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TOURISM DEVELOPMENT AND ECONOMIC GROWTH IN TANZANIA: EMPIRICAL EVIDENCE FROM THE ARDL-BOUNDS TESTING APPROACH

Abstract. *This study examines the relationship between tourism development and economic growth in Tanzania – using the newly developed ARDL-Bounds testing procedure. Specifically, the study attempts to examine the relevance of the tourism-led growth hypothesis using data from Tanzania. In an attempt to avoid the problem of omission bias that is always associated with a bivariate causality analysis, the study incorporates the real exchange rate in the bivariate model between tourism development and economic growth – thereby creating a simple trivariate causality framework between tourism, real exchange rate and economic growth. The empirical results show that whilst tourism development and economic growth Granger-cause each other in the short run, in the long run, it is economic growth that drives the development of the tourism sector in Tanzania. The results also show that there is a short run bidirectional causality between tourism development and exchange rate, and between economic growth and exchange rate in Tanzania. The long run results, however, show that there is a distinct unidirectional causality from exchange rate to tourism development.*

Keywords: *Tanzania, Tourism Development, Economic Growth.*

JEL Classification: O10, C32, L83, O40

1. Introduction

The relationship between tourism development and economic growth has recently been the subject of intense debate in many developing countries - both from the theoretical and empirical fronts. Theoretically, an increase in tourism development leads to an increase in employment, which leads to an increase in economic growth. This is largely because tourism is considered to be one of the most labour-intensive industries. The development of a tourism industry also leads to an increase in the inflow of foreign exchange revenues, which contributes positively to the overall balance of payments

(see Belloumi, 2010). Moreover, the foreign exchange earned from international tourism can also be used to purchase capital goods that can be used in the production process. In addition, tourism can also stimulate investments in new infrastructure and competition (Brida and Risso, 2010). Studies have shown that international tourism is one of the fastest growing industries in the world. It accounts for more than 10% of the total international trade and almost half of the total trade and services (see also Eilat and Einav, 2004; Brida and Risso, 2010). According to the UNWTO World Tourism Barometer, the total number of international arrivals in 2008 was estimated to be about 924 million worldwide.

Although the relationship between tourism development and economic growth has been examined in a number of countries, the majority of these studies have been concentrated mainly in Asia and Latin America. Very few studies have been conducted in sub-Saharan Africa. Moreover, the majority of the previous studies suffer from major limitations. Firstly, most of the studies were based mainly on either the Engle-Granger residual-based cointegration approach or the Johansen-Juselius maximum likelihood test. Yet, these tests have been found to be unreliable – especially when the sample size is too small. Secondly, some of the previous studies over-relied on the bivariate causality test and may, therefore, suffer from the omission of variable bias. In other words, the introduction of a third variable in the bivariate causality may not only change the direction of the causality between the two variables, but may also change the magnitude of the results (see also Odhiambo, 2009; 2008).

In view of the weaknesses associated with the previous studies, the current study attempts to examine the causal relationship between tourism development and economic growth using the recently introduced ARDL-bounds test in a trivariate setting. Specifically, the study incorporates the real exchange rate as an intermittent variable between tourism development and economic growth – thereby creating a simple trivariate model. The remainder of the paper is organised as follows: Section 2 traces the trends of tourism development as well as economic growth in Tanzania. Section 3 highlights the literature review, while section 4 presents the estimation techniques and empirical results. Section 5 concludes the study.

2. Tourism and Economic Growth in Tanzania

Tourism in Tanzania plays a significant role in job creation, poverty alleviation and foreign exchange earnings. It is currently considered to be one of the leading sectors in Tanzania, together with the mining and agricultural sectors. Tanzania's tourism potential ranges from wildlife resources to spectacular landscapes, water bodies, beaches, a diversity of cultures and a number of archeological sites, amongst others. The main tourists destinations include Mt. Kilimanjaro; the exotic island of Zanzibar; the world famous Serengeti National Park, which covers area of 14,763 sq.kms; the Ngorongoro crater, which covers an area of 311 sq.kms and is home of a variety of

game and birds, including rhinos and flamingos; and the Selous Reserve, which covers an area of 55,000 sq.kms, amongst others. In 1997, for example, the tourism industry contributed 15.8% of the national GDP and 54% of the country's export earnings (Tanzania's National Tourism Policy, 1999). In 2001, the foreign exchange receipts increased to US $729.06 million. In 2004, the country's total earnings from tourism activities increased to about US $746.2 million of which about US $71.3 million were estimated to have been earned in Zanzibar. Currently, it is estimated that tourism contributes about 25% of the country's foreign exchange earnings.

Just like the growth of tourism's foreign exchange earnings, the number of international tourists arriving in Tanzania has increased phenomenally. International arrivals increased from 153 000 in 1990 to 201 744 in 1992, and later to 261 595 in 1994. In 1996, the international arrivals increased to 315 000 and to 450 000 in 1998. However, following the twin bomb blast that took place in Nairobi (Kenya) and Dar-es-salaam (Tanzania) in 2000, the number of international tourists dwindled somewhat between 1999 and 2003. For example, the number of international arrivals decreased from a record high of 564 000 in 1999 to 459 000 in 2000, before slightly increasing again to 501 000 in 2001 and to 550 000 and 552 000 in 2002 and 2003 respectively. In 2004 the number of arrivals peaked again to 566 000, the highest number recorded since independence. Since then the number of arrivals has increased steadily, with the highest of 750 000 recorded in 2008. Although the upward trajectory of tourism expansion in Tanzania was negatively affected by the recent global economic and financial crisis, the sector still remains a success story in sub-Saharan Africa.

On the economic growth front, it is worth noting that Tanzania's economic growth rate has remained either high or modest since the 1990s. For example, between 1991 and 2000 Tanzania recorded an average annual percentage GDP growth rate of about 3%. In 1991 and 1992 Tanzania recorded low annual GDP growth rates of about 2.07% and 0.584% respectively. However, in 1993 the rate increased to 1.21%. Following the liberalisation policy in 1992 and 1993, the real GDP growth rate increased phenomenally - from 1.2% in 1993 to 1.6% in 1994 and thereafter to 3.6% in 1995. By 1996, the Tanzanian annual GDP growth rate reached 4.6%. Although the rate decreased to 3.5% in 1997, it later increased to 3.7% in 1998, before declining slightly to 3.53% in 1999. However, in 2000 the country's GDP growth rate increased significantly to about 5.1%, the highest recorded in Tanzania since 1990. Table 1 shows the trends of tourist arrivals, earnings and economic growth in Tanzania during the period 1995-2008.

Table 1: Trends of International Tourist Arrivals, International Tourism Receipts and Economic growth in Tanzania (1995-2008)

Year	International Tourism Receipts (US $)	International Tourist Arrivals	Real GDP Per Capita (US$)	GDP Growth (%)
1995	502000000	285000	255	4
1996	473000000	315000	260	5
1997	343000000	347000	262	4
1998	404000000	450000	265	4
1999	467000000	564000	267	4
2000	381000000	459000	274	5
2001	626000000	501000	283	6
2002	639000000	550000	296	7
2003	654000000	552000	305	6
2004	762000000	566000	316	7
2005	835000000	590000	330	7
2006	986000000	622000	343	7
2007	1215000000	692000	357	7
2008	1358000000	750000	373	7

Source: World Development Indicators (2009)

3. Literature Review

The relationship between tourism and economic growth has been empirically examined in many countries, with conflicting results. To date, three views exist on the causal relationship between tourism and economic growth. The first and most dominant view posits that tourism is important and leads to economic growth. This view is often referred to as tourism-led growth (TLG). The second view, however, argues that it is the growth of the real sector that drives the development of the tourism industry - through the provision of infrastructural development. This hypothesis is often referred to as growth-led tourism hypothesis. The third view takes a middle ground position, which asserts that both economic growth and tourism development drives each other. In other words, there is a bidirectional causality between tourism and economic growth. Studies whose findings are consistent with the tourism-led growth hypothesis include Balaguer and Cantavella-Jorda (2002), Dritsakis (2004), Gunduz and Hatemi – J (2005), Zortuk (2009), Belloumi (2010), amongst others. Balaguer and Cantavella-Jorda (2002), for example, while examining the role of tourism in the Spanish long-run economic development, find that there is a stable long-run relationship between economic growth and tourism expansion, and that the results of the causality test in Granger sense supports the tourism-led growth hypothesis. Dritsakis (2004), while examining the impact of tourism on the long-run economic growth in Greece, finds

that international tourism earnings in Greece cause economic growth with a "strong" causal relationship, while economic growth causes international tourism earnings with a "simple" causal relationship. Gunduz and Hatemi-J (2005) examine whether tourism has really contributed to the economic growth in Turkey. Using the leveraged bootstrap causality test, the authors find that tourism led growth hypothesis is supported empirically in Turkey. Zortuk (2009) examines the relationship between the expansion in tourism and economic growth in Turkey – using the Granger causality test based on VECM. Using quarterly data between 1990 Q1 and 2008 Q3 periods, the author finds that there is a unidirectional causality from tourism development to economic development in Turkey. Most recently, Belloumi (2010) examines the role of tourism in Tunisia – using a trivariate model. The author finds that there is a positive and unidirectional causal flow from tourism to economic growth in Tunisia. In the same vein, Kreishan (2010), while examining the causality between tourism and economic growth in Jordan, finds that there is a unidirectional causality from tourism earnings to economic growth. The author's recommendation is that government should focus on economic policies to promote international tourism as a potential source of economic growth in Jordan. Brida et al. (2008) investigates a possible causal relationship among tourism expenditure, real exchange rate and economic growth in Mexico. Using a modified version of the Granger-causality test, the study finds that there is a unidirectional causality from tourism expenditure to real GDP. Likewise, Kaplan and Celik (2008) examine the relationship between tourism expansion and economic growth in Turkey. The authors find one-directional causality from tourism to economic growth. Malik et al. (2010), while examining the causal relationship between tourism, economic growth and current account deficit, *inter alia*, find support for a unidirectional causal flow from tourism to GDP. Chen and Chiou-Wei (2009) uses EGARCH-M model to examine the direction of causality between tourism expansion and economic growth in Taiwan and Korea. The authors find that the tourism-led growth is supported in Taiwan while a reciprocal causal relationship is found in South Korea.

Despite the empirical results in favour of a tourism-led growth hypothesis, there are others studies that argue that both tourism and economic growth Granger-cause each other. Some of the studies whose results are consistent with a bidirectional causal relationship between tourism and growth include Ongan and Demiroz (2005), Kim et al. (2006), Katircioglu (2009), Narayan and Prasad (2003) and Durbarry (2004), amongst others. Ongan and Dimiroz (2005), for example, while examining the contribution of tourism to the long run Turkish economic growth, find that there is a bidirectional causality between international tourism and economic growth. Kim et al. (2006) examine the causal relationship between tourism expansion and economic development in Taiwan. The authors find a bidirectional causality between tourism and economic growth. Katircioglu (2009) investigates the tourism-led growth hypothesis in the case of Malta. The author finds that both the tourism-led growth and output-driven tourism hypotheses can be inferred for Malta. Narayan and Prasad (2003) also

investigate the nexus between tourism receipts and real GDP using time series data from Fiji. The study finds that in the short run real GDP Granger-causes tourism receipts, but in the long run it is the tourism receipts that Granger-cause real GDP. Durbarry (2004), while examining the relationship between tourism and economic growth in Mauritius using the error-correction model, finds a distinct bidirectional causality between tourism and economic growth.

Although the majority of the previous studies are either in favour of tourism-led growth or a bidirectional causality between tourism and economic growth, there are few studies that have shown that it is the development of the real sector that drives the tourism industries. For example, Oh (2005), while examining the contribution of tourism development to economic growth in the Korea economy, finds that the hypotheses of tourism-led economic growth (TLG) could not be verified in the case of the Korean economy. The results of this study, therefore, imply a one-way causal flow from economic growth to tourism growth. Likewise, Lee (2008), while examining the relationship between tourism and economic growth in Singapore, using the bounds-testing approach, reveals that there is a unidirectional Granger causality from economic growth to tourism. The author concludes that the results of this study provide evidence in support of the growth-led tourism hypothesis.

4. Estimation Techniques and Empirical Analysis

4.1 Cointegration – ARDL Bounds Testing Procedure

In this study the recently developed Autoregressive Distributed Lag (ARDL)-bounds testing approach is used to examine the long-run cointegration relationship between tourism, real exchange rate and economic growth. The ARDL modelling approach was originally introduced by Pesaran and Shin (1999) and later extended by Pesaran et al. (2001). The ARDL model used in this study can be expressed as follows:

$$\Delta InTOUR_t = \phi_0 + \sum_{i=1}^{n} \phi_{1i} \Delta InTOUR_{t-i} + \sum_{i=0}^{n} \phi_{2i} \Delta Iny / N_{t-i} + \sum_{i=0}^{n} \phi_{2i} \Delta InRER_{t-i} + \phi_3 InTOUR_{t-1}$$
$$\phi_3 InRER_{t-1} + \phi_4 Iny / N_{t-1} + \mu_t \quad \text{.....(1)}$$

$$\Delta Iny / N_t = \delta_0 + \sum_{i=1}^{n} \delta_{1i} \Delta Iny / N_{t-i} + \sum_{i=0}^{n} \delta_{2i} \Delta InTOUR_{t-i} + \sum_{i=0}^{n} \delta_{2i} \Delta InRER_{t-i} \delta_3 Iny / N_{t-1}$$
$$+ \delta_4 InRER_{t-1} + \delta_4 InTOUR_{t-1} + \mu_t \quad \text{..... ....(2)}$$

$$\Delta InRER_t = \delta_0 + \sum_{i=1}^{n} \delta_{1i} \Delta InRER_{t-i} + \sum_{i=0}^{n} \delta_{2i} \Delta InTOUR_{t-i} + \sum_{i=0}^{n} \delta_{2i} \Delta Iny / N_{t-i} +$$
$$+ \delta_4 InRER_{t-1} + \delta_4 InTOUR_{t-1} + \delta_3 Iny / N_{t-1} + \mu_t \quad \text{.....(3)}$$

where: InTOUR = log of tourism variable; Iny/N = log of real GDP per capita; RER = Real exchange rate; μ_t = white noise error term; Δ = first difference operator.

Data Sources: Annual time series data, which covers the 1980 and 2008 period, have been used in this study. The data have been largely obtained from various issues of the International Financial Statistics (IFS) Yearbook and World Development Indicators.

The bounds testing procedure is based on the joint F-statistic (or Wald statistic) for cointegration analysis (see also Odhiambo, 2010a). The asymptotic distribution of the F-statistic is non-standard under the null hypothesis of no cointegration between examined variables. Pesaran et al. (2001) report two sets of critical values for a given significance level. One set of critical values assumes that all variables included in the ARDL model are I(0), while the other is calculated on the assumption that the variables are I(1). If the computed test statistic exceeds the upper critical bounds value, then the Ho hypothesis is rejected. If the F-statistic falls into the bounds then the cointegration test becomes inconclusive. If the F-statistic is lower than the lower bounds value, then the null hypothesis of no cointegration cannot be rejected.

4.2 Granger Non-Causality Test

Once the long-run relationships have been identified in section 4.1, the next step is to examine the short-run and long-run Granger-causality between tourism development, real exchange rate and economic growth using the following models (see Odhiambo, 2010b; Narayan and Smyth, 2008).

$$\Delta InTOUR_t = \phi_0 + \sum_{i=1}^{n} \phi_{1i} \Delta InTOUR_{t-i} + \sum_{i=0}^{n} \phi_{2i} \Delta Iny / N_{t-i} + \sum_{i=0}^{n} \phi_{1i} \Delta InRER_{t-i} + ECM_{t-1} + \mu_t \quad (4)$$

$$\Delta Iny / N_t = \delta_0 + \sum_{i=1}^{n} \delta_{1i} \Delta Iny / N_{t-i} + \sum_{i=0}^{n} \delta_{2i} \Delta TOUR_{t-i} + \sum_{i=0}^{n} \delta_{2i} \Delta RER_{t-i} + ECM_{t-1} + \mu_t \quad (5)$$

$$\Delta InRER_t = \delta_0 + \sum_{i=1}^{n} \delta_{1i} \Delta InRER_{t-i} + \sum_{i=0}^{n} \delta_{2i} \Delta TOUR_{t-i} + \sum_{i=0}^{n} \delta_{2i} \Delta y / N_{t-i} + ECM_{t-1} + \mu_t \quad (6)$$

where ECM_{t-1} = the lagged error-correction term obtained from the long-run equilibrium relationship.

Although the existence of a long-run relationship between y/N, RER and TOUR suggests that there must be Granger-causality in at least one direction, it does not indicate the direction of temporal causality between the variables. The direction of the

causality in this case can only be determined by the F-statistic and the lagged error-correction term. While the t statistic on the coefficient of the lagged error-correction term represents the long-run causal relationship, the F-statistic on the explanatory variables represents the short-run causal effect (see Odhiambo, 2010a; Narayan and Smyth, 2006). It should, however, be noted that even though the error-correction term has been incorporated in equations (4), (5) and (6), only the equations where the null hypothesis of no cointegration is rejected will be estimated with an error-correction term (see also Narayan and Smyth, 2006; Morley, 2006; Odhiambo, 2010b).

4.4 Stationarity Tests

Although the ARDL modelling approach does not require unit root tests, it is important to conduct the unit root test in order to ensure that no variable is integrated of order 2 [I(2)] or higher. This is critical because the ARDL procedure assumes that all variables are either I(0) or I(1). The results of the stationarity tests in levels (not presented here) show that all variables are non-stationary in levels. Having found that the variables are not stationary in levels, the next step is to difference the variables once in order to perform stationarity tests on differenced variables. The results of the stationarity tests on differenced variables are presented in Tables 2 and 3.

Table 2: Stationarity Tests of Variables on first Difference - Phillips-Perron (PP) Test

Variable	No Trend	Trend
DLy/N	-3.170786**	-4.87917***
DLTOUR	-5.347195***	-5.23841***
DLREXR	-2.855918**	-5.770404***

Note:
1)The truncation lag for the PP tests is based on Newey and West (1987) bandwidth.
2) *** and ** denote 1% and 5% level of significance, respectively.

Table 3: Stationarity Tests of Variables on first Difference – Dickey-Fuller - GLS Test

Variable	No Trend	Trend
DLy/N	-2.427269**	-3.437689**
DLTOUR	-4.227382***	-4.469857***
DLREXR	-3.244082***	-3.1930172**

Note:
1) Critical values for Dickey-Fuller GLS test are based on Elliot-Rothenberg-Stock (1996, Table 1).
2) *** and ** denote 1% and 5% level of significance, respectively.

The results reported in Tables 2 and 3 show that after differencing the variables once, all the variables were confirmed to be stationary. The Phillips-Perron and DF-GLS tests applied to the first difference of the data series reject the null hypothesis of non-stationarity for all the variables used in this study. It is, therefore, worth concluding that all the variables are integrated of order one.

4.5 Cointegration Test

In this section the long-run relationship between tourism, real exchange rate and economic growth is examined using the ARDL bounds testing procedure. In the first step, the order of lags on the first differenced variables in equations (1)-(3) is obtained from the unrestricted models by using the Akaike Information Criterion (AIC) and the Schwartz Bayesian Criterion (SBC). The results of the AIC and SBC tests (not reported here) show that while in the case of equations 1 and 2 is lag 1, the optimal lag in the case of equation 3 is lag 3. In the second step, we apply bounds F-test to equations (1)-(3) in order to establish whether there exists a long-run relationship between the variables under study. The results of the bounds test are reported in Table 4.

Table 4: Bounds F-test for Cointegration

Dependent variable	**Function**		**F-test statistic**			
	Bounds Test Between TOUR, REXR and y/N					
ΔIny/N_t	y/N(TOUR, REXR)		5.1856***			
Δ In$TOUR_t$	TOUR(y/N, REXR)		4.9611**			
ΔIn$REXR_t$	REXR(TOUR, y/N)		3.0201			
	Asymptotic Critical Values					
	1 %		**5%**		**10%**	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
Pesaran et al (2001), p. 300, Table CI(ii) Case II	4.13	5.00	3.10	3.87	2.63	3.35

Note: * and ** denote statistical significance at the 1% and 5% levels, respectively**

The results reported in Table 4 show that there is evidence of cointegration when the variables y/N and TOUR are taken as dependent variables, but not when REXR is taken as an independent variable. This finding is supported by the calculated F-statistic, which is higher than the upper-bound critical value in the y/N and TOUR variables, but not in the REXR equation.

4.6 Analysis of Causality Test Based on Error-Correction Model

Having found that there is a long run relationship between y/N, TOUR and REXR which y/N and TOUR variables are taken as independent variables, the next step is to test for the causality between the variables used by incorporating the lagged error-correction term into equations (4) and (5). The causality in this case is examined through the significance of the coefficient of the lagged error-correction term and joint significance of the lagged differences of the explanatory variables using the Wald test. The results of these causality tests are reported in Table 5.

Table 5: Causality between Tourism Development, Real Exchange Rate and Economic Growth

	F-statistics [P-value]			**t - statistics**
	Causality Between y/N, TOUR and REXR			
Dependent variable	$\Delta Iny/N_t$	$\Delta InTOUR_t$	$\Delta InREXR_t$	ECM_{t-1}
$\Delta Iny/N_t$	-	5.3933 [0.0073]***	6.1513 [0.0036]***	-0.0315 [-0.237]
$\Delta InTOUR_t$	6.046 [0.0056]***	-	4.0352 [0.0263]**	-0.7382 [-2.950]***
$\Delta REXR_t$	8.3619 [0.0014]***	9.3106 [0.0008]***	-	-

Note: * and ** denote statistical significance at the 1% and 5% levels, respectively**

The results reported in Table 5 show that there is a bidirectional causality between tourism development and economic growth in the short run, but in the long run it is economic growth that drives the development of the tourism sector. The short run bidirectional causality between tourism and economic growth is supported by the F-statistic in the tourism development and economic growth equations, which is statistically significant at the 1% level of significance. The long-run unidirectional causality from economic growth to tourism development is, however, supported by the coefficient of the lagged error-correction term, which is negative, as expected, and statistically significant.

Other results show that there is a short run feedback relationship between exchange rate and tourism development, and between exchange rate and economic growth. The long run results, however, show that there is a distinct unidirectional causality from exchange rate to tourism development. The short run causality is supported by the corresponding F-statistic in y/N, TOUR and REXR equations, which are statistically significant, while the long run causal flow from exchange rate to tourism is supported by the coefficient of the error-correction term in the tourism equation, which is negative and statistically significant.

5. Conclusion

In this study, the direction of causality between tourism development and economic growth is estimated using modern econometric techniques. Specifically, the study attempts to examine the relevance of the tourism-led growth hypothesis using data from Tanzania. Unlike the majority of the previous studies, the current study uses the newly developed ARDL-Bounds testing approach by Pesaran et al. (2001) to examine this linkage. The study also incorporates the real exchange rate as an intermittent variable between tourism and economic growth – thereby creating a simple trivariate model. The empirical results show that there is a short-run bidirectional causality between tourism development and economic growth and a long-run unidirectional causal flow from economic growth to tourism development. The results also show that there is a short run feedback relationship between exchange rate and tourism development, and between exchange rate and economic growth. The long run results, however, show that there is a distinct unidirectional causality from exchange rate to tourism development. The study, therefore, concludes that the tourism-led growth hypothesis is only applicable to Tanzania in the short run, as in the long run, it is the growth-led tourism hypothesis that dominates.

REFERENCES

[1]**Balaguer, J. and Cantavella-Jorda, M. (2002),** ***Tourism as a Long-run Economic Growth Factor: The Spanish Case*** ; *Applied Economics* 34 (7): 877-884;
[2]**Belloumi M. (2010),** ***The Relationship between Tourism Receipts, Real Effective Exchange Rate and Economic Growth in Tunisia*** . *International Journal of Tourism research* 12(5): 550-560;
[3]**Brida, J. G., Carrera E. J. S. and Risso W. A. (2008*), Tourism's Impact on Long-run Mexican Economic Growth*. *Economics Bulletin* 3(21): 1-8;
[4]**Brida, J. G. and Risso W. A. (2010),** ***Tourism as a Determinant of Long-run Economic Growth*** . *Journal of Policy Research in Tourism, Leisure and Events* 2 (1): 14-28;
[5]**Chen C-F. and Chiou-Wei S. Z. (2009),** ***Tourism Expansion, Tourism Uncertainty and Economic Growth: New Evidence from Taiwan and Korea*** **.** *Tourism Management* 30: 812-818;

