



Impact of Tourism Earnings on Economic Growth in Sri Lanka during 1970 – 2020: A Time series Analysis

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Abstract

Tourism has been identified as one of key industries in promoting economic growth and development of Sri Lanka. The tourism industry is highly susceptible to crises and tourism demand is strongly influenced by the economic, social, environmental, health and political aspects of a destination (and source markets). Throughout the course of history, the tourism industry has encountered overwhelming challenges, with the COVID-19 pandemic being the most recent challenge, bringing the industry almost entirely to a standstill. Importance of understanding the relationship between tourism earnings and economic growth has inspired many scholars to investigate the underlying relationship between these variables. Empirical achievements and theoretical publications have also aroused considerable interest among economists and policymakers as a stimulating for tourism earning issues. The purpose of this study is to fill the existing gap and contribute to the existing literature by shedding light on the growth effects of tourism earnings on the growth effects of tourism earnings on the Sri Lankan economy. The objective of this study is to examine the causal relationship between economic growth and tourism earning in Sri Lanka. The annual time series data over period of 1970 to 2020 have been used and were drawn from Johansen Co – integration test and Granger Causality tests are used to evaluate the long – run equilibrium relationship between the variables. The results of the Unit Root test indicated that all variables were non – stationary at levels but they were stationary at first differences. The study further found that there is one co – integration between the variables. Granger Causality test also used to identify the long – run relationship with the variables. As per the results there is a causality relationship between tourism arrivals and tourism earnings. Vector Error Correction Model and Vector Auto Regression models are used to identify the short–run relationship with the variables. Results found there is a short – run relationship with tourism arrivals and economic growth. OLS Regression test proved there is a positive and significant relationship with



tourism earnings and economic growth. The study suggests that the role of tourism in economic growth could be highly emphasized. The finding validates the need of government involvement at promoting and increasing international tourism demand to attain sustainable growth and development in the industry. The study has implication for policymakers of Sri Lanka economic development that tourism should lead to economic growth in the future; and to attain such causality, they should presently devise strategies against the tourism-led-economic growth hypothesis.

Keywords: Economic growth, tourism earnings, causality, Co-integration, tourism arrivals

1. Introduction

Tourism has been identified as one of key industries in promoting economic growth and development of Sri Lanka. Over the years, tourism has been identified as one of fastest growing economic sectors in the World. There are so many definitions describes what is tourism, “tourism was traveling from one place to another, temporary, done individually or in groups, in an effort to seek a balance or a harmony and happiness to the environment in the social, cultural, natural and the science”. “Tourism comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes” (UNWTO, 2010). Economic growth is the macroeconomic concept, which refers to a rise in real national income, which is sustained over two consecutive quarters of a year.

Economic growth as the increase in the inflation-adjusted market value of the goods and services produced buy an economy over time. But statisticians conventionally measure such growth as the present rate of increase in real GDP. In Sri Lanka, tourism is the most relevant thing in the economic. Why? Before 1977 it was closed economy so that there was no tourism earning. In 1977, there was an open economy in Sri Lanka so, that was the biggest turning point in Sri Lankan economy. But there was some problem in tourism industry, there were some reasons behind this such as the internal military conflicts was held by Tigers of Tamil Eelam and the trendy growth of tourism industry was held insurrections hindered by Janata Vimukthi Peramuna. So finally, past 3 years from 1987 the annual tourist arrivals dropped to 185,000 (Ruwan Ranasinghe, Sugandhikan. M.G. P, 2018).



The tourism sector is one of the largest contributing sectors to the economy of Sri Lanka. The tourism sector contributes the third largest amount of foreign exchange earnings to the country after foreign remittances and export of ready-made garments. In recent years, remittances from Sri Lankans working abroad, especially in the Middle-Eastern countries, have contributed between USD 7 and 8 billion annually to the Sri Lankan economy accounting for almost 10% of the Gross Domestic Product of Sri Lanka in 2019. Secondly, the export of ready-made garments has earned between USD 4 and 5 billion (net earnings after subtracting the cost of imports of raw materials for the garments industry) annually for the national economy accounting for almost 5% of the GDP. The foreign currency earnings from tourism amounts to USD 3 and 4 billion per annum in recent years. The fourth largest contributor to the foreign exchange earnings of Sri Lanka is the export of tea, which amounts to between USD 1 and 2 billion per year. The foregoing four sectors contribute around 25% to the GDP of Sri Lanka.

