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# Foreign Tourism and Human Development in Iran

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**Abstract.** This paper aims to study the impact of human development index on foreign tourist arrivals in Iran. To this end an Autoregressive Distributed Lag model is used for a dataset over the period 1967-2007. The results show a positive and significant relationship between foreign tourist entrance and the human development index in short- and long-run. The findings also indicate that the components of the HDI including Income index, life expectancy index and education Index have significant impacts on foreign tourist arrivals in long term.

**Keywords:** Iran, Tourism industry, Human Development Index and ARDL

**GEL Classification:** L83

## 1. Introduction

Tourism continues to occupy an important position in the international economy. Nowadays, this industry contributes substantially to the improvement of the standards of living, economic growth, the enhancement of people's opportunities and chances to a better life, and the intensification of environmental protection activities. Therefore, expansion of this industry is now one of the main priorities for many countries. (Zafar et Al., 1997).

Iran as a country with natural and historical attractions and a deep background in tourism has a high potential to benefit from tourism industry improvement. However, the reality of the industry in Iran is now far from satisfactory. The poor performance of this industry is generally rooted in special condition of country due to a long war and international sanctions over the last decades. However, human improvement is one of the main considerations in this regard. Tourism is considered the economic field that is most compatible with sustainable development, in particular with its human aspect. The concept of human development is currently one of the most used phrases. According to the 2011 UNEP Human Development Report "human development is the expansion of people's freedoms and capabilities to lead lives that they value and have reason to value. It is about expanding choices" (UNEP 2011). Human development is the route of widening opportunities for people. Such a development assumes the creation of opportunities for individuals to choose the values and lifestyles that they consider proper for their existences.

One of the most important indices to measure the human development is HDI (Human Development Index). The fundamental dimensions and components of HDI are selected based on the primary capabilities and abilities of peoples to participate and play role in the society. Such capabilities and abilities are: ability to have healthy and long life, ability to gain knowledge, ability to access to necessary resources and facilities to have proper level of life.

Specialized literature considers that improvement in human development in a country leads to more tourist arrivals. This paper is to study this relationship for a dataset of tourism industry the period 1967-2007 in Iran using an Autoregressive Distributed Lag (ARDL) model.

## 2. Model Estimation and Results

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This paper used the ARDL method to investigate the relation between tourism and HDI and also the relation between tourism and the components of HDI (income, education achievement, and life expectancy). The variables employed in the model are: the logarithm of the number of tourist to Iran (Ltour), dummy variable to capture the effects of the war period (D), human development index (HDI), life expectancy (Lei), education achievement (Edui), and gross domestic product (Gdpi).

To test the stationarity of the time series, the augmented Dickey - Fuller tests were performed. The ARDL analysis is based on the interpretation of three equations: Dynamic equation, Long-run equation and Error-correction equation. Table (1) shows the results for the dynamic equation.

Table 1: Results from estimating dynamic model of ARDL

| Variable | Coefficient | t (p-value) |
|---|---|---|
| Ltour (-1) | 0.793 | 10.23 |
| HDI | 0.0177 | 2.25 |
| C | 1.61 | 1.71 |
| D | 0.389 | -2.36 |

After estimating the dynamic equation to ensure the presence of long-run relation Benerji- Dolado and Master test has been used. The calculated t is -2.67, at 25% significant level, its absolute value is greater than the critical absolute value of Benerji- Dolado and Master (-2.63, -2.6). So, the null hypothesis is rejected and the existence of long-run relation among the variables is realized. This finding allows us to estimate this relation which the estimated results summarized in table (2).

Table 2: Result from estimating long-run relation

| Variable | Coefficient | t (p-value) |
|---|---|---|
| HDI | 0.0857 | 2.23 |
| D | -1.88 | -2.88 |
| C | 7.76 | 3.0021 |

The estimated coefficients are statistically significant and their signs are as expected. As can be seen from the results, the HDI has significant and positive impact upon foreign tourist to Iran.

The dummy variables for the revolution and the war have negative and significant impacts on foreign tourism intervals indicating that any social and political turmoil has negative effect on tourist arrivals to a country.

To examine the short-run effects of the explanatory variables on the tourist arrivals the ECM model is used. Table (3) illustrates the estