Economic Growth, Tourism Receipts and Exchange Rate in MENA zone: Using Panel Causality Technique

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Abstract

In this study, we investigate the long run and causality relationship between tourism receipts and economic growth in 17 MENA selected countries during 1995-2007. We incorporate exchange rate as an intermittent variable in a bivariate setting between tourism receipts and economic growth. Using panel cointegration technique, the results show that in the MENA countries, there are the bidirectional causality between tourism receipts and economic growth in long run and short run. Also we find that the unidirectional causality from exchange rate to economic growth and tourism receipts. Our findings imply that MENA economics could increase their short-run and long run economic growth by strategically strengthening their tourism industries. In final, we provide some policy implication for this industry in these set of countries.

Keywords: Economic Growth, Tourism, Exchange Rate, Panel Cointegration, MENA Countries.

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1- Introduction

Over the past several decades, international tourism has been gaining importance in many economies of the world. Tourism activities can be regarded as a mechanism of generating the employment as well as income in both formal and informal sectors. Tourism receipts, as an alternative form of exports, can be contributed to balance of payment, through foreign exchange earning and proceeds generated from tourism expansion (Balaguer and Cantavella 2002). On the other hand, Mckinnon (1964) debated that foreign exchange earning from tourism can also be used to import capital goods to produce goods and services, which in turn lead to economic growth. From perspective of Theobald (2001), Tourism industry, chiefly a labour-intensive sector, is in the section of international services. This is because that tourism receipts can be said to have an export effect since the nature of tourism receipts are of foreign exchange nature and hence tourism is regarded as an intangible export item.

According to the export-led growth hypothesis, international tourism would contribute to an income increase at least in two additional ways: in the first step enhancing efficiency through increased competition among firms and others international tourist destinations (Bhagwati and Srinivasan, 1979), and in the second step, facilitating the exploitation of economies of scale in local firms (Helpman and Krugman,1985). It is generally assumed that activities and expansion of tourism have a positive contribution to economic growth. This is because that it can increase tax revenues, employments and additional sources of income (Archer&etc 1996, kim&etc 2006).

In parallel with the improvements in time series methods in recent years and the implementation of these methods in various branches of economics, the causality between tourism and economic growth was tested. Along with

this, the issue of whether tourism development effects economic growth or vice versa comes into question.

As for policy implications, if there is clear-cut unidirectional causality from tourism development to economic development, then making strides in tourism growth (tourism-led economic growth) is the most practical approach. Vice versa if unidirectional causality run from economic development to tourism development, then every effort should be made for overall economic growth as this, in turn, will result in the expansion of the tourism industry. If there is no causal relationship between tourism growth and economic development, then there is no feedback effect between each other. Finally, if the relationship is bidirectional, and tourism and economic growth have a reciprocal causal relationship, then a push in both areas would benefit both. (Zortuk, 2009)

The current study will attempt to survive the major role of the tourism industry in growth of the MENA countries. The economic structure of MENA nations are different in the sense that while some nations are heavily dependent on export of only oil and oil-related products (such as Saudi Arabia, Iran, the UAE and Kuwait), others have a highly diverse economic base (such as Lebanon, Jordan and Egypt). But in the recent years MENA countries have begun attracting greater number of tourists due to improving tourist facilities and the relaxing of tourism-related restrictive policies andthese conditions increased the number of arrival to 43 million in 2008.

As table 1 shows in MENA countries, the Percent share of tourism receipts in GDP during 1998 to 2008 has grown from 2.6 to 4.08 percent, that are 0.03 and 0.07 percent of the tourism revenues of world and these trend was always ascending. Also in 2008, the numbers of MENA tourism was about 4.6 percent of total tourism number in the world. On the other hand tourism revenues and the number of arrivals from 2000 to 2008, in the

MENA region have grown about 240% and 98% respectively. Thesestatisticsillustrate the importance oftourism industryinthisregion.

