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Structural breaks, international tourism development and economic growth

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ABSTRACT

This study examines the causal relationships between tourism, physical capital, human capital, household consumption expenditure and economic growth for the period 1981–2014 using Structural Breaks tests, Autoregressive Lag (Distributed A.R.D.L.) approach and Granger causality test. There is one cointegrating relationship between these variables, while the V.E.C.M. comprises both a short- and long-run relation. Tourism has a negative impact on Iranian's economic growth both in the short- and long-run. The results showed there is unidirectional causality running from international tourism to economic growth. Our findings have also empirically verified the presence of the Tourism-Led Growth Hypothesis (T.L.G.H.) in Iran. Tourism could be an effective substance for the growth of the Iranian economy. They showed that tourism is in part an endogenous growth process, requiring a systematic allocation of resources to sustain its development for local and regional economies.

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1. Introduction

It is more than a decade that tourism has been converted into the biggest industry in the world and it is constantly developing. Today this industry is a great income resource for many countries and most governments support tourism industry actively.

Over the past few decades, the expansion and diversification in tourism sector has remarked. When we compare the tourism sector to other economic sectors we observe the fastest growth rate in the tourism sector. This growth is continuous by occasional shocks. According to the World Tourism Organization (2015), international tourist arrivals in the world have surged from 278 million in 1980 to 1133 million in 2014. Moreover, international tourist arrivals have grown by 4.4% and reached 1200 million in 2015 (UNWTO, 2016). The international tourist arrivals are expected to grow by 3.3% in a year over the period 2010–2030 and are expected to reach 1.8 billion by 2030.

The major factor of economic growth in many parts of the world has been tourism, since all sectors are related with this industry, both directly and indirectly.

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Tourism is very important for many countries, due to revenues generated from tourism consumption of products and services, from taxes collected by the tourism industry, as well as opportunities for employment in the tourism service industry. Over the past several decades, the relationship between tourism spending expenditure and economic growth for both developing and developed countries has been extensively researched. Knowledge of the causal relationship between tourism expenditure spending and economic growth is of particular importance to policymakers, as tourism policies are becoming major concerns for these countries.

Tourism, despite the ongoing debates about its definition over the past decades, is commonly recognised as a human activity that defines the demand for and supply of its products and the usage of resources that may result in either positive or negative socio-economic consequences at both national and international level. The significance of the economic approach and perspective to understanding this human activity is widely known. As far as both its demand and supply are concerned, tourism has distinct characteristics which set it apart from other economic activities (Stabler, Papatheodorou, & Sinclair, 2010).

Iran has great attractions, so this potential should be exploited in a rational way to have some valuable economic benefits. The tourism and growth nexus can be justified through various channels. How it is admitted fact on the all the hands that increase in tourism leads to balance of payments progress through reduction in current account deficit and increase G.D.P. growth. Various studies validate the long-run relationship between tourism and growth (Brida & Risso, 2009).

Therefore, given the importance of the tourism industry, the objective of this research is to study the causal relationship between the tourism industry and economic growth in Iran during the years 1980–2014 using a vector auto-correction model and the Granger causality test. The G.D.P. variable has been applied as economic growth index tourism receipts as the replacement variable of tourism industry.

The rest of this article is organised as follows: The next section surveys the literature. Section 3 explains the theoretical model and the data used in this study is explained. Section 4 discusses the econometric procedures followed. The empirical findings will then be presented in Section 5 followed by concluding remarks and policy implications in Section 6.

2. Literature survey

The relationship between tourism and economic growth can be analysed by testing three hypotheses:

1. the Tourism-Led Economic Growth hypothesis
2. the Economic-Driven Tourism Development hypothesis
3. reciprocal causality hypothesis (Oh, 2005).

The first hypothesis states that tourism leads economic growth and the causal relationship should be unidirectional running from tourism to economic growth for this. The second hypothesis describes how economic growth drives tourism and that there

must be unidirectional causality going from economic growth to tourism. Hypothesis 3 combines both hypotheses 1 and 2, and predicts bidirectional causality between economic growth and tourism.