Needless to say, tourism is one of the catalytic sectors for economic growth in Sri Lanka. Therefore, the study of the impact of tourism on economic growth in Sri Lanka is justified. Whilst the earnings from tourism have been beneficial for the economy of Sri Lanka, it has also resulted in certain adverse economic and social consequences such as narcotic drug trafficking from abroad, primarily for sale to the tourists, and the rising consumption of narcotics by local youths, and the rise of prostitution, etc. The Sri Lankan government proactively started to promote the tourism sector in the 1960s with the establishment of the Ceylon Tourist Board.

However, the youth insurrection in 1971, the civil war between 1983 and 2009, the second insurrection between 1987 and 1989, the Easter Suicide Bombings on April 21, 2019, and the present COVID-19 pandemic have from time to time stifled the linear growth of the tourism sector in Sri Lanka. One major drawback of the tourism sector in Sri Lanka has been the overemphasis on the volume of tourists (quantity) as opposed to the value of spending by the tourists (quality). That is, targets are set to attract certain number of tourists per annum, rather than targeting the value of spending by the tourists. The rise in tourist traffic globally, including in Sri Lanka, results in increased emissions of greenhouse gases due to increased air travel, and the pollution of oceans and the natural environments (Gossling, Scott, and Hall, 2020: 13). This overemphasis on volume over value has implications for the sustainability of the tourism sector in Sri Lanka and the



sustainable development of the country. The volatility of the 'high volume low value' tourist trade (as opposed to 'low volume high value') has been accentuated by the current COVID-19 pandemic (Gossling, Scott, and Hall, 2020: 14).

Tourism earning is the most relevant thing in economic growth. This study seeks to focus on the effects related to the impact of tourism earnings of economic growth. Compare with last two decades tourism earning faced major crisis because of the hotels and industries were closed due to civil war and post Easter attack and it creates economic leakage. Sri Lankan economy depends on tourism so if tourism earnings decreased it directly attack government revenue and it will be decreased but government expenditure increased so finally it creates budget deficit. The main objective of this paper is to investigate the impact of tourism earnings for economic growth in Sri Lanka for the period 1970-2020.

2. Literature Review

2.1 Theoretical literature review

There have been several theories which ethated the Impact of Tourism Earnings on Economic Growth in Sri Lanka. Based on a topic these are some theories.

The theory of economic growth begins with the name Joseph Schumpeter. Contrary to the classics, Schumpeter did not consider the accumulation of capital as the main driving force of economic growth. He assigned great importance to the concept of the entrepreneur-innovator, calling him a "hero of development". In his opinion, the innovation and creativity of entrepreneurs determined economic development. Schumpeter was convinced of the unbalanced nature of economic growth and he attributed that process to the nature of the 'jump' (Schumpeter 1934, p. 65). Following the introduction of an innovation, an entrepreneur receives great profits, but over time the competition copies the invention and the profits begin to decline. The theory of economic growth proposed by Schumpeter is based on the assumptions of private property, a competitive market and the efficiency of financial markets that could support the production of new inventions. However, in countries lacking a democratic system, these conditions frequently are not fulfilled. Thus, Schumpeter's theory is addressed to democratic and economically developed countries (Lukasz Pietak 2014). This is the function of Schumpeter model.



Another theory of economic growth was developed by Arthur Lewis. In his work, he dealt with the problem of poor countries, but with a rich labor force (Lewis 1954, p. 3). Lewis shared the overall vision of classical economists, but did not always agree with their diagnoses and methods. The model proposed by Lewis assumes maintaining a low level of life in the short run. The savings thus obtained will increase the stock of capital, which in the long run will lead to the appearance of income growth. Thus, Lewis's model implies enlargement of the differences between countries in the short run as a condition for equalization of income levels in the long run (Lewis 1956, pp. 7-22). Simon Kuznets developed a theoretical support for Lewis's theory called "Kuznets's curve" (Kuznets 1955, pp. 1-28). Empirical studies confirmed the existence of economic disparities in the early stages of growth. Initially, when labor begin to abandon agriculture for industry, the differences were the greatest. However, as the concentration of factors of production took place in industrial centers, the differences tended to disappear. In addition, Kuznets noticed a positive association between the dynamics of economic growth and the increasing share of the urban population in the total population (Kuznets 1976, p. 32). (Lukasz Pietak 2014).

The Butler Model is a model of tourism that represents tourism as the life cycle of a resort. This model developed by Butler in 1980. It depicts tourism as exploitation of a resource. There are 7 stages, including the final stage the area either declines or rejuvenates and succeeds. A good case study is Blackpool. The first stage is the exploration stage (Ranasinghe & Ravindra, (2010). It is present when individual tourists start to appear in small numbers in a given area, attracted by natural or cultural aspects. These are the tourists who organize their stay independently and do not use common patterns of holidays, and they have a minimal influence on the lives of locals and the local economy. Next is the involvement stage, when tourists visit a given area more often and some locals begin to profit from accommodations, catering, medical services, etc. The engagement of locals takes place by participating in the economic activity envisaged for tourists or by directing services mainly or solely toward visitors. In a tourist town, expectations emerge for organized forms of leisure, and pressure can be felt to improve transportation and facilities for tourists.



2.2 Empirical literature review

Jeyappaba Suresh and Samithamby Senthilnathan (2014) examined the relationship between tourism and economic growth in Sri Lanka. Researcher used annual time series data for the period 1977 to 2012. The data obtained from Annual Reports of the Central Bank of Sri Lanka and The Statistical Annual Reports of Board of Tourism Authority. The researcher used Granger Causality, Descriptive statistics, Error Correction Model techniques in this research. Based these techniques researcher find there is a uni-directional causal relationship between economic growth & tourism earning.

Kalaichelvi Ravinthirakumaran (2015) examined the Tourism and Economic Growth Nexus in Sri Lanka. Secondary data in annual time series data from 1968 to 2014 were used here. Unit Root Test, Vector Error Correction Model, Co – Integration Model, Granger Causality, Diagnostic Tests, such tests were used for the analyzing. Researcher found there is a unidirectional causality relationship from tourism to economic growth.

Mustafa. A.M.M (2019) examined a study of impact of tourism direct employment trends on tourism arrivals. Secondary annual time series data from 1978 to 2017 used for this study. Data obtained from Annual Statistical Reports of Sri Lanka Tourism Development Authority – 2017. Researcher used several econometric methodologies such as Correlation Analysis, Multiple Regression and Residual test. Finally, researcher found that the correlation relationship between the variables is very strong. tourism direct employment and Tourism Earnings are directly related with tourists' arrivals.

Ratnayake H.M.C.C.K & Mustafa A.M.M (2019) to analyzed the Relationship Between Tourism and Economic Growth in Sri Lanka. Secondary annual time series data from 1978 to 2016 were used here. Data obtained from The Tourism Websites, Tourism Annual Report, Various Issues of Economic and Social Statistics of Sri Lanka. Annual Reports of Central Bank of Sri Lanka. Multiple Regression used here for the analyzing. As per the analyzing, they found there is a positive relationship between tourism and economic growth in Sri Lanka. It reveals both tourism earnings and number of tourists arrived are positively related with the GDP in Sri Lanka.



Ruwan Ranasinghe (2018) identified The Contribution of Tourism Income for The Economic Growth in Sri Lanka. Secondary data from 1970 to 2017 to find the contribution of tourism and related income to the economic growth of the country. Data is obtained from secondary sources such as, Annual Statistical Reports of Sri Lanka Tourism Development Authority, World Tourism Organization Reports, Annual Reports of Central Bank of Sri Lanka. Researcher used 3 techniques such as Descriptive Analysis, Correlation Analysis and Time Series Regression Analysis. Based on this analysis researcher find positive relationship between tourism income & economic growth.

Peter Joseph Stauvermann.et.at., (2016) this study analyzed The Effect of Tourism on Economic Growth of Sri Lanka. This study used secondary annual time series data over the period of 1980- 2014. Data obtained from World Development Indicators and Global Development Finance Data Base (World Bank 2015), Sri Lanka Tourism Development Authority. Researchers used, Auto Regressive Distributed Lag (ARDL), Granger, Causality, Vector Auto Regression, Unit Root test for the study. The conclusion shows the result that tourism has a positive contribution on economic growth in short and long run.