On the other hand as shows in Figure 1 and 2, Egypt has the maximum of tourism receipts and the number of arrival among MENA selected countries in 2007. In this year more than 10 million people had traveled to Egypt. In Egypt, tourism is an economic mainstay accounting for 20 per cent of foreign exchange earnings. Egypt has been an important destination for people in the Middle East, Africa and Europe from ancient times. The celebrated tourist attractions of Egypt are the millennia-old monuments for which the Nile Valley is world famous. Also in 2007, the most percent share of tourism receipts in GDP belongs to Lebanon by more than 24 percent. Tourism industry has the major source of revenue for Lebanon. The number of tourists grew by 39 percent over the previous year, the largest increase in any country according the World Tourism Organization. Most of the increase is due to heightened political stability and security.

Hence the main objective of this paper is to investigate the contribution of tourism revenue to the economic growth of MENA countries. The bi-variate causality relationship between economic growth and tourism receipt had been studied in recent years. Yet, it is now clear that the results of the bi-variate causality test between two variables may be invalid due to the omission of an important variable (Lutkepohl, 1982). Therefore in this study we inter exchange rate[1] as intermediate variables that could effect on both economic growth and tourism revenues and will use the panel cointegration technique and FMOLS (Fully Modified OLS) estimators to investigate the long-run and causal relationships between tourism

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1- Since the exchange rate measures the effective prices of goods and services in tourism rival country, many studies have adopted the real exchange rate in the discussion of international tourism in order to deal with potential over-looked variable problems and to account for external competitiveness (see Dritsakis, 2004).

development, economic growth and exchange rate in MENA selected countries[1] during 1995–2007.

The remaining of paper is organized as follows: Section 2 explains the literate review. Theoretical consideration is reported in section 3. Data and methodology investigate in section 4 and the last section presents the conclusion and policy implication.

Table1: International Tourism 2010

Years	1998	2000	2002	2004	2006	2008
Tourism, number of arrivals in world (Million)	614.7	689.2	706.6	768.5	855.7	927.8
Tourism, receipts in world (Billion $)	529.6	568.8	585.1	768.6	900.4	1139.3
Percent share of tourism receipts in GDP in world	1.765	1.775	1.769	1.833	1.836	1.881
Tourism, number of arrivals in MEN(Million)	16.76	21.73	23.42	30.37	35.57	42.81
Tourism, receipts in MENA (Billion $)	11.38	12.90	17.67	24.80	30.54	43.87
Percent share of tourism receipts in GDP in MENA	2.96	2.99	4.15	4.62	4.27	4.08
Percent share of tourism receipts (MENA) in GDP (WORLD)	0.037	0.040	0.053	0.059	0.062	0.072
Percent share of tourism arrivals (MENA) in tourism arrivals (WORLD)	2.72	3.15	3.31	3.95	4.15	4.61

Source: world developed indicator (WDI, 2010), world tourism organization (WTO, 2010) and computing of researchers

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1- The countries are includes: Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Malta, morocco, Oman, Pakistan, Tunisia, united Arab, Yemen
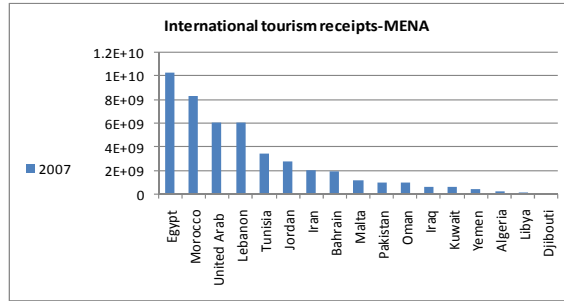
Figure1

Source: world tourism organization (WTO, 2010)
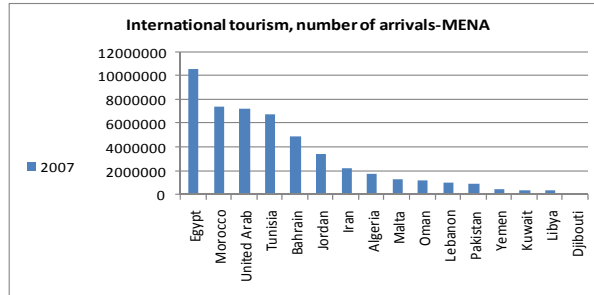

