Tourism and Economic Growth in Developing Countries: P-VAR Approach

1Ahmad Jafari Samimi, 2Somaye Sadeghi and 3Soraya Sadeghi

1Faculty of Economics, University of Mazandaran, Babolsar, Iran
2Faculty of Economics, University of Mazandaran, Babolsar, Iran and Member of Young Researchers Club at Islamic Azad University, Firuzkoh Branch, Iran
3Faculty of Economics, Islamic Azad University, Firuzkoh Branch, Firuzkoh, Iran

Abstract: This Paper examines the causality and long-run relationships between economic growth and Tourism development in developing countries using P-VAR approach during 1995-2009. The findings reveal that there is a bilateral causality and positive long-run relationship between economic growth and Tourism development. In the other words, the tourism-led growth hypothesis is confirmed, as well as, output level which relates to economic well being and level of development is important in attracting tourist.

JEL Classification: L83 • F21
Key words: Tourism Industry • Economic Growth • Developing Countries • P-VAR approach

INTRODUCTION

Tourism has become one of the most significant export sectors in many developing countries. A general consensus has emerged that it not only increases foreign exchange income, but also creates employment opportunities, stimulates the growth of the tourism industry and by virtue of this, triggers overall economic growth. As such, tourism development has become an important target for most governments, especially for developing countries. The World tourism Organization (WTO) statistics indicate that the annual average growth rate of international tourism arrivals in developing countries for the years 1990-2005 was 6.5%, compared to 4.1 % growth worldwide over the same period. Tourism’s contribution to economic growth and development could be seen from its exports and this according to [1] represents over 40% of all services exports, which puts it as the highest category of global trade. [1] estimate put tourism to have accounted between 3% - 10% of the GDP in the developing world. In general, there is an increasing and widely accepted belief that tourism can play a fundamental role for developing countries to achieve economic growth and development.

This belief that tourism can promote, if not, plainly, cause long-run economic growth is known in literature as the tourism-led growth hypothesis. However, there arises a question whether tourism growth actually caused the economic increase or, alternatively, did economic expansion strongly contribute to tourism growth instead? Some studies denote unidirectional causality from tourism to growth as documented in [2] for Spain; [3] for Greece; [4] for Taiwan; [5] for Turkey. By contrary, other studies revealed strong bidirectional causality between tourism growth and economic growth as documented in [6] for China, [7] for non OECD, [8] for Mauritius. Moreover, there are some studies such as [9] for South Korea that implied on no causality between tourism growth and economic growth.

Despite the belief in tourism-led economic development, relatively speaking not many studies has rigorously investigated the causal and long-run relationships between tourism and economic growth. Moreover, most studies have indeed been dealing with samples of developed countries and despite the increasing importance of tourism for developing economies, yet even lesser not to say no studies have been found to rigorously assess the relationship. Likewise, researches that analyses the role of tourism on economic performance focusing exclusively on cross sectional and panel data for developing country cases is scarce. Hence, This paper emphasizes the importance of the economic growth and international tourism in developing countries using P-VAR approach, because the recognition of the existence of a causal relationship between international tourism and economic growth as
well as the elasticity of these variables respect to together will have important implications for the development of different tourism marketing and policy decisions especially for developing countries. The rest of this paper is organized as follows: Section 2 reviews the Literature and relevant empirical studies. Section 3 describes data and methodology. Next section presents the empirical results. Finally, the paper concludes.

**Review Literature:** In the analysis of tourism, economists emphasize the economic effects of tourism development on the economy. Because tourism is a multidisciplinary activity that involves several industries and draws upon a variety of skills, its benefits are spread over a wider section of society comparatively to other sectors of the economy [10]. Pioneering studies from [11, 12] have highlighted the potential effect of the tourism industry in promoting growth, creating jobs and generating revenue for the government. This economic relationship is known as Tourism Led-Growth hypothesis. According to this hypothesis, the international tourism is considered as a potential strategic factor for economic growth [13]; so that, tourist spending, as an alternative form of exports, provides the foreign exchange earnings. Subsequently, it is used to import capital goods to produce goods and services, which in turn leads to economic growth in host countries [14, 2]. On the other hand, international tourism would contribute to an income increase at least in two additional ways: first, enhancing efficiency through increased competition among firms and others international tourist destinations [15] and second, facilitating the exploitation of economies of scale in local firms [16]. Likewise, Tourists usually demand main goods and services such as accommodation, food, transportation facilities and entertainment services in host country. In most developing countries, to satisfy this demand, the current level of production needs to increase. This provides two positive effects on the economy: first, increase in production and income and other, increase in employment (because the tourism industry is labor intensive) [2].

Furthermore, there is a belief that tourism industry development lead to benefit poor people in particular, introducing the concept of “pro-poor tourism” [17]. Thus, the tourism industry may contribute significantly in economic growth, employment and reduction of poverty. in particular, the countries that suffer from high rates of unemployment, low levels of per capita GDP and from the exported products facing difficulties in competing internationally [18, 8].

Studies about of the relationship between tourism activity and economic growth have been flourishing recently. [2] examine the role of tourism in the Spanish long-run economic development using VAR method and quarterly data during 1995-97 and find that economic growth in Spain has been sensible to persistent expansion of international tourism. [19] using ECM method found a significant tow-way causal relationship from tourism receipts to the GDP for Sri Lanka over 1960-2000. [4] find a reciprocal relationship between tourism development and economic growth in Taiwan. [20] examine the role of tourism receipts in the short-run economic development in Pakistan through ECM during 1960-2005. The results revealed that economic expansion is necessary for tourism development in Pakistan. [21] employ Toda and Yamamoto causality test and VECM method in Mexican economy during 1980-2007 and show that there is positive uni-directional causality from tourism expenditure to economic growth. [22] applied the Granger Causality test based on VECM for 1990Q1 to 2008Q3 in Turkey’s economy. The results indicate that there is a unidirectional causality from tourism arrivals to economic growth. [23] shows there is a positive unidirectional link from tourism earnings to economic growth in the long-run over 1970-2009 for Jordan. [24] analyses the causality among real GDP, foreign tourist arrivals and foreign exchange earnings in India using VECM for the period spanning from 1978 to 2009. The findings reveal that there is a long-run unidirectional causality from tourism activities to economic growth of the country. But, no short-run causality between variables is indicated.

At the regional level, [25] investigated the relationship between tourism and economic growth for Latin American countries based on a panel data approach and the Arellano–Bond estimator during 1985-98. The empirical results indicated that tourism development can contribute to the economic growth of medium- or low-income countries, while such a role is unclear for developed countries. [26] examine the relationship between tourism and economic growth for African countries based on GMM approach for 1995-2004. The findings confirmed the Tourism-led growth hypothesis. [27] re-investigated the long-run co-movements and causal relationships between tourism development and economic growth for OECD and non-OECD countries. The results show that there is a unidirectional relationship running from tourism towards growth for OECD countries whereas a bidirectional causal relationship exists for non-OECD countries.
Moreover, it is noteworthy that a few studies could not establish the viable contribution of tourism to economic growth as well. [9] also disagreed with the tourism-led growth theory and using Engle -Granger approach, rejected any long-run link between tourism receipts and economic growth for South Korea over 1975-2001. [28] based on panel data analysis, also accounted for the endogeneity problem and concluded that tourism, on its own, cannot explain the higher growth rates of the sample of countries. [29] using the bounds test developed by [30] is among those who could not find a co-integrating relationship between tourism and economic growth but rather found support of growth-led tourism hypothesis.

However, the recognition of the existence of a causal relationship between international tourism and economic growth will have important implications for the development of different tourism marketing and policy decisions, in particular for developing countries. As for policy implications, if there is clear-cut unidirectional causality from tourism growth to economic growth, then making strides in tourism growth (tourism-led economic growth) is the most practical approach. If the outcome shows the opposite direction of causality, 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.

Data and Methodology: This paper evaluates the causality and long-run relationship between economic growth (GDP) and tourism arrivals (TOUR) in 20 developing countries using P-VAR approach. GDP is terms of constant 2000 price USD. The studied period is 1995-2009 considering availability of data. As well, data extracted from World Bank. Likewise, in order to interpreting the elasticity of the variables, they are terms of logarithm.

In order to specify the empirical model properly, an important step is to test for unit roots and stationary. Consequently, it was implemented using the “Pesaran and Shin” (IPS) test [31]. The IPS test assumes the series are non-stationary. According to [32], the two non-stationary variables that are integrated in same order are co-integrated if one or more linear combinations that exist between them are stationary. If all the variables are integrated of order (1), they are co-integrated. Thus appropriated model is panel vector autoregressive (P-VAR). Also, in order to perform the standard causality test it is necessary to determine the optimum degree of VAR method considering SBC criteria. The auto-regressive equation that is employed for testing of causality link between variables is as follows:

\[
LGDP_t = \sum_{i=0}^{K} \alpha_i LTOUR_{t-i} + \sum_{i=1}^{K} \beta_i LGDP_{t-i} + e_t
\]

\[
LTOUR_t = \sum_{i=1}^{K} \gamma_i LTOUR_{t-i} + \sum_{i=0}^{K} \delta_i LGDP_{t-i} + \delta_i
\]

K is the optimum order of VAR method.

After testing unit root and certainty from the existence of co-integration relationship between variables as well as testing for Granger causality, in order to estimate long-run relationships between variables, is utilized the maximum likelihood method developed by [32].

Empirical Results: Table (1) presents the results of the Pesaran and Shin (IPS) unit root test. The IPS test assumes the series are non-stationary. The IPS statistics indicate that both variables are stationary after first differencing. In the other word, both variables are integrated of order (1). Hence, they are co-integrated [33].

However, the existence of a co-integration relationship does not give any information on the causality relationship between the variables. Tables (2) report the result of Granger causality test (Wald test) in the critical values at 5% level in VAR framework. The optimal lag was selected with the Schwarz Criteria. It is obvious that null hypothesis that LGDP does not Granger Cause LTOUR and conversely, is rejected. Thus there is a bilateral causality between LGDP and LTOUR. In other words, output level which proxies economic well being and level of development, may play an important role attracting tourist as well.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level</th>
<th>Prob.</th>
<th>First Difference</th>
<th>Prob.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTOUR</td>
<td>0.041</td>
<td>0.51</td>
<td>-5.36</td>
<td>0.000</td>
<td>I(1)</td>
</tr>
<tr>
<td>LGDP</td>
<td>1.99</td>
<td>0.97</td>
<td>-2.44</td>
<td>0.007</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

Table 2: Granger Causality test

<table>
<thead>
<tr>
<th>H0</th>
<th>Chi-square</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTOUR does not Granger Cause LGDP</td>
<td>23.47</td>
<td>0.000</td>
</tr>
<tr>
<td>LGDP does not Granger Cause LTOUR</td>
<td>36.44</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Optimum degree of VAR method considering SB criteria is equal to 2.
Table 3: Johansen co-integration test

<table>
<thead>
<tr>
<th>( H_0 )</th>
<th>( \lambda ) trace</th>
<th>Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>( r = 0 )</td>
<td>17.92</td>
<td>15.49</td>
</tr>
<tr>
<td>( r = 1 )</td>
<td>0.21</td>
<td>3.84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>( H_0 )</th>
<th>( \lambda ) max</th>
<th>Critical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>( r = 0 )</td>
<td>17.71</td>
<td>14.26</td>
</tr>
<tr>
<td>( r = 1 )</td>
<td>0.21</td>
<td>3.84</td>
</tr>
</tbody>
</table>

Table 4: Long-run relationships

<table>
<thead>
<tr>
<th>Long-run Relationship</th>
<th>SD</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTOUR= 1.46 LGDP</td>
<td>0.54</td>
<td>3.07</td>
</tr>
<tr>
<td>LGDP= 0.68 LTOUR</td>
<td>0.33</td>
<td>2.06</td>
</tr>
</tbody>
</table>

Moreover, tourism expansion looks to act as an engine of economic growth for developing countries.

In order to investigate co-integration test, the study utilizes the procedure developed by [33-35] to conduct the vector auto-regression (VAR)-based co integration test. The Johansen procedure propose two test statistics for testing the number of co-integrating vectors, a Trace test (Tr) and a Max-Eigen value test (MAX) statistics. Table (3) shows the results of Johansen test, based on Max-Eigen value and Trace statistic test reject the hypothesis of no co-integration and indicate that there is one co- integration equation at the 5% significance level. It indicates that there is a long-run relationship between tourism development and GDP.

Furthermore, Table (4) shows the equilibrium long-run relationships. The results indicate that the long-run elasticity of tour respect to GDP is positive and significant; so that, one percent increase in GDP induces that TOUR raise to 1.46 percent. Recursively, the long-run elasticity of GDP respect to TOUR is positive and significant; So that, one percent increase in TOUR led to that GDP raise to 0.68 percent. Thus, it is appeared while the tourist led growth hypothesis is confirmed, interestingly there is a reverse causation and positive from output level is seen to be also a determinant of tourism in developing countries. Overall, the significant impact of tourism on developing countries economy justifies the necessity of Public intervention aimed, at promoting and increasing tourism demand by providing the tourism facilities. As well, the economic expansion in developing countries affects the tourism growth which is reflected by the development in infrastructure and tourism resorts.

**CONCLUSION**

This Paper investigates the causality and long-run relationships between economic growth and Tourism development in developing countries using P-VAR approach during 1995-2008. The findings reveal that there is a bilateral causality and positive long-run relationship between economic growth and Tourism development. On the other words, the tourism-led growth hypothesis is confirmed, as well as, output level which relates to economic well being and level of development is important in attracting tourist. The significant impact of tourism expanding on developing countries economy justifies the necessity of governments intervention aimed, at promoting and increasing tourism demand by providing the tourism facilities. As well, the economic expansion in developing countries affects the tourism growth which is reflected by the development in infrastructure and tourism resorts.

**REFERENCES**