[6]**Dritsakis, N. (2004),** ***Tourism as a Long-run Economic Growth Factor: An Empirical Investigation for Greece Using Causality Analysis***. *Tourism Economics* 10 (3): 305-316;
[7]**Durbarry, N. (2004),** ***Tourism and Economic Growth: The Case of Mauritius***. *Tourism Economics* 10(4): 389-401;
[8]**Eilat, Y. and Einav, L. (2004),** ***Determinants of International Tourism: A Three-dimensional Panel-data Analysis*** . *Applied Economics* 36(12): 1315-1327;
[9]**Elliot, G., Rothenberg, T. and Stock, J. (1996),** ***Efficient Tests for an Autoregressive Unit Root*** *; Econometrica* 64: 813-36;
[10]**Gunduz, L. and Hatemi, J. A. (2005),** ***Is the Tourism-led Growth Hypothesis Valid for Turkey?*** ; *Applied Economics Letters* 12 (8): 499-504;
[11]**Kaplan M. and Celik T. (2008),** ***The Impact of Tourism on Economic Performance: The Case of Turkey***. *The International Journal of Applied Economics and Finance* 2 (1): 13-18;
[12]**Katircioglu, S. T. (2009),** ***Testing the Tourism-led Growth Hypotheses: The Case of Malta***. *Acta Oeconomica* 59 (3): 331-343;
[13]**Kim, H. J., Cheng, M-H. and Jang S. S. (2006) ,** ***Tourism Expansion and Economic Development: The Case of Taiwan***. *Tourism Management* 27: 925-933;
[14]**Kreishan, F.M.M. (2010) ,** ***Tourism and Economic Growth: The Case of Jordan***. *European Journal of Social Science* 15(2): 229-234;
[15]**Lee, G W. (2008) ,** ***Tourism and Economic Growth: The Case of Singapore***; *Regional and Sectoral Economic Studies* 8 (1): 89-98;
[16]**Malik, S., Chaundry, I. S., Sheikh, M. R. and Farooqi F. S. (2010) ,** ***Tourism, Economic Growth and Current Account Deficit in Pakistan: Evidence from Cointegration and Causal Analysis***. *European Journal of Economics, Finance and Administrative Sciences* 22: 21-31;
[17]**Morley, B. (2006),** ***Causality between Economic Growth and Migration: An ARDL Bounds Testing Approach*** . *Economics Letters* 90: 72-76;
[18]**Narayan P.K. and Prasad, B.C. (2003),** ***Does Tourism Granger-Cause Economic Growth in Fiji? ;*** *Empirical Economics Letters* 2(5): 199-208;
[19]**Narayan, P.K. and Smyth, R. (2006),** ***Higher Education, Real Income and Real Investment in China: Evidence from Granger Causality Tests*** ; *Education Economics* 14: 107-125;
[20]**Narayan, P.K. and Smyth, R. (2008),** ***Energy Consumption and Real GDP in G7 Countries: New Evidence from Panel Cointegration with Structural Breaks***. Energy Economics 30: 2331-2341;
[21]**Newey, W.K. and West, K.D (1987),** ***A Simple, Positive Semi-definite Heteroskedasticity and Autocorrelation Consistent Covariance Matrix***; *Econometrica* 55: 703-8;
[22]**Odhiambo, N.M. (2008),** ***Financial Depth, Savings and Economic Growth in Kenya: A Dynamic Causal Linkage***; *Economic Modelling* 25(4): 704-713;

[23]**Odhiambo, N.M. (2009),** ***Savings and Economic Growth in South Africa: A Multivariate Causality Test****. Journal of Policy Modeling* 31(5): 708-718;
[24]**Odhiambo, N.M. (2010a),** ***Financial Deepening and Poverty Reduction in Zambia: An Empirical Investigation****; International Journal of Social Economics* 37(1):41-53;
[25]**Odhiambo, N.M. (2010b),** ***Energy Consumption, Prices and Economic Growth in Three SSA Countries: A Comparative Study*** *. Energy Policy* 38: 2463-2469;
[26]**Oh, C-O. (2005),** ***The Contribution of Tourism Development to Economic Growth in the Korean Economy*** ; *Tourism Management* 26(1): 39-44;
[27]**Ongan, S. and Demiroz, D.M. (2005),** ***The Contribution of Tourism to the Long-run Turkish Economic Growth*** *. CEEOL Journal of Economics* 53(9): 880-894;
[28]**Pesaran, M. and Shin, Y. (1999),** ***An Autoregressive Distributed Lag Modeling Approach to Cointegration Analysis****;* in S. Strom, (ed) *Econometrics and economic theory in the 20th century: The Ragnar Frisch centennial symposium*, Cambridge University Press, Cambridge;
[29]**Pesaran, M., Pesaran, B. (1997),** ***Working with microfit 4.0: Interactive Economic Analysis*****,** Oxford University Press, Oxford;
[30]**Pesaran, M., Shin, Y. and Smith, R. (2001),** ***Bounds Testing Approaches to the Analysis of Level Relationships*** ; *Journal of Applied Econometrics* 16: 289-326;
[31]**Zortuk, M., (2009) ,** ***Economic Impact of Tourism on Turkey's Economy: Evidence from Cointegration Tests*** *. International Research Journal of Finance and Economics* 25: 231-239.