Figure2

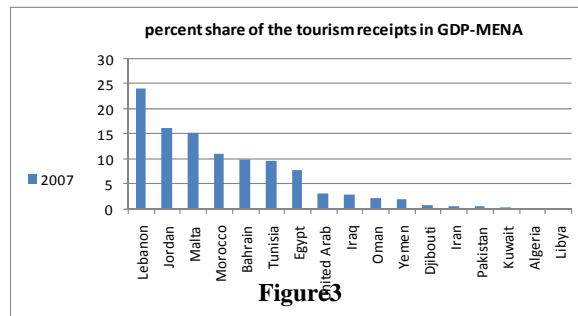Source: world tourism organization (WTO, 2010)

Figure3

Source: World tourism organization (WTO, 2010)

2- Literate review:

Tourism industry can generate employment and income that associated with positive tourism balance of payments. This can stimulate supplying sectors of tourism that leads to increase in economic activity in the economy. Therefore, tourism industry has the impact on economic development. The empirical relationship between economic growth and tourism has been studied in recent years and we review some of them:

Arslanturk and etc. (2011) using the rolling window and time-varying coefficients estimation methods, investigated the Granger causality based on Vector Error Correction Model (VECM) between economic growth and tourism receipts in turkey from 1963-2006. They results show that GDP does not have predictive power for tourism receipts, and also tourism receipt positively Granger causes GDP after early the 1983s. This means that tourism receipts have a positive impact on the economic growth in Turkey.

The causality relationship between economic growth, exchange rate and tourism receipts in Tunis had been studied by Belloumi (2010). They results reveal that there is a cointegration relationship between tourism receipts and economic growth and tourism has a positive and significant impact on growth. Also the hypothesis of TLGH (tourism-led growth hypothesis) is held in the Tunisian economy. According to this hypothesis, the international tourism is considered as a potential strategic factor for economic growth.

Zortuk (2009) focused on the relationship between the expansion in tourism and economic growth using Granger causality test based on VECM. Results show that there is long run equilibrium relationship between gross domestic product and tourism arrivals. He finds that there is unidirectional causality from tourism development to economic development in Turkey. This study used quarterly data over the 1990q1 to 2008q3.

Lee and Chang (2008) using new heterogeneous panel cointegration technique, investigate the long run and causality relationship between economic growth, tourism development and Exchange rate for OECD and non OECD countries. They results show tourism development and real

exchange rate have positive impact on economic growth but the impact of tourism on GDP of non OECD countries is more than OECD countries. Also in long run, bidirectional causality is confirmed in non OECD countries between economic growth and tourism receipts.

Fayissa and et al. (2007) investigated the impact of tourism on economic growth and development in Africa. They used panel data of 42 African countries over the 1995 to 2004. The results show that these countries could enhance short run growth by strategically strong tourism industries.

Kim and et al. (2006) discovered the bidirectional causality between the tourism and economic growth in Taiwan. This means that these tow variables reinforce each other. On the other hand oh (2005) found that in the case of the Korean economy, the hypotheses of tourism-led economic growth could not be verified and in the period of 1971-2001 had not been found long run relationship link between tourism receipts and economic growth.

Halicioglu (2004) empirically examined aggregate tourism demand function in Turkey using time series data (1960-2002). He employ bound testing cointegration that proposed by Pesaran et al. (2001) to estimate long run and short run relationship among income, price, and transportation cost variables. Results indicated that income is the most significant variable in explaining tourism demand function in Turkey.

In the other study, Balaguer and Cantavella (2002) investigate the long run and causality relationship between tourism and economic growth in Spanish economy. The results of johansen and cointegration tests show that tourism receipts have unidirectional effects on economic growth and hypothesis of TLGH is confirmed in this country. Also the convergence of income and tourism earnings is sustained by the inclusion of external competition (exchange rate).