3. Materials and Methods

The study is uses secondary annual statistical data of five decades over the period starting from 1970 to 2020. Data obtained from Central Bank of Sri Lanka (CBSL) annual reports, Tourism Development Board, Department of Census and Statistics, World Bank Database, Annual Statistical Reports of Sri Lanka Tourism Development Authority, World Tourism Organization Reports.

This study employed empirical econometrics time series analysis using Augmented Dickey- Fuller (ADF) unit root test and Phillips Perron (PP) unit root test were used to test the stationary of the data prior to estimating the model. To determine whether the time series under consideration are stationary, unit roots of the data should be tested. In this study researcher looks at the Augmented dickey – Fuller (ADF) test in which a regression for each of the series is estimated with the first difference as the dependent variable and the first lagged level and the first two or lagged first – difference terms as the independent variables.



The long run appearance of the selective stationary variables estimated from the Johansen Co – integration test. The purpose of this test is to examine the long run co – integration of the stationary variables. Next is Granger Causality Tests are employed to detriment the long run relationship between tourism earnings and economic growth respectively. A good time series modeling should describe both the short run dynamics and long run equilibrium simultaneously. So, the short run relationship estimated from Vector Error Correction Model (VECM). Long run estimation model creates in OLS Multiple Regression Model some time researcher uses Log Model. Time series econometric results will be determined via using the programme “EViews 9.0”

4. Results and Discussion

4.1 Tourism Earning and Economic Growth

After independence in 1948, the primary responsibility for building capital and infrastructure bases was took by the Sri Lankan government to promote economic growth and social well-being of the people. Through this, the government has increased the spending on social and welfare activities. The results of these measures are reflected in many human development indicators in Sri Lanka’s economy during this period. Despite economic liberalization, Sri Lanka has experienced a number of external and domestic contributors, including the global economic crisis, the oil crisis, the civil war and the natural disaster. So, effect mostly on economic growth in Sri Lanka. Due to this, situation tourism earnings also fluctuated.

The Ceylon tourist board was established by act no 10 of 1966. Since then, the Ceylon tourist board has functioned as the state agency, responsible for development and promotion of the tourism sector in Sri Lanka. In October 2007 to section 2 of the tourism Act No.38 of 2005, the Sri Lanka Tourism Development Authority (SLTDA) replaced the Sri Lanka Tourist Board. Currently Sri Lanka Tourism Development Authority has classified Sri Lanka into several regions suitable for tourism development.

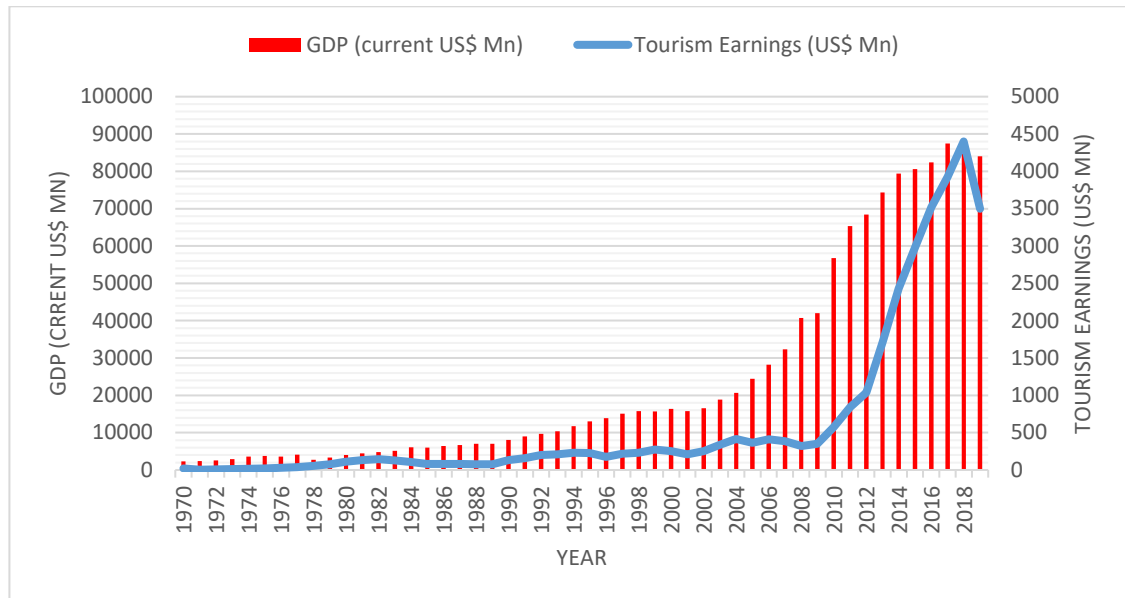


Figure 1: Trending of the Tourism Earnings and Economic Growth (GDP) in Sri Lanka during 1970 – 2020

Figure 1 shows the number of tourism earnings and the current price of GDP in Sri Lanka over the period 1970 – 2019. Has be seen, the number of tourism earnings of sri lanka continued to low level until 1977 due to the extreme revolt in 1971. In 1970 tourism earnings was 22 million and current price of GDP was 2.296 billion. In 1980 tourism, earning was 110 million and current GDP price was 4.025 billion. JVP decided to overthrow the leftist government. Because of this decision, they started the revolt. Over the first decade tourism earning and economic growth rate was little bit increased. Compare with other decaedes tourism earning and economic growth was decrease due to JVP's revolt.

In 1981 tourism earning was 132 million and current GDP price was 4.416 billion. So compare with 1980 it was increased. But in 1983 tourism earnings was 125 million and current GDP price was billion in this year there was a decreased in tuorism earnings due to the communal riots and the civil war. The civil war was started between liberation Tigers of Tamil Eelam and the Sri Lankan Armed Force. So, during the period of 1985 to 1989 tourism earning was less than 82 million. There were majour fluctuations in tourism earnings and GDP over the period 1983 – 2009. So in this decade tourism earnings and economic growth was decreased due to the civil war. Compare with other decades this civil war created major fluctuations in this decade. However, In the 1990s the western countries realized that the civil war was took place in the north and east province of Sri Lanka and the rest of the country was safe. So tourism earnings slowly



increased from 1990 and until 1994. In 1991 tourism earnings was 156.8 million and current GDP price was 9 billion and in 1994 tourism earnings was 230.7 million and current GDP price was 11.178 billion. But in 1995 tourism earnings was decreased to 225.4 million and the tourism earnings was going downwards because of the government's offensive, then the tourism earnings were stated to increased in 1998 due to peace of talks with Sri Lankan government and the Eelam separatist. During this year tourism earnings was increased to 230.5 million and the current price of GDP also increased to 15.795 billion. So over this decade tourism earning and economic growth also increased due to the peaceful environment in Sri Lanka.

In 2000 tourism earnings was 211.1 million and current GDP price was 16.331 billion. Compare with 1999 there was a poor current price of economic growth and tourism earnings in Sri Lanka. In 2001 tourism earnings was 252.8 million and the current GDP price was 15.75 billion, because of the Eelam separatist attacked the Colombo International Airport. So economic growth and tourism earnings got decreased for the first time in three decades. It created crisis in economic growth and tourism industry. In end of the year of 2004 world faced major natural disaster on 26th of December called tsunami. So that all the countries' economic growth decreased, Sri Lankan government also took major part due to this disaster. Every hotel and tourist places got damaged on this time. So, there were no tourism earnings in this particular year. The current price of economic growth got decreased and government expenditure also increased but government revenue decreased so finally it created budget deficit.

After 2005, there was a positive vibe in tourism earnings and economic growth. So, in 2006 tourism earnings was 410.3 million and current GDP price was 28.28 billion, because Eelam separatist signed the agreement between Sri Lankan government and Eelam separatist during 2002 – 2006. So that there was a peaceful environment in the country and the government had six rounds of peace talks with the Eelam separatists, in this short time period tourism industry and economic growth were little bit increased. It showed the boom level in tourism earnings and economic growth in Sri Lanka.

After 2006, there was a major fluctuation in tourism industry and economic growth due to the post war started between Eelam separatists and the government security forces. For this reason, tourism industry and economic growth were badly damaged. Over the period of 2007 – 2009 tourism, earning was decreased badly. For an example in 2008 tourism



earnings was 319.5 million, compare with other years in this decade this was the major decreased ever never happened before. End of the war there was a boom in tourism industry and economic growth. The tourism earnings increased from 349.3 million in 2009 to 575, 9 million in 2010 because of the end of the war. So, this boom level continued from 2009 may to 2018. So, during this decade tourism earnings and economic growth were fluctuated due to the post-civil war.

Start of this decade tourism earning increased slowly. In 2011 tourism, earning was 838.9 million and current GDP price was 65.293 billion. But in 2013 tourism earning was 1715.50 million and current GDP price was 74.318 billion. Due to the peaceful environment in Sri Lanka. It was continued over the period of 2013 to 2018. During this year's tourism earning and economic growth was increased very well. In 2018, there was a peak level in tourism earning. Because tourism earning was 4400 million and current GDP price was 88.426 billion. After that, Sri Lanka saw a massive slump in tourists in the wake of the terrorist bombings. Authorities say there was a 70% drop in tourists after the 2019's Sri Lanka Easter bombings, but the tourism industry witnessed a modest revival afterwards.

Sri Lanka's tourist arrivals fell by 70.8% from a year earlier to 71370 in March 2020, amid COVID-19 crisis, the data released by the Sri Lanka Tourism Development Authority (SLTDA) showed so in this case tourism earnings also decreased. Sri Lanka tightened tourist arrivals from mid – March and suspended all passenger arrivals and ship arrivals from all countries on March 19 in order to contain the spread of COVID-19 pandemic. So due to this situation there is no increase in tourism industry and also Sri Lanka had no tourist in September of 2020 the same as in the previous five months. So, I expect the tourism industry will be faced major crisis in this year so tourism growth rate and current price of economic growth will be decreased.

4.2 Time series analysis

4.2.1 Test for stationary (unit root test)

The best way to do the time-series analytical part is Unit Root Test. It going to identify the stationary of my variables. So first, Augmented Dickey–Fuller ADF test has been used here to examine the stationary level of the variable. The following table 1 shows the Augmented Dickey–Fuller ADF test of the variable which were used for this research.



Table: 1- Augmented Dickey – Fuller Test for Unit Root Test

Variables	Intercept		T and intercept		Integration
	Level	1 st Difference	Level	1 st Difference	
LNGDP	-1.646327	-4.523571***	-1.816448	- 5.644435***	I (1)
LNFDI	3.979399	-6.666200***	-2.866065	- 5.681817***	I (1)
LNOER	-2.345663	-6.732316***	-2.071134	- 7.183292***	I (1)
LNTE	0.885081	-3.863263***	-2.472476	-4.033920**	I (1)
LNTOA	0.335795	-4.287176***	-1.648746	- 4.472641***	I (1)

Note: ***, **, * Represents significance at 1%, 5% and 10% critical value respectively

Source: Author's calculations using E – views software

4.2.2 Johansen Co – Integration Test

All the variables are stationary in that Unit Root test. So, the next step is to examine the long – run relationship between variables using Johansen Co – Integration test. That means my all the variables are the multivariable. So that's why I using this Johansen Co – integration test. We can easily identify the main and sub objectives that the short run and long run relationship. So, I can proof my all the variables that's mean tourism earning and economic growth are the long run relationship. The Johansen Co – integration is in two types one is Trace test other one is Eigenvalue. This test proposed by Johansen (1988), Johansen, and Juselius (1990).

The results of co – integration test of this study. If we see the trend analyzing by Unrestricted Cointegration Rank Test (Trace), there is 1 co – integration mentioned here at the 0.05 level. At the same time if we see the trend, analyzing by Unrestricted Cointegration Rank Test (Maximum Eigenvalue), there is no co – integration at the 0.05 level. So finally, it has proved here only 1 variable have a long run relationship.



4.2.3. OLS multiple Regression

This is the most important test in my research. So, the Long Run Regression we can easily identify the impact of tourism earning to Gross Domestic Product and other experimental variables. So firstly, I can prove individually my variables are significant or not, so that is why I proofing the Long Run Regression result. The following table 2 shows the output of this test.

Table: 2- OLS Regression Test

Variable		Coefficient	Std. Error	t-Statistic	Prob.
LNOER		0.520437	0.374554	-1.389484	0.01737
LNFDI		0.154919	0.185274	0.836162	0.04089
INF		-0.011850	0.016853	-0.703151	0.4867
LNTE		2.179900	0.743374	2.932442	0.0060***
C		40.34960	10.72568	3.761963	0.0006***
R-squared	0.60234	Mean dependent var	10.66118		
Adjusted R-squared	0.453195	S.D. dependent var	0.645522		
S.E. of regression	0.477340	Akaike info criterion	1.496304		
Sum squared resid	7.747005	Schwarz criterion	1.749636		
Log likelihood	-23.92608	Hannan-Quinn criter.	1.587901		
F-statistic	7.464674	Durbin-Watson stat	0.626140		
Prob(F-statistic)	0.000081				

Note: ***, **, * Represents significance at 1%, 5% and 10% critical value respectively

Source: Author's calculations using E – views software

After running OLS regression following results has been obtained

$$LN\text{GDP}_t = \beta_0 + \beta_1 L\text{NOER}_t + \beta_2 L\text{NFDI}_t + \beta_3 L\text{INF}_t + \beta_4 L\text{NTE}_t + e_t \quad (1)$$

$$LN\text{GDP} = 40.34960 + 0.520437L\text{NOER} + 0.154919L\text{NFDI} - 0.011850L\text{INF} + 2.179900L\text{NTE} \quad (2)$$



5. Conclusion

The tourism sector is considered to be one of the most important engines for the development of the Sri Lankan economy, with its natural benefits and its unique tourist destinations. A lot of previous researchers have studied the relationship between tourism revenue and economic in different countries compared to different various variables. So that is when looking at this research there is a log form analytical used here. The main purpose of the current study is to find the relationship between tourism earnings and economic growth in Sri Lanka. I used secondary time series data over the period of 1970 – 2020 for this study. The GDP is the dependent variable and official exchange rate, foreign direct investment, inflation; tourism earning and tourism arrivals are independent variables. The empirical evidence exhibited the effects of tourism earnings on economic growth to be complex and varied. Interestingly, both the level of tourism earnings and tourism arrivals exhibited positive and statistically significant impacts on the growth rate of economy, while inflation had a statistically negative impact on economic growth. Official exchange rate and foreign direct investment showed positive relationships though their impacts on growth appeared statistically insignificant. Granger causality analyses confirmed the existence of unidirectional causality running from official exchange rate to economic growth, and tourism arrivals to tourism earnings. Given the positive and significant growth push indicated by tourism earnings and tourism arrivals and the negative influence indicated by inflation. Furthermore, although the study found there is a significant relationship between tourism earning and tourism arrivals in long run and short run.

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7. Reference

Gössling, S., Scott, D., and Hall, C. M. (2020). Pandemics, tourism and global change: a rapid assessment of COVID-19. *J. Sustain. Tour.* 29, 1–20. doi: 10.1080/09669582.2020.1758708



- Jeyapraba, S. & Samithamby, S. (2014). Relationship between tourism and economic growth in Sri Lanka. *SSRN Electronic Journal*, 1-19.
- Mustafa, A. (2019). Impact of tourism direct employment trends on tourism arrivals: An empirical analysis of Sri Lankan context. *Journal of Politics and Law*, 12, 62-68.
- Peter Josef Stauvermann, Ronald Ravinesh Kumar, Syed Jawad shahzad & Nikeel Kumar, N. (2016). Effect of tourism on economic growth of Sri Lanka: Accounting for capital per worker, exchange rate and structural breaks. *Econ Change Restruct.*
- Rathnayaka, H.M.C.C.K. & Mustafa, A.M.M. (2019). Relationship between tourism and economic growth in Sri Lanka. *9th International Symposium*, (pp. 965-972). Oluvil, Sri Lanka.
- Ravinthirakumaran, K. (2015). Tourism and economic growth Nexus in Sri Lanka. *The 28th PhD Conference in Economics and Business* (pp. 1-26). Queensland: ResearchGate.
- Ruwan Ranasinghe. (2018). The contribution of tourism income for the economic growth of Sri Lanka. *Journal of Management and Tourism Research*, 1(2), 67-84.
- Ruwan Ranasinghe & Ravindra Deyshappriya. (2010). Analyzing this significance of tourism on Sri Lanka economy: An econometric analysis. *International Conference on Business & Information (ICBI)*, (pp. 1-19). Colombo, Sri Lanka.
- Schumpeter, J.A. (1935). The analysis of economic change, *Rev. Econ. Stat.*, 17 (4) (1935), pp. 2-10