Because of the potential economic benefits of tourism, such as increases in foreign exchange earnings, income, employment and taxes (Balaguer & Cantavella-Jorda, 2002; Dritsakis, 2004; Durbarry, 2002). It is generally believed that tourism has contributed positively to economic growth. Over recent decades, the relationship between tourism expenditure and economic growth for both developing and developed countries has been widely researched. Researchers showed that the trickledown effect of tourism development not only enhances tourism sector but also generates overall economic growth (Lee and Chang, 2008).

The relationship between economic growth and international tourism has long been of interest and empirically investigated in the tourism-led growth literature. The effects of international tourism in developing countries have also long been of interest to both scholars and policymakers (Clancy, 1999).

Chen and Devereux (1999) argued that tourism may reduce welfare for trade regimes dominated by export taxes, or import subsidies. Using a theoretical framework, they demonstrated that foreign direct investment in the form of tourism is, for the most part, beneficial while tourist immiserisation is also possible in sub-Saharan Africa.

A bidirectional relationship has also been discovered by some researchers, Dritsakis (2004) using time-series data for the period 1960–2000 in Greece and a V.E.C.M., he found that tourism and economic growth mutually Granger-cause each other. The tourism-led growth hypothesis (T.L.G.H.) is confirmed through cointegration and causality testing. Similarity Gunduz and Hatemi (2005) empirically confirmed the T.L.G.H. for Turkey using the leveraged bootstrap causality tests. They found unidirectional causality running from international tourist arrivals to economic growth of Turkey. On the other hand, Oh (2005) examined the casual relation between tourism development and economic growth over the period 1975–2001 in Korea. The results suggested that growth-led tourism hypothesis is confirmed through cointegration and causality tests in Korea.

Using structural break tests, Lee (2008) studied the changes affecting the consistency and stability of long-run relationship between tourism development and G.D.P. for the period 1959–2003 in Taiwan. The experimental causal relationship between real G.D.P. (R.G.D.P.), tourism expenditure and the real exchange rate has been investigated in a multivariate model and tested the unit root and cointegration tests used to evaluate the structural break. Empirical evidence clearly showed a bidirectional causal relationship between tourism and economic growth. Finally, changes in the political and economic shocks and inertia control the tourism sector and some policies.

With the annual data from 1980 to 2007, Nanthakumar, Ibrahim and Harun (2008) examined the hypothesis of economic-driven tourism growth in Malaysia using a trivariate model with R.G.D.P., total tourist arrivals and C.P.I.. The findings showed that bidirectional relationship between C.P.I. and tourist arrivals and between C.P.I. and G.D.P., whilst suggested economic factors drive Malaysia's tourism sector.

Brida and Risso (2009) explored T.L.G.H. by applying Granger causality and impulse response function for period 1988–2008. They applied tourism expenditure as a proxy of tourism development and empirics discovered unidirectional causality running from tourism expenditure and exchange rate to economic growth for Chile. The same findings have been derived for Singapore by Katircioğ lu (2011), using annual data series from 1960–2007.

In South Africa, Akinboade and Braimoh (2010) investigated multivariate V.A.R. model and Sims Granger causality for the tourism-led economic growth and concluded the existence of tourism-led economic growth. For Malaysia from January 1995 to February 2009, Tang (2011) studied the casual relation between tourism development and economic growth based on a dataset of 12 different tourism markets using the Error Correction Model (E.C.M.) in Malaysia. The empirical results showed that only five out of 12 tourism markets contribute to economic growth in the long-run, and six out of 12 tourism markets in the short-run.

Further, Savaş, Beşkaya, and Şamiloğlu (2012) used two proxies for tourism development (tourism arrivals and tourism expenditure) and analysed the T.L.G.H. for the period 1984Q1–2008Q3 for Turkey. They indicated that tourism causes economic growth.

A recent study by Georgantopoulos (2012) found a unidirectional causal relationship between tourism expenditure and real gross domestic product (R.G.D.P.) in Greece for the period 1988–2001, running from the tourism expenditure to the R.G.D.P. This finding was made on the basis of annual time-series data on Greece's tourism receipts, R.G.D.P. and the real effective exchange rate. In case of Romania, Surugiu and Surugiu (2013) applied V.E.C.M. Granger causality and Impulse response function for 1988–2009. The evidence confirmed the existence of T.L.G.H.

Further, Tang and Tan (2013) took 12 different tourism markets and applied combine cointegration Granger causality approach to analyse the T.L.G.H. They used monthly time period form 1995m1–2009 m2 and confirmed the existence of T.L.G.H. Similarly, Tang and Abosedra (2014) confirmed the T.L.G.H. using a multivariate model derived by Solow for the period 1975–2011 in Malaysia. After that, Tang and Abosedra (2015) provided evidence for existence of T.L.G.H. using tourism arrivals as a proxy of tourism development for Malaysia.

3. Data, specification models

3.1. Data

The data used in this article was collected over the period 1980–2014. The variables of this study are real per capita G.D.P. (constant 2010 US$), the per capita international tourists receipts in Iran. Physical capital is ratio of fixed capital formation a percent of R.G.D.P. G.P.I. is of secondary and tertiary school enrollment used as measure of investment in human capital. H.H.C. shows household consumption expenditure is obtained from World Bank. The data are obtained from World Development Bank (World Bank, 2015).

3.2. Model

To determine the sensitivity of income growth rate to tourism we used investment in physical and human capital The following equation is:

$$\mathrm{GDP} = \mathrm{f}(\mathrm{TOUR}_t, \mathrm{GFC}, \ \mathrm{GPI}_{\ t}, \mathrm{HHC}_t) \tag{1}$$

The short- and long-run relationship between R.G.D.P. and tourism receipts are examined in natural logarithms. the following linear logarithm form is proposed:

$$\mathrm{LnGDP}_t = \ \alpha_0 + \beta_1 \mathrm{LnTOUR}_t + \ \beta_2 \mathrm{LnGCF}_t \ + \beta_3 \mathrm{LnGPI}_t + \beta_4 \mathrm{LnHHC}_t + \varepsilon_t \tag{2}$$

Where *GDP* is the real per capita G.D.P. and *TOUR* is per capita tourist receipts in US$; *GCF* is the gross fixed capital formation as a percent of R.G.D.P. used as a proxy for investment in physical capital, G.P.I. is proxy of human capital. The impact of household consumption expenditures (H.H.C.it) on economic growth is controversial. Neoclassical economic theory posits (Solow, 1956;) that higher household consumption expenditures tend to lower economic growth by lowering investment because of reduced savings.

4. Econometric methods

4.1. Unit root test

The Phillips and Perron (P.P.) (1988) Unit Root Tests are used (Dickey & Fuller, 1981). The P.P. procedures, which compute a residual variance that is robust to autocorrelation, are applied to test for unit roots as an alternative to Augmented Dickey-Fuller (A.D.F.) unit root test.

Having tested for the stationarity of each time series and found that all of them are I (1), the next step is to examine whether there exists a long-run relationship between the variables in our model. The cointegrating relationship has been tested, using the tests proposed by Johansen (1988) and Johansen and Juselius (2009). Johansen's (1991) tests are based on reduced rank regression in which the maximum likelihood estimates are computed in the multivariate cointegration model with Gaussian errors. One of the advantages of this technique is that it allows one to draw a conclusion about the number of cointegrating relationships among observed variables. Another advantage is not requiring a priori assumptions of endogeneity or exogeneity of the variables.

Cheung and Lai (1993) mentioned that the trace test is more robust than the maximum Eigen value test for cointegration. The Johansen trace test tries to determine the number of cointegrating vectors among variables. There should be at least one cointegrating vector for a possible cointegration.

To investigate a long-run relationship between the variables under consideration, the bounds test for cointegration within the Autoregressive Distributed Lag (A.R.D.L.) modelling approach is applied in this study. The A.R.D.L. modelling approach involves estimating the following E.C.M.s. The null hypothesis of the series has a unit root against the alternative of stationary. The A.R.D.L. framework is as follows:

Table 1. Descriptive statistics for variables.

Variables	Ln GDP	Ln TOUR	Ln GCF	Ln GPI	LHHC
Mean	8.012416	19.16844	3.754840	−0.100197	25.24036
Maximum	8.256047	19.74510	4.026313	0.125725	25.63245
Minimum	7.760959	18.62769	3.375135	−0.668201	24.74585
Std. Dev.	0.171830	0.283748	0.193548	0.225933	0.307892
Skewness	−0.136790	−0.182574	−0.393287	−1.270391	−0.229109
Kurtosis	1.432691	2.554469	1.978171	3.493247	1.554864
Jarque − Bera	2.109418	0.276525	1.385694	5.582389	1.915318
Prob.	0.348294	0.870870	0.500150	0.061348	0.383790
Ln *GDP*	1.000000				
Ln *TOUR*	0.484438	1.000000			
Ln *GCF*	0.779905	0.629268	1.000000		
Ln *GPI*	0.760534	0.686486	0.810760	1.000000	
Ln *HHC*	0.986572	0.562139	0.757245	0.794899	1.000000

Source: Author's calculation using Eviews 9.

$$\Delta \mathrm{LnRGDP}_t = a_{01} + \sum_{i=1}^{n} \beta_{i1} \Delta \mathrm{LnGDP}_{t-i} + \sum_{i=1}^{n} \gamma_{i1} \Delta \mathrm{LnTOUR}_{t-i} + \sum_{i=1}^{n} \delta_{i1} \Delta \mathrm{Ln}GFC_{t-i} + \sum_{i=1}^{n} \sigma_{i1} \Delta \mathrm{LnGPI}_{t-i} \sum_{i=1}^{n} \sigma_{i1} \Delta \mathrm{LnHHC}_{t-i} + \lambda \mathrm{ECM}_{t-i} + \varepsilon_{1t} \tag{3}$$

Where ECM_{t-1} is is gained from the following equation:

$$\mathrm{ECM}_{t-1} = \mathrm{LnGDP} - a_{01} + \sum_{i=1}^{n} \gamma_{i1} \Delta \mathrm{LnTOUR}_{t-i} + \sum_{i=1}^{n} \delta_{i1} \Delta \mathrm{LnGFC}_{t-i} + \sum_{i=1}^{n} \sigma_{i1} \Delta \mathrm{LnGPI}_{t-i} \sum_{i=1}^{n} \sigma_{i1} \Delta \mathrm{LnHHCI}_{t-i} \tag{4}$$

The Error Correction Term (ECM_{t-1}) indicates how quickly the variables return to the long-run equilibrium and it should have a negative sign. The diagnostic tests and stability are also conducted. Granger (1988) used the V.E.C.M.

In addition, the stability of the E.C.M. was checked by the Cumulative sum (C.U.S.U.M.) and cumulative sum of squares (C.U.S.U.M.S.Q.) tests.

5. Empirical results

Table 1 shows some descriptive statistics and pair-wise correlations of the variables for the period 1980–2014 in Iran.

The N.G.-Perron unit root test results are reported in Table 2. The all variables are stationary after taking first difference, *I(1)*.

We apply the Perron structural break unit root test (Perron, 1989). This test analysis the unit root problem in the existence of single unknown structural break. Table 3 shows that the Perron structural break unit root test results.

The results show that all series are stationary at 1st difference in the structural breaks method. The structural breaks in 2006, 2011 and 2012 are found for economic

Table 2. N.G.–Perron unit root test results.

Variable	MZa	MZt	MSB	MPT	Variable	MZa	MZt	MSB	MPT
Ln GDP	−0.17291	−0.13267	0.76726	34.1422	**Dln GDP**	−8.16190**	−2.01969**	0.24745	3.00334
Ln TOUR	−2.92394	−0.84306	0.28833	7.49062	**Dln TOUR**	−8.70672**	−2.04107**	0.23442	2.97825**
Ln GCF	−1.72192	−0.87127	0.50599	13.3318	**Dln GCF**	−8.49140**	−2.00455**	0.23607	3.08601**
Ln GPI	−0.76517	−0.56336	0.73625	27.6949	**Dln GPI**	−14.2000	−2.62000	0.18500****	6.67000**
Ln HHC	−14.2000	−2.62000	0.18500	6.67000	**Dln HHC**	−8.74605**	−2.08920**	0.23887	2.80851**

Notes: **Indicates the significance at the 5% level; ***Indicates the significance at the 10% level; D indicates series in first difference.

Table 3. Perron structural unit root test.

	Level (0)		Variable	Level (1)	
Variable	T-Statistics	Time break		T-Statistics	Time break
Ln GDP	−3.253004	1996	**Dln GDP**	−4.911871**	2011
Ln TOUR	−20471501	2011	**Dln TOUR**	−7.098046	2011
Ln GCF	−5. 048117**	2013	**Dln GCF**	−4.354406***	2006
Ln GPI	−5.38170**	2010	**Dln GPI**	−5.446761	2012
Ln HHC	−2.151619	1996	**Dln HHC**	−4.975602	2011

Notes: **Indicates the significance at the 5% level; ***Indicates the significance at the 10% level; D indicates series in first difference.

growth, tourism receipts, physical capital, human capital and household consumption expenditures, respectively.

Since both unit root tests consistently suggest that all variables are I (1), we can proceed to test for the presence of a long-run equilibrium relationship between economic growth and its determinants using in Iran the Johansen-Juselius cointegration approach. The results are presented in Tables 4 and 5.

The null hypothesis of no cointegration against alternative relationship of at one cointegrating relationship and cannot be released to any model at a significance level of 5%. There are three cointegration relationships between the variables. Thus, there is a significant long-run relationship between economic growth and its determinants in Iran.

We found that the variables are cointegrated; we estimate the long-run relationship between growth and tourism using the V.E.C.M. Tables 6 and 7 estimate the short- and long-run coefficients.

In Tables 6 and 7 all coefficients can be interpreted as short-run and long-run elasticity. We applied D.U.M. 2011 for the model. Variables are statistically significant at the 5% and 10% level in the short- and long-run.

The important short-run dynamics outcome is the coefficient of E.C.M. The ECM_{t-1} is correct sign, and significant.

The coefficient of ECM_{t-1} is nearly −0.21% of the speed of adjustment from short-run back to the long-run equilibrium. The ECM_{t-1} shows 4.75 periods to equilibrium.

Tourism has a negative impact on economic growth in both short- and long-run. However, a 1% increase in international tourism, a decrease in R.G.D.P. of 0.01 %, 0.08 % in both the short- and long-run remain constant. These findings showed that tourism could not encourage Iran's economic growth, thus supporting the T.L.G.H. The results of our study are consistent, for example Oh (2005) and Katircioglu (2009), which have a stance of growth led-tourism hypothesis.

Table 4. Unrestricted cointegration rank test (trace).

Prob**	Eigenvalue	0.05 Critical Value	Trace Statistic	Hypothesised No. of C.E.(s)
[0.905274]	0.0000	108.7171	60.06141	**None** *
[0.873115]	0.0000	66.29525	40.17493	**At most 1** *
[0.656371]	0.0113	29.13474	24.27596	**At most 2***
[0.378191]	0.1228	9.907273	12.32090	**At most 3**
[0.072518]	0.2859	1.355081	4.129906	**At most 4**

Notes: Trace test indicates three cointegrating equations at the 0.05 level; *denotes rejection of the hypothesis at the 0.05 level; **MacKinnon, Haug, and Michelis (1999) *p*-values.

Table 5. Unrestricted cointegration rank test (trace).

Prob**	Eigenvalue	0.05 Critical Value	Trace Statistic	Hypothesised No. of C.E.(s)
.905274	0.0010	42.42181	30.43961	**None** *
0.873115	0.0005	37.16051	24.15921	**At most 1** *
0.656371	0.0303	19.22747	17.79730	**At most 2***
0.378191	0.1421	8.552193	11.22480	**At most 3**
0.072518	0.2859	1.355081	4.129906	**At most 4**

Notes: Trace test indicates three cointegrating equations at the 0.05 level; *denotes rejection of the hypothesis at the 0.05 level; **MacKinnon et al. (1999) *p*-values.

Table 6. Error correction model (E.C.M.) for short-run elasticity Selected Model: A.R.D.L. (2, 0, 0, 0, 0, 0).