3- Theoretical considerations

In the analysis of tourism, economists emphasize the economic effects of tourism on theeconomy. Imagine two identical regions A and B where the only difference between the twois that region A receives tourists, while region B does not. Consider a Keynesian model of anopen economy. Within this model, although traditional national accounting has consideredtourists' expenditure in the domestic economy as exports, we consider it as a stimulus toconsumption produced by incoming visitors. Obviously this effect implies an increase inproduction and in income, but also an increase in market prices and exchange rate. We can analyze this process focusing on a macroeconomic variable such as per capita GDP (Gross Domestic Product) in PPP (Purchasing Power Parity) terms, which shows the real effects on the economy leaving aside nominal aspects as inflation or appreciation of the currency.

The great advantage of tourism sector is that it tends to be labor intensive, so an increase in production is normally achieved by an increase in employment. This is advantageous for those economies that need to decrease unemployment, although it also produces a shock in the job market rising wages in the service sector, inducing mobility across sectors. Thus from a macroeconomic point of view, tourism produces economic growth and employment. (Eugenio-Martin & Morales, 2004)

Sinclair (1998) suggested that when we attempt to identify and interpret the relationship between tourism and economic activity, we must consider it from two viewpoints, the advantages and disadvantages of tourism development. Tourism, like any other impetus for economic development, potentially has both positive and negative influences on communities and their residents. Generally speaking, the positive contributions that tourism can make include the provision of hard currency, which may help to alleviate a gap in foreign exchange and finance imports of capital goods, increases in personal income, higher tax revenues and additional employment opportunities. Beyond this, tourism expansion also

affects the demand for certain goods and services (Syriopoulos, 1995), including transportation facilities, such as roads and airports (Eugenio-Martin & Morales, 2004), much of which is specific to tourism as opposed to a more general use. Apart from this, tourism expenditure by foreign tourists can enhance domestic tourism construction as well as bring about an accumulation of physical capital, and the needs for skilled labor in the tourism sectors will cause human capital investment to increase. Thus, the tourism sector may contribute significantly to economic growth.

Contrary to many of the predictions in the extant literature, as Hazari and Ng (1993) pointed out, tourism affects most of the tertiary and nondurable goods consumption sector. It should follow that the possible effects from an increase in domestic prices that normally tend to reduce welfare would be more than compensated for by the positive effects on the country's overall welfare. Meanwhile, expenditures by foreign tourists may also alter domestic consumption patterns via the so-called demonstration effect, and this can, in fact, be inflationary. These foreign demands for nontrade goods by tourists may create a monopoly power distortion hence causing welfare reduction effect (Balaguer&Cantavella-Jorda, 2002; Hazari&Sgro, 2004). Taking a broader perspective, Sinclair (1998) suggested that the costs incurred from an expansion of the tourism industry (including much of the expenditure for the provision and maintenance of infrastructure in the form of additional water, roads, airports, sanitation and energy), is specific to tourism rather than for more general usage. Meanwhile, there are costs incurred from specialized education in such fields as communications, catering, hospitality, transportation and management skills. In addition to requiring a great deal of physical capital, the tourism sector requires various types of skilled labor, and thus, the destination country will raise the human capital investment in tourism industry.

Tourism imposes still other costs on the host country. Such costs include increased pollution, congestion, or despoliation of fragile environments

(Gursoy& Rutherford, 2004). Dunn and Dunn (2002) also maintain that crime and violence are another major problem affecting the tourism industry in some countries, and as such, they incur costs for crime control and maintaining and improving public security. As the natural environment is an important component of tourism, it represents a double-edged problem for policy makers, who may find it hard to make relevant decisions since many tourists are attracted by nature, yet at the same time, many citizens of the host country along with environmentalists wish to keep the natural environment intact (Jenner & Smith, 1992; Pearce, 1985).

4- Data and Methodology:

Data used in the analysis are annual time series during the period 1995–2007 for MENA zone and are includes: real GDP, international tourism receipts and real exchange rate. The data were obtained from World Development Indicator (WDI). Notice that logarithmic forms of all the variables are used in the empirical analysis.

4-1- Panel Unit root Test:

As a pre-test for the cointegration analysis we first investigate panel non-stationarity of the variables. Hence we apply panel individual unit root tests established by Im, Pesaran and Shin (2003), Fisher-type tests of Maddala and Wu (1999) and Choi (2001) using ADF and Phillips–Perron type. The null hypothesis in these tests isnon-stationary.

In the first step we discovered that all of the variables are non-stationary in the levels. But the results of panel unit root tests in the first difference show in table 2. As the result shows we can reject the unit root hypothesis when the variables are taken in first difference. Hence $LGDP$, $LTOUR$ and $LEXC$ are integrated of order one or I (1) and null hypothesis of non-stationary is rejected at the 1% level.

Table 2: Panel Unit Root Tests in the First Difference of Variables

Variables	*LGDP*	*LTOUR*	*LEXC*
No Trend			
IPS	-2/66*	-3/42*	-3/31*
	(0/00)	(0/00)	(0/00)
ADF	58/70*	65/81*	61/61*
	(0/00)	(0/00)	(0/00)
PP	107/54*	130/13*	110/63*
	(0/00)	(0/00)	(0/00)
Trend			
IPS	-1/98*	-5/61*	-3/16*
	(0/02)	(0/00)	(0/00)
ADF	55/18*	93/20*	61/30*
	(0/01)	(0/00)	(0/00)
PP	121/94*	172/81*	117/49*
	(0/00)	(0/00)	(0/00)

* Indicates Significant at the 1% level

4-2- Panel Cointegration Test:

The next step is to test for the existence of a long run relationship among $LGDP$, $LTOUR$ and $LEXC$. For this purpose we use Pedroni (1995, 1999) test for used variables in models. This method is a significant improvement over conventional cointegration tests applied on a single country series. Pedroni(1999) are employed several test statistics to test the residuals for stationary. As pedroni (1999) had implied, ADF and PP tests are more reliable for small sample properties than the other tests.

The results of pedroni's(1999) panel cointegration test based on the four test statistics (panel PP-statistic, panel ADF-statistic, group PP-statistic and group ADF-statistic) are reported in table 3. As results shows, when $LGDP$ and $LTOUR$ are dependent variables the null of no cointegration are

rejected. Hence we discovered that there exists the long run relationship at the two models.

Table 3: Panel cointegration test:

Equation	$LGDP = F(LTOUR, LEXC)$	$LTOU = F(LGDP, LEXC)$
Panel pp-Statistic	-9/78* (0/00)	-1/78** (0/03)
Panel ADF-Statistic	-9/02* (0/00)	-2/95* (0/00)
Group pp-Statistic	-9/01* (0/00)	-3/49* (0/00)
Group ADF-Statistic	-6/36* (0/00)	-2/94* (0/00)

* and ** indicate significant at the 1% and 5% level respectively

4-3- Estimating the Long Run Relationship:

Having found a cointegration relationship at the equation of $LGDP$ and $LTOUR$, in this section we estimate the long run elasticities on the impact of $LTOUR$ and $LEXC$ on $LGDP$ and the impact of $LGDP$ and $LEXC$ on $LTOUR$. To achieve this, we use FMOLS (Fully modified ordinary least square) estimator.

Table 4 are reported the results of FMOLS estimator. As the results show, the impact of tourism receipts on economic growth is positive and statistically significant. For instance, 1% increases in tourism receipts lead to a 0.33% increase in economic growth. Also Exchange rate has positive effect on economic growth but is not statistically significant. On the other hand when tourism receipt is dependent variable, the impact of real GDP on tourism receipts is positive and statistically significant. As 1% increases in real GDP causes a 0.64% increase in tourism receipts and this coefficient is statistically significant. But the effect of exchange rate on tourism receipts is negative that this coefficient is not significant.

