourist industry. Finding internal and external competencies that are difficult to imitate and can support valuable products and services is one of the strategic issues in the competitive business world (Hasanah, U., et. al., 2023).

CONCLUSION

The estimation results show that in the Wald Test, there is a relationship between two-way or bidirectional causality between international tourism expenditure variables ($lnite$) and gross domestic product ($lngdp$). In the Dumitrescu & Hurlin test, there is a one-way relationship or unidirectional causality between variables international tourism expenditure ($lnite$) and gross domestic product ($lngdp$), as well as variables gross domestic product ($lngdp$) and international tourism arrivals ($lnita$). In the Joudis & Karavias test and Sarafidis test, there is a one-way relationship or unidirectional causality between the variables international tourism expenditure ($lnite$) and gross domestic product ($lngdp$).

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