Variables	Coefficient	Std. Error	Prob
DLn TOUR	−0.10**	0.032127	[0.0131]
DLn GCF	0.15**	0.058605	[0.0334]
DLn GPI	−0.14***	0.066311	[0.0605]
DLn HHC	0.47**	0.138292	[0.0075]
DUM2011	0.06**	0.021781	[0.0198]
ECM (-1)	−0.211**	0.178780	[0.0001]
Diagnostic tests Tests (*P*−value)			
Serial Correlation (Breusch − Godfrey) LM test	1.300637	[0.3309]	
Hetroskedasticity (ARCH) test	0.304998	[0.5889]	
White Hetroskedasticity test	0.647230	[0.7245]	
Ramsey RESET test	0.001297	[0.9721]	
Normality (Jarque − Bera)	6.073739	[0.148075]	

Notes: **denotes rejection of the hypothesis at the 0.05 level; ***denotes rejection of the hypothesis at the 0.01 level.

Table 7. Estimated long-run coefficients using the A.R.D.L. approach selected model: A.R.D.L. (2, 0, 0, 0, 0, 0).

Variables	Coefficient	Std. Error	T Statistic	Prob
DLn TOUR	−0.08***	0.024184	−3.367067	[0.0083]
DLn GCF	0.12**	0.049982	2.418560	[0.0387]
DLn GPI	−0.12**	0.049802	−2.350238	[0.0433]
DLn HCC	0.39**	0.095461	4.093294	[0.0027]
C	−0.93	2.601127	−0.359110	[0.7278]
DUM 2011	0.05**	0.017916	2.827497	[0.0198]

Notes: **denotes rejection of the hypothesis at the 0.05 level; ***denotes rejection of the hypothesis at the 0.01 level.

Moreover, physical capital has a positive and significant impact of on economic growth. Hence, 1% increases physical capital increases 0.15%, 0.12% in economic growth in the short- and long-run. While, the human capital has negative and significant on economic growth. It presented that a 1% increase in human capital

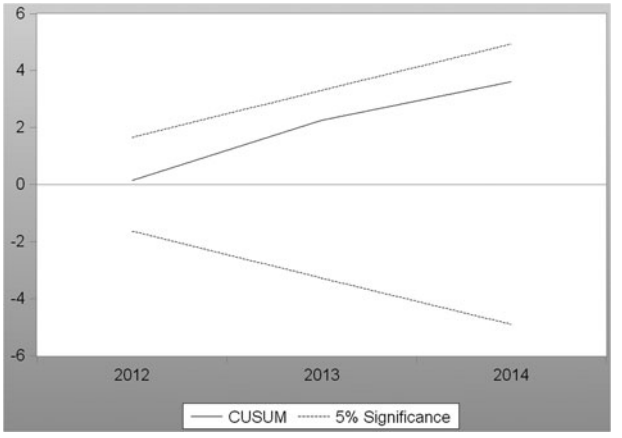

Figure 1. Plot of cumulative sum of recursive residuals.
Note: The straight line represents critical bounds around 5% significance level.

causes a decrease of 0.14%, −0.12% economic growth in the short- and long-run, respectively.

In addition, a positive relationship between household consumption expenditures and economic growth is noticed. A 1% increase in household consumption expenditures increase by 0.47%, 0.39% economic growth in the short- and long-run.

The diagnostic statistics such as the L.M. test, A.R.C.H. test, Ramsey R.E.S.E.T. test and white heteroskedasticity test clarify that there is no serial correlation; residual terms are normal distributed, no autoregressive conditional heteroscedasticity, white Heteroscedasticity. Further, the stability of parameters is tested by C.U.S.U.M. and C.U.S.U.M.S.Q. suggested by Brown, Durbin, and Evans (1975). The plot of both C.U.S.U.M. and C.U.S.U.M.S.Q. are presented in Figures 1 and 2. The parameters are stable in the model.

Engle-Granger (1987) show that the relationship can be unidirectional and/or bidirectional. Moreover, this causality relationship is for short- and long-run causality. There is Granger causality between these variables in Table 8.

We applied the Granger causality approach. The results of Granger causality show the causality relationship between tourism receipts, physical capital, human capita and household consumption expenditure and economic growth.

In long-run, the unidirectional causality is running from tourism receipts and household consumption expenditure to economic growth. We found bidirectional causality between physical capital and human capital and economic growth in long-run in Iran. Tourism could be an effective facilitator for Iran's economic growth. This is in contrast to the findings of Nanthakumar et al. (2008), but consistent with Tang (2011). Tourism development is of great importance to Iran's economic growth.

6. Conclusion

This article empirically examines the Johansen technique for cointegration, the A.R.D.L. test and Granger causality test between tourism receipts, physical capital,

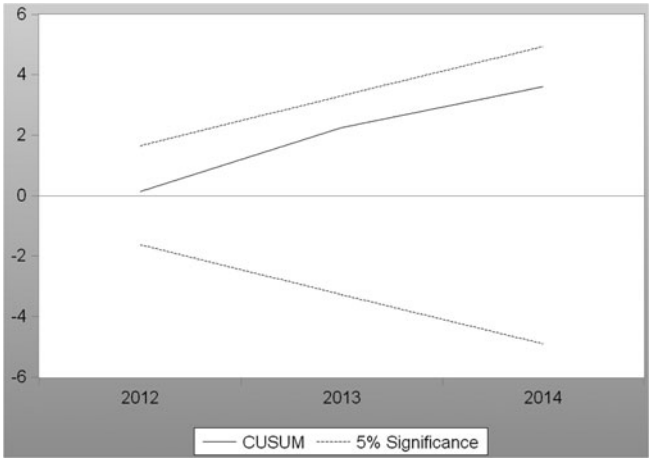

Figure 2. Plot of cumulative sum squares of recursive residuals.
Note: The straight line represents critical bounds around 5% significance level.

Table 8. Granger causality test.

	Long-run					*Short-run*
Variable	DLn GDP	DLn TOUR	DLn GCF	DLn GPI	DLn HHC	ECM(−1)
DLn GDP	–	1.904632 [0.1676]	4.604096** [0.0319]	9.493453** [0.0021]	6.287451** [0.0122]	0.128137 [0.7204]
DLn TOUR	3.285270*** [0.0699]	–	0.207087 [0.6491]	10.60162** [0.0011]	2.625911*** [0.1051]	4.057337** [0.0440]
DLn GCF	3.464931*** [0.0627]	1.552412 [0.2128]	–	4.861964** [0.0275]	2.382989 [0.1227]	1.066786 [0.3017]
DLn GPI	183.2545** [0.0000]	7.133634** [0.0076]	1.934009 [0.1643]	–	3.063809*** [0.0801]	0.080316 [0.7769]
DLn HHC	30.09469** [0.0000]	1.418188 [0.2337]	0.999757 [0.3174]	0.002330 [0.9615]	–	3.657158** [0.0558]

Notes: **The statistical significance at the 5%, levels; Denote X → Y means X Granger causes Y.

human capital, household consumption expenditure and economic growth for the period 1980–2014 in Iran. As we found that all the variables are I (1), we applied the Johansen-Juselius cointegration test to determine the presence of cointegration and structural break tests. The findings of the test suggested that economic growth and tourism receipts are cointegrated. Therefore, we estimate the short- and long-run relationships between economic growth and its variables.

The key finding is that the T.L.G.H. can be established for Iran. The results indicate that is unidirectional causality running from tourism to economic growth in Iran. The more the country prospers the more stable and sounds are the economic, social and political situations. The prospective tourists will have more confidence to visit Iran. It is therefore imperative that government institutions, tourism planners and investors recognise the implications of their actions in the interest of long-run economic viability of the tourism sector. Also, the growth of tourism-based investments and tourism capacity could stimulate further economic growth. However, this potential remains largely untapped. In addition, the conventional sources of growth such as investment in physical and human capital and the ability of households to

have the wherewithal of spending on health, housing, nutrition, and other household items can enhance their productivity and spur their economic growth.

Government should develop tourism sector by providing basic facilities such as, roads, infrastructural development, communication sources and good transport system. Tourism contributes to a reduction of poverty by generating employment. The government should provide subsidies to the tourism industry by a reduction in the tax ratio and travelling expenses. Law and order and security are other points that government should focus on to improve economic growth via tourism development.

This potential is realised if the basics exist. We recommend it is important to pay special attention to the tourism industry in order to reach higher economic growth in Iran. The tourism development programme of the country should be compiled in the field of economic development. We also recommend that authorities should pay attention to the growth of the tourism industry through planning, thus attracting foreign tourists' attention.

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