Table 4: Fully Modified OLS Estimates of the Long-Run Relationship

	LGDP	*LTOUR*	*LEXC*
Dependent variables			
LGDP	-	0/33* (4/08)	0/07 (1/52)
LTOUR	0/64* (3/73)		-0/12 (-1/75)

* indicates significant at the 1% level

4-4- Panel Causality Test:

Once the variables are cointegrated, in this step we investigate panel Granger causality by estimating vector error correction (VEC). The tri-variate Granger causality test on error-correction model can be expressed as follows:

$$\Delta LGDP_{it} = \delta_{1j} + \sum_k \delta_{11ik} \Delta LGDP_{it-k} + \sum_k \delta_{12ik} \Delta LTOUR_{it-k} + \sum_k \delta_{13ik} \Delta LEXC_{it-k} + \lambda_{1i} ECM_{t-1} + u_{1it},$$

(1)

$$\Delta LTOUR_{it} = \delta_{2j} + \sum_k \delta_{21ik} \Delta LTOUR_{it-k} + \sum_k \delta_{22ik} \Delta LGDP_{it-k} + \sum_k \delta_{23ik} \Delta LEXC_{it-k} + \lambda_{2i} ECM_{t-1} + u_{2it},$$

(2)

Here Δ denotes the first difference of the variable, k denotes the lag length and ECM_{t-1} are the residuals. The significant of the t-statistics on the one period error correction term denotes long-run causation while the significant of the first differenced variables provides evidence on the direction of the short-run causation. The short run causality can be tested by $H_0 : \delta_{12ik} = 0$ and $H_0 : \delta_{13ik} = 0$ for all i and k in equation 1 or $H_0 : \delta_{22ik} = 0$ and $H_0 : \delta_{23ik} = 0$ for i and k in equation 2. The optimal lag according to Schwarz criterion is 2.

Table 5 shows the short run and long run results of panel causality test among per capita GDP, tourism receipts and exchange rate. As the results show, in equation 1 there is short run and long run causality running at the

1% level from tourism receipts and exchange rate to real GDP that has been indicated by significant of F-statistic on coefficients of tourism receipts and exchange rate and significance of t-statistic on coefficient of ECM_{t-1} respectively.

On the other hand, in equation 2 the coefficients of the ECM_{t-1} , $\Delta LGDP$ and $\Delta LEXC$ are significant at the 1% level in tourism equation, which indicates that there are long run and short run causality from real GDP and exchange rate to tourism receipts. Hence we are obtained that in the MENA countries there is bidirectional causality between economic growth and tourism receipts. This means that these two variables reinforce each other and supported the results of Leea& Chang (2008) and Kim & etc. (2006). Also unidirectional causality from exchange rate to real GDP and tourism receipts is confirmed.

Table 5: The Result of Causality Test

	$\Delta LGDP$	$\Delta LTOUR$	$\Delta LEXC$	ECM_{t-1}	R^2(D.W)
Dependent variable					
$\Delta LGDP$	-	F = 9/23*	F = 57.33*	-0/06* (-3/85)	0/75(1/63)
$\Delta LTOUR$	F = 7/34*	-	F = 4.10*	-0/25* (-3/42)	0/40(1.62)

* Indicates Significant at the 1% Level

5- Conclusion and Policy Implication:

The objective of this paper is to investigate the role of tourism in the economic Growth of MENA countries during 1995-2007. But as Lutkepohl (1982) had debated the results of the bi-variate causality test between two variables may be invalid due to the omission of an important variable. Hence in this study we incorporate exchange rate as an intermittent variable that

effect on both economic growth and tourism revenues. For survive the tri-variate relationship among variables, we employ pedroni's panel contegration and FMOLS estimator.

The result of panel cointegration shows that there are the long run relationship among economic growth, tourism receipts and exchange rate. Also in the long run the impact of tourism receipts and exchange rate on economic growth are positive. In addition exchange rate and economic growth have positive impact on tourism receipts of MENA selected countries. On the other hand, the results of causality test shows that, there are bidirectional causality between economic growth and tourism receipts and unidirectional causality from exchange rate to economic growth and tourism receipts. Therefore, push in tourism and economic growth would benefit both because there is reciprocal causality relationship between these variables. Hence, our results suggest that government in MENA countries should provide: 1- more incentives for private investors in this sector. 2- Develop economic policy tools that stimulate the sector. 3- Better education for the tourism work force. 4- Improvement in marketing skills. 5- Promotion of cultural and natural resources. 6- More resources should be allocated to tourism and travel industries. 7- Improve in infrastructure in any tourism project. 8- More safety because most of the tourists are risk averse.

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