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Investigation of the impact of tourism earnings on economic growth in Sri Lanka

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Abstract

The objective of this study is to examine the impact of tourism earnings on economic growth in Sri Lanka over the period of 1970-2015. In order to attain the purpose of this study, both exploratory data analysis and inferential data analysis techniques have been used. In the exploratory data analysis, the scatter plots, confidence ellipse with kernel fit were included. The inferential data analysis consisted of unit root test, autoregressive distributed lag (ARDL) Bounds cointegration test, Granger causality test, and impulse response function analysis. The exploratory data analysis confirms that there is a positive relationship between tourism earnings and economic growth. The unit root test results indicates that the variables used in this study are *I*(1). The ARDL Bounds cointegration test endorses the presence of long-run relationship between the variables. The long-run and short-run coefficient of the variable of tourism earnings confirm to have a positive relationship with economic growth in Sri Lanka over the study periods. The Granger- causality test result shows the existence of bidirectional causality between the variables of tourism and economic growth. Finally, the impulse response function analysis indicates that a positive shock to foreign direct investment has immediate significant positive impact on the gross domestic product up to 10^{th} year.
Keywords: ARDL Bounds test, Granger causality test, Impulse response function, tourism earnings, economic growth.

Introduction

Countries in the world receive foreign exchange by different sources in which international tourism sector is one [7]. In the current world, the tourism sector rapidly grows due to the globalisation process [10]. Therefore, in addition to the traditional sources for foreign exchange, tourism sector is more popular in developing countries [30]. In the case of tourism sector, it is not a manufacturing sector which is in fact service sector [23]. Thus, if a country wants to earn the foreign exchange trough tourism sector, the facilities for tourism should be increased. By these reasons, the countries 'rulers in the world have taken more attention on the promotion of tourism sector [4]. In recent years, the effects of tourism on economic growth among the researcher and academics has received much attention and have deeply been investigated [28]. Due to the fact that tourism sector promotes the economy of a country through different ways, notably promoting export revenue, crating the tourism related jobs, providing employment to the young and women, the researches on the effects of tourism sector are encouraged

[25]. In this regard, most researchers examined the effect of tourism in different view-point [6]. Since the historical period, Sri Lanka has been popular for tourism [11]. Sri Lanka has a pioneer history in tourism which has number of potential natural tourism places, full-fledged facilities i.e. international standards hotels, security services, government responsibilities, etc. Therefore, international tourists wish to migrate towards Sri Lanka for the purpose of tourism [27, 29]. Tourism in Sri Lanka is one of this fastest-growing service sector which has been promoting by government. In this regard, total tourism demand in the year 1970 was 46247 which was nearly increased 404% in 2018. Tourism sector in Sri Lanka earned USD 3.6 million in 1970 which had been increased as USD 4380 million in 2018. The contribution of tourism earnings to gross domestic product in 1970 was 5.9% which increased to 33% in 2018. Therefore, all the figures of tourism sector indicate that the tourism is an important sector for Sri Lankan economy. In the case of Sri Lankan tourism, there are two issues that should be investigated. The first issue is how tourism sector helps to Sri Lankan economy at macro-level whereas the second issue is how tourism sector promote the Sri Lankan economy through micro-level. Each issue has a different viewpoint. However, the main motivation of this study is to seek the answer to the research question of whether tourism earnings in Sri Lanka promote the economic growth or not. In order to do that, the following objective is formed. The objective of is to test the impact of tourism earnings on economic growth in Sri Lanka.

Following the introduction section this paper is structured as follows: Section 2 provides the review of literature, Section 3 presents the research method, Section 4 explains empirical findings and section 5 concludes this study with policy recommendation.

Review of Literature

In order to find the research gap of the current study, we review selected literature, having the relationship between tourism and economic growth. In the case of nexus between tourism and economic growth, a well-stablished group of literature has been in the empirical world. However, we select some of them to review for finding the research gap of this study. [17] examines the nexus between tourism and economic growth in India. This study concludes that tourism in India is a main channel of domestic economic growth. [7] investigate the impact of tourism on economic growth in Africa over the period 1995-2004. This study used the panel data of 42 countries in Africa and concludes that the tourism in selected countries is a potential sector. [30] examines the relationship between tourism and economic growth in Turkey for the period of 1990Q1-2008Q3. This study finds that tourism in Turkey expedite the economic growth. [22] examine the causality and long-run relationship between tourism development and economic growth in selected developing countries. This study was conducted based on the time series data during the period of 1995-2009. The findings of this study reveal that between tourism and economic growth are bidirectional causality and have a long-run relationship between the variables. A study was conducted by [21] who examine the causal relationship between tourism and economic growth using the

panel data of 135 developing countries over the period 1995-2008. The empirical findings of this study indicate that the is bidirectional Granger causality between tourism and economic growth in such countries. [12] investigate the long-term and short-term relationships between tourism and economic growth in Iran, by using annual data covering the 1985–2013. The findings of this study show that there is a positive relationship between tourism expenditure and economic growth in the long term and short term. [16] examine the dynamic relationship between tourism sector and economic growth in India from 1978-2009. This study concludes that tourism in India induces the economic growth during the study period. Recently one of the studies conducted by [15] who investigates the impact of tourism in Pakistan on economic growth for the period of 1990-2015. The key findings of this study reveal that tourism in Pakistan has a positive relationship with economic growth in the study period.

In the case of Sri Lanka, [25] examine the impact of tourism on economic growth in Sri Lanka using time series data over the period 1969-2009. In this study, the findings are that the tourism was a beneficial factor for economic growth in Sri Lanka. [11] investigates the role of international tourism in economic growth of Sri Lanka from 1967-2011. In this study, it is concluded that tourism in Sri Lanka has a long-run relationship with economic growth, and causes economic growth. [27] examine the causal relationship between tourism earning and economic growth in Sri Lanka over the period of 1977 to 2012. The empirical findings of this study reveal that tourism earnings cause economic growth in Sri Lanka under the study periods. [29] investigate the causal relationship between tourism and economic growth from 1960-2000. The empirical finding of this study finds that tourism is a significant factor to promote the economic growth in Sri Lanka. Further, recently a study was conducted by [26] who explore the nexus between tourism and economic growth in Sri Lanka over the period 1980-2014. In this study authors conclude that tourism in Sri Lanka promotes the economic growth in both Short-run and long-run and cause economic growth under the study period.

When considering all the literature reviewed in this study, it can be concluded that they attempt to investigated the relationship between tourism and economic growth. However, the study period and analytical techniques have been varied. In the meantime, despite sufficient literature that have studied the relationship between tourism and economic growth in Sri Lanka, they have not included recent data. However, this study differs from existing literatures due to the inclusion of recent data, which is the significance of this study. Therefore, due to the fact that most of the literature, contacted in Sri Lanka reviewed in this study used outdated data, the current study attempts to fulfil such gap.

Research Method

Model Specification

The objective of this study is to test the impact of tourism earnings on economic growth in Sri Lanka for the period of 1970-2015. Beyond Sri Lanka, there is an evidence that number of literatures have examined the relationships between tourism earnings and

economic growth. All the literatures have used different variables to examine the relationship between tourism earnings on economic growth. In this regard, this study formed the empirical functional form based on the lessons of previous literature. Thus, the functional form for this study can be written as follows:

(1)

$$GDP_t = f(FDI_t, TE_t)$$

where GDP_t is gross domestic product which is the proxy variable for economic growth in Sri Lanka, FDI_t is foreign direct investment, TE_t is tourism earnings.

From the mathematical functional form (1), the following econometric model specification of this study can be written as:

(2)

$$GDP_t = \gamma_0 + \gamma_1 FDI_t + \gamma_2 TE_t + \varepsilon_t$$

where t denotes the time element, γ_0 is the consent term, γ_1 and γ_2 are the coefficients of the variables: FDI_t and TE_t respectively, and ε_t is the error term.

Data

In this study, the annual time series data for the variables of gross domestic product, foreign direct investment and tourism earnings over the period of 1970-2015. The data for the variables such as gross domestic product and foreign direct investment were gathered from the database of the World Bank. In the meantime, the data for the variable of tourism earnings was collected the statistics reports of tourism published by Sri Lanka Tourism Development Authority in various years. All the data for this study were transformed into the natural logarithms for the purpose of transforming normality and linearity of the data series.

Analytical Methods

In order to attain the objective of this study, both exploratory data analysis and inferential data analysis have been employed. In the exploratory data analysis, the scatter plots, confidence ellipse with kernel fit were included. As well, there are three analytical techniques in the inferential data analysis such as unit root test, autoregressive distributed lag (ARDL) Bounds cointegration method, Granger causality test, and impulse response function analysis that have been employed. All techniques have different statistical equations which are discussed below. It is essential to confirm the order of the integration of the variables used in this study due to using the time series variables. In order to that, there are a number of tests which have been proposed by empirical researchers. However, in this study we employed the Augmented Dickey-Fuller (ADF) and Phillips-Perron unit root tests. The ADF and PP test equation that have been used in this study were given as:

The ADF test equation:

(3)

$$\Delta y_t = \alpha_0 + \gamma y_{t-1} + \sum_{i=1}^{p} \beta_i \Delta y_{t-1} + \varepsilon_t$$

The PP test equation:

(4)

$$\Delta y_{t-1} = \alpha_0 + \gamma y_{t-1} + \varepsilon_t$$

Once determined the order of integration of the variables used in this study, the next step of this study is to examine whether the variables used in this study are cointegrated or not which means whether the variables have a long-run relationship among them or not. Despite several cointegration techniques using in the empirical literature, the autoregressive distributed lag (ARDL) Bounds cointegration method to examine the long-run relationship between time variables was widely recommended. Therefore, this study also employed the ARDL Bounds method to investigate the long-run relationship between the variables used in this study.

The unrestricted error correction ARDL model specification of this study can be written as follows:

(5)

$$\Delta lnGDP_t = \gamma_0 + \sum_{i=1}^{p} \gamma_{1i} \Delta lnGDP_{t-1} + \sum_{i=0}^{q} \gamma_{2i} \Delta lnFDI_{t-1} + \sum_{i=0}^{r} \gamma_{3i} \Delta lnTE_{t-1} + \gamma_4 lnGDP_t + \gamma_5 lnFDI_t + \gamma_6 lnTE_t + \varepsilon_t$$

where Δ is the indicator of fist difference, p, q and r represent the optimal lag length, ε_t is the error term, γ_0 is intercept, $\gamma_{1i} - \gamma_{3i}$ represent the coefficient of short-run dynamics of the variables used in this study, $\gamma_4 - \gamma_6$ are the long-run coefficients of the variables used in this study, GDP_t, FDI_t and TE_t are the indicators of variables that have been employed in this study.

The decision on the long-run relationship between the variables used in this study was taken by testing the following hypothesises. In that respect, the null hypothesis of no long-run relationship ($\gamma_4 = \gamma_5 = \gamma_6 = 0$) between the variables used in this study was tested against the alternative hypothesis of presence the long-run relationship ($\gamma_4 \neq \gamma_5 \neq \gamma_6 \neq 0$) between the variables used in this study. In order to test the hypothesis, the calculated *F*-statistic from the Wald test and critical values were employed. There are two sets of alternative critical values at each level of significance to test the long-run relationship. On set of critical values denotes that all the regressors are *I*(0) which is called lower bound critical values, while other set of critical values states that all the regressors *I*(1) which is named the upper bound critical values. Therefore, the ARDL technique concludes the three decision about the long-run relationship between the variables, by comparing the calculated *F*-statistic of the equation (5) with the critical values.

In that respect, the first decision on the ARDL technique is that there is a long-run relationship between the variables which will be decided by rejecting the null hypothesis of no long-run relationship between the variable. In order to get this decision, the calculated F-statistic should be greater than the upper bound critical values at 5% significance level. The second decision is that there is no long-run relationship between the variables which will be received by not rejecting the null hypothesis. This decision will be gotten when the calculated F-statistic

is less than the lower bound critical value at 5% significance level. The last decision of the ARDL technique on the long-run relationship is that it is not possible to conclude about the long-run relationship between the variables. For this conclusion, the calculated *F*-statistic should be located between the upper and lower bound critical values.

In case it will be confirmed that there is a long-run relationship between the variables used in this study, the short-run dynamics of the variables used in this study will be estimated. In order to do this, the following error correction model specification of this study can be used.

(6)

$$\Delta lnGDP_t = \gamma_0 + \sum_{i=1}^{p} \gamma_{1i} \Delta lnGDP_{t-1} + \sum_{i=0}^{q} \gamma_{2i} \Delta lnFDI_{t-1} + \sum_{i=0}^{r} \gamma_{3i} \Delta lnTE_{t-1} + \eta ECT_{t-1} + \varepsilon_t$$

where η is the coefficient of the error correction term which should be negative, less than one, and statistically significant to move the long-run equilibrium path.

Robustness Check

To ensure whether the empirical results of this study are robust or not, the techniques of the Breusch-Godfrey serial correlation LM test, the heteroskedasticity ARCH test and the Jarque-Bera normality test, the cumulative sum of recursive residuals (CUSUM) and the cumulative sum of square recursive residuals (CUSUMSQ) plots were employed.

Pairwise Granger Causality Test

To know the ability of one variable to predict other, a simple test under vector autoregressive (VAR) environment was used, which is named pairwise Granger causality test. In the case of two stationary variables, the causality is defined as X_t is assumed not to Granger cause Y_t if so;

$$E(Y_{t+1}|J_t, X_t) = E(Y_{t+h}|h_t) \qquad (7)$$

where J_t is the information sets which considers the past observation of X_t and Y_t up to end including time (t).

Therefore, in order to test whether the variables used in this study have a causal relationship between them, the equation (7) was employed. In fact, the examination of causal relationship between the variables used in this study by using the equation (7) explains only the short-run causal relationship between the variables. However, Granger (1988) further stated that the coefficient of error correction model given in equation (6) can be used to check the long-run causality between the variables. Thus, this study considered the coefficient of error correction term to ensure the long-run causality between the variables used in this study.

Impulse Response Function Analysis

In order to provide the dynamic simulation of the effects of shock of the known size and duration in tourism earnings and foreign direct investment on the economic growth in Sri Lanka, the impulse response function (IRF) analysis was employed. In fact, an IRF touches the response of current and future value of the endogenous variable to one standard deviation shock through the dynamic structure of the vector autoregressive. At first, the variables in the IRF analysis should be assumed to be in stationary. In the case of this study, the following IRF specification was employed to provide the impulse response the economic growth to the variables of tourism earnings and foreign direct investment in Sri Lanka. The impulse model specification used in this study can be written as follows:

(8)

$$\{\Psi_n\}_{i,j} = \frac{\partial Y_{i,t+n}}{\partial \varepsilon_{i,j}}$$

where (*i*,*j*) is the factor calculating the consequences of a one unit increase in the *j*th variable's innovation at date (t), (ε_{jt}) is the value of the *i*th variable at time $t+n$ keeping all other innovations at all dates constant.

Empirical Findings

In order to take the immediate decision on the relationship between independent and dependant variables used in this study, the scatter plots, confidence ellipse with kernel fit are used. In that respect, given in Figure 1 and Figure 2 are the test results, which indicate tourism earning and foreign direct investment have a positive relationship with economic growth in Sri Lanka at 95% confidence level.

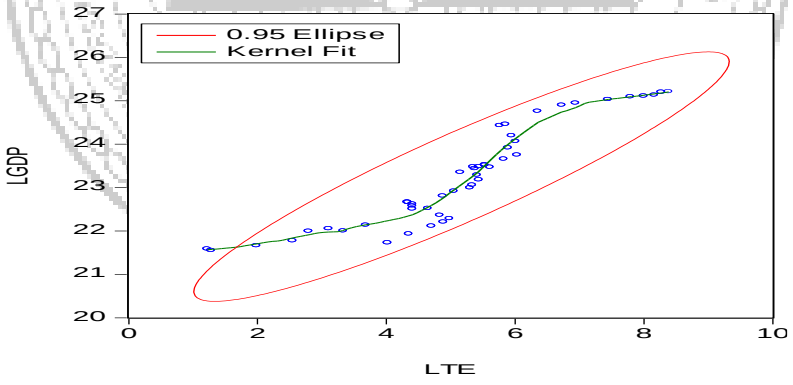

Figure 1. Association between tourism earning and economic growth
Source(s): E-views software

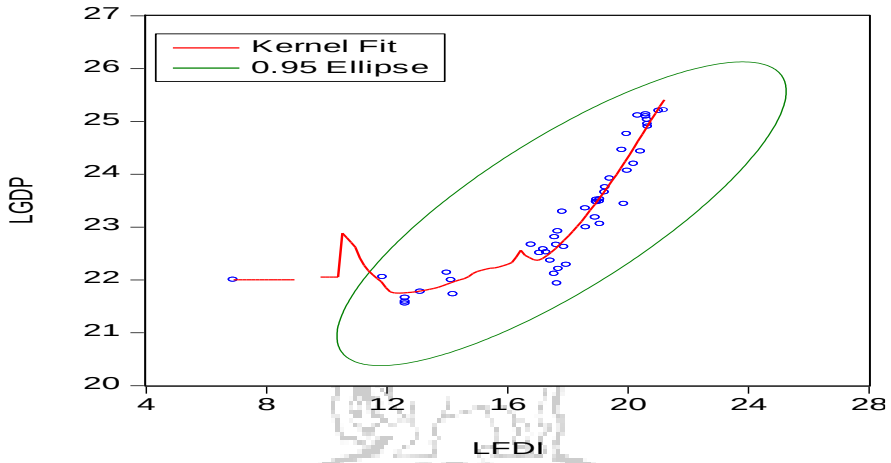

Figure 2. Association between Foreign direct investment and economic growth
Source(s): E-views software

Shown in Table 1 are the unit root test results which indicate that all the variables used in this study are non-stationary at their level, yet they become stationary at their 1st difference. Therefore, the test results given in Table 1 concludes that the variables used in this study are *I*(1). However, as the sample size of this study is below fifty observations, we recommend the autoregressive distributed lag (ARDL) method to attain the objective of this study.

Table 1. Unit root test results

Variable	Phillips-Perron test		Augmented Dickey-Fuller test		Order
	I(0)	I(1)	I(0)	I(1)	
$lnGDP_t$	-2.116	-7.388	-2.033	-7.404	*I*(1)
	(0.524)	(0.000)	(0.568)	(0.00)	
$lnTE_t$	-2.439	-4.450	-1.932	-4.304	*I*(1)
	(0.355)	(0.000)	(0.351)	(0.000)	
$lnFDI_t$	-1.734	-12.668	-2.041	-5.791	*I*(1)
	(0.408)	(0.000)	(0.268)	(0.000)	

Source (s): E-views software Note: Parenthesis indicates p-value

In the case of the ARDL method, the next step after confirming the order of integration of the variables step is the determination of optimal lag-length in order to select the appropriate ARDL model for this study. In order to that, there are a number of lag length criteria namely Akaike Information Criterion (AIC), Schwarz information criterion (SIC) and Hannan-Quinn Information Criterion (HQIC) that have been used in the empirical studies. Presented in Table 2 is the test results of optimal lag length criteria. However, this

study uses the Schwarz information criterion (SIC) to select the appropriate lag-length model of this study as most of the empirical studies used this criterion.

Table 2. Lag selection test results

Lag	Lag selection criteria		
	AIC	SIC	HQIC
0	8.193509	8.313953	8.238409
1	1.367390	1.849167	1.546992
2	0.768517*	1.611626*	1.082819*
3	0.945926	2.150367	1.394930
4	0.827515	2.393290	1.411220

Source (s): E-views software

Having decided the optimal lag of this study, the particular optimal lag has been used to generate the suitable ARDL models of this study. In that respect, Figure 3 illustrates the suitable ARDL models that have been produced by lag 2 of the Schwarz Information Criterion. Based on the information given in Figure 3, the ARDL (1, 2, 2) model seems the best model compared to other ARDL models as the ARDL (1, 2, 2) model has optimal lag value. Therefore, we employ the ARDL (1, 2, 2) model to interpret the long-run relationship between the variables used in this study.

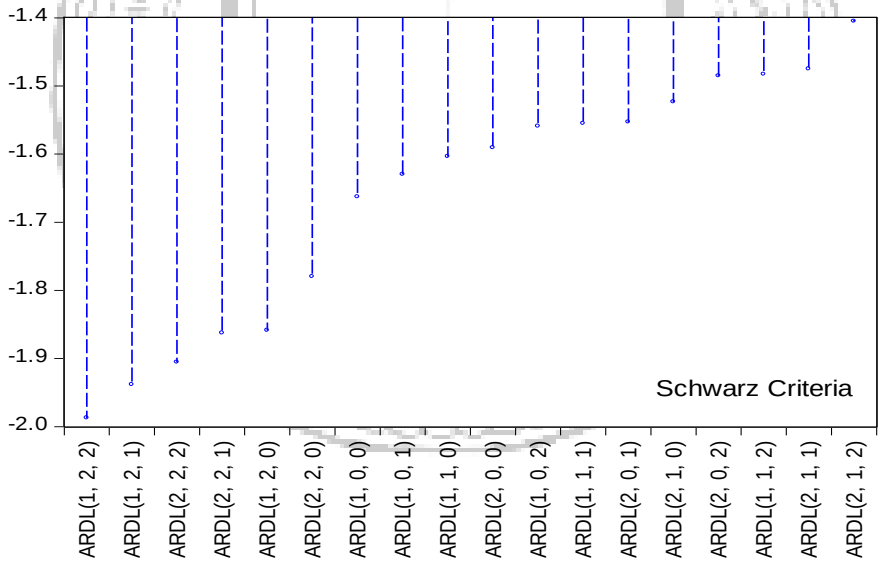

Figure 3. Graph of SIC model selection criterion
Source(s): E-views software

Given in Table 3 is the cointegration test results of the ARDL (1, 2, 2) model which indicates that the calculated F-statistic is 18.46. This statistic exceeds that the upper bound critical value of 3.83 at 5% significance level. As the calculated F-statistic is greater than the upper bound critical value at 5% significance level, the null hypothesis of no long-run relationship between the variables used in this study is rejected whereas the alternative hypothesis of the existence of the long-run relationship between the variables used in this study is accepted. Therefore, it can be concluded that the tourism earnings and foreign direct investment jointly maintain the long-run relationship with economic growth in Sri Lanka over the study period.

Table 3. ARDL Bounds test results

Test statistic	Value	
F- Statistic	**18.46**	
K	2	
Significance	*I*(0) Bound	*I*(1) Bound
10%	2.17	3.19
5%	2.72	**3.83**
2.5%	3.22	4.5
1%	3.88	5.3

Source(s): E-views software

Table 4 presents the long-run coefficient of the variables used in this study. Based on the table, the variables of foreign direct investment and tourism earnings positively affect the economic growth in Sri Lanka at 1% significance level. In that respect, the estimated coefficient of foreign direct investment indicates that 1% increases the foreign direct investment upsurges the economic growth in Sri Lanka by 2.18%. This finding is in line with the studies of [14, 3]. Furthermore, the estimated coefficient of tourism earning shows that 1% increases in tourism earning arises the economic growth in Sri Lanka by 2.57%. This finding is confirmed by the findings of [18, 20, 8, 12, 24].

Table 4. Long-run coefficients of the variables

Dependent Variables: $\boldsymbol{lnGDP_t}$			
Variable	Coefficient	*t*- statistic	*p-value*
$\boldsymbol{lnFDI_t}$	2.180	9.95	0.000*
$\boldsymbol{lnTE_t}$	2.573	3.990	0.000*

Source(s): E-views software *p<0.01

Illustrated in Table 5 are the short-run estimated coefficients of the variables which includes the details of speed of adjustment. The estimated coefficient of speed of adjustment (ECT_{t-1}) is -0.022 which is significant at 1% level with a negative sign. As the estimated coefficient of speed of adjustment fulfils the prerequisite, it can be concluded that the response variable of this study (economic growth) moves in the direction of the long-run equilibrium path. On the other hand, the estimated coefficient of error correction term points out that 2.2% of disequilibrium will be adjusted every year. In the case of short-run coefficients of variables given in Table 5, the estimated coefficient of foreign direct investment in the short-run indicates that 1% increase in the foreign direct investment upturns the economic growth by 0.02% whereas the estimated coefficient of tourism earnings shows that 1% increases the tourism earnings promotes the economic growth in Sri Lanka by 0.13% at the one period lag. These findings are further validated by the studies of [1, 4, 13, 15, 17]. Another important indication of the estimated coefficient of speed of adjustment is indicating the long-run causality. Accordingly, as the estimated coefficient of error correction term.

Table 5. Short-run coefficients of the variables

Dependent Variables: $\Delta \boldsymbol{lnGDP_t}$			
Variable	Coefficient	*t*- statistic	*p-value*
$\Delta \boldsymbol{lnFDI_t}$	0.027	3.532	0.001*
$\Delta \boldsymbol{lnFDI_{t-1}}$	-0.047	-5.646	0.000*
$\Delta \boldsymbol{lnTE_t}$	0.058	1.050	0.299^{ns}
$\Delta \boldsymbol{lnTE_{t-1}}$	0.131	2.363	0.023**
$\boldsymbol{ECT_{t-1}}$	-0.022	-4.206	0.000*

Source(s): E-views software *p<0,01, **p<0.05, ^{ns} insignificant

In order to test the robustness of the calculated ARDL model of this study, the following tests are performed: (1) the Breusch-Godfrey Serial Correlation LM test, (2) Heteroskedasticity ARCH test, (3) Jarque-Bera normality test, (4) the CUSUM and CUSUMSQ plots. Presented in Table 6 are the test results of both the Breusch-Godfrey Serial Correlation LM test and Heteroskedasticity ARCH test which indicates that the estimated ARDL model of this study does not suffer from the serial correlation issue and is homoscedasticity because the corresponding p-value of both the Breusch-Godfrey Serial Correlation LM test and Heteroskedasticity ARCH test are greater than 5% significance level.

Table 6. Diagnostic Tests results

Model	Test statistic			
	Breusch-Godfrey Serial Correlation LM Test		Heteroskedasticity ARCH Test	
	F-statistic	Prob.F(2, 38)	F-statistic	Prob.F(1,44)
ARDL (1, 2, 2)	0.624	0.540	0.122	0.727

Source(s): E-views software

The third robustness test of this study is Jarque-Bera normality test which is indicated in Table 7. As the corresponding p-value of the Jarque-Bera normality test is greater than at 5% significance level, the null hypothesis that the residuals are normally distributed is accepted. Therefore, it can form this result be concluded that the residuals of the estimated ARDL (1, 2, 2) model are normally distributed.

Table 7. Normality Tests results

Model	J-B test statistic Chi-square	p-value
ARDL (1, 2, 2)	2.138	0.343

Source(s): E-views software

Shown in Figure 4 and Figure 5 are the plot of cumulative sum (CUSUM) of recursive residuals and the cumulative sum of recursive residuals squared (CUSUMSQ) of the estimated ARDL (1, 2, 2) respectively. Based on the figures, the null hypothesis of parameter coefficient is accepted as the CUSUM and CUSUMSQ plots are within the critical bounds at 5% significance. Thus, the estimated ARDL (1, 2, 2) model from the CUSUM and CUSUMSQ is stable over the study period.

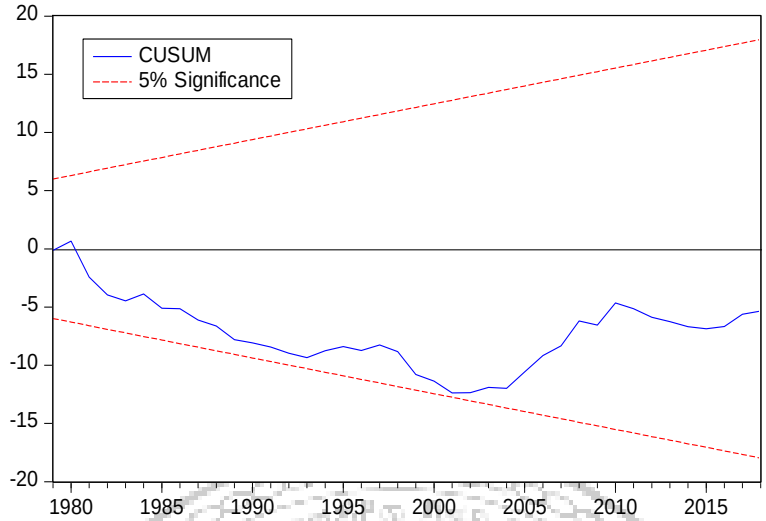

Figure 4. CUSUM plot for the estimated ARDL model
Source(s): E-views software

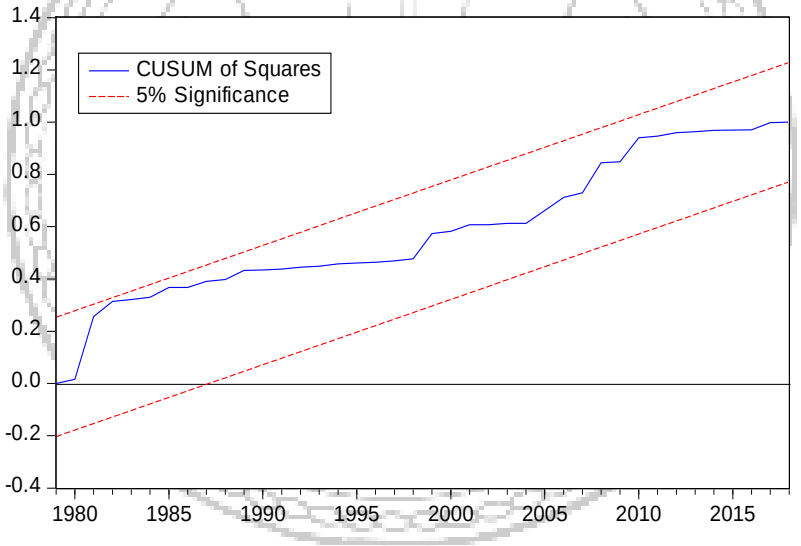

Figure 5. CUSUMSQ plot for the estimated ARDL model
Source(s): E-views software

Given in Table 8 is the test results of the Pairwise Granger causality test from a single equation which indicates that the null hypothesises given are not accepted at 1% significance level as the corresponding *p*-value of both null hypotheses are less than 0.01. Therefore, it can be notified that there is one-way causality from tourism earnings to

gross domestic product, and from foreign direct investment to gross domestic product. This finding confirms the studies of [9, 5, 19, 2].

Table 8. Pairwise Granger causality test results

Null hypothesis	Obs.	F-statistic	*p*-value
$\Delta lnTE_t$ does not Granger cause $\Delta lnGDP_t$	47	8.81263	0.000
$\Delta lnFDI_t$ does not Granger cause $\Delta lnGDP_t$		8.00369	0.001

Source(s): E-views software *p<0.01

Given in Figure 6 presents the impulse response function of a positive standard deviation shock to tourism earnings on gross domestic product, which indicates that a positive shock to foreign direct investment has immediate significant positive impact on the gross domestic product up to 10th year.

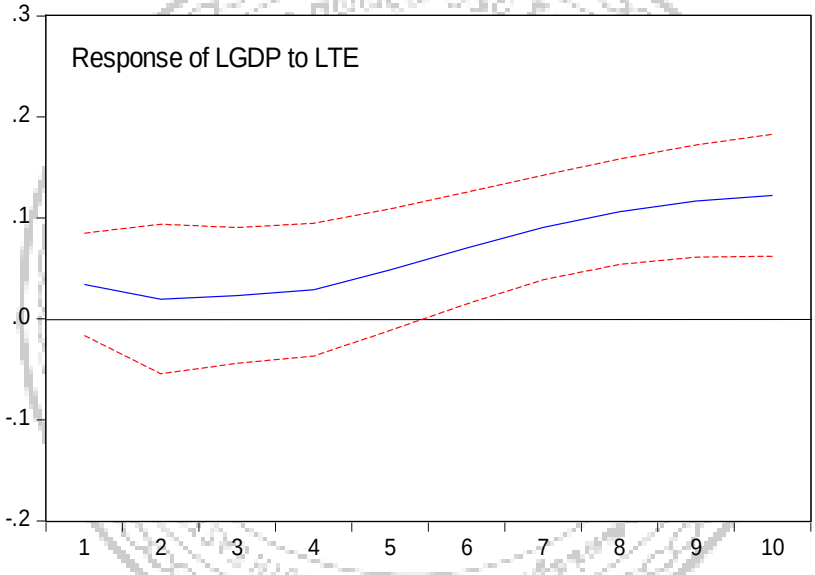

Figure 6. Impulse response of economic growth to tourism earnings
Source(s): E-views software

Conclusion and Recommendation

This study has examined the impact of tourism earnings and foreign direct investment on economic growth in Sri Lanka over the period of 1970-2015. In this study the conventional unit root tests i.e. ADF and PP were employed to test the order of integration of the variables which confirm that the variables used in this study are in

order one, I(1). The ARDL Bounds test results indicate that tourism earnings and foreign direct investment positively affect the economic growth in Sri Lanka both in the short-run and long-run. The coefficient of the error correction term indicates that the response variables of economic growth have moved towards the long-run equilibrium path. Furthermore, the diagnostic tests indicate that the estimated ARDL model of this study was robust. The causality test results indicate there is unidirectional short-run causal relationship between tourism and economic growth. Further, the estimated coefficient of error correction provides another information that there was a long-run causality between the variables used in this study. The impulse response function analysis indicates that a positive shock to tourism earnings has an immediate significant positive impact on the economic growth in Sri Lanka. Based on the findings of this study, it is found that tourism earnings are the potential factor to economic growth in Sri Lanka. Therefore, this study recommends that policymakers should develop friendly policies that facilitate the promotion of tourism earnings and foreign direct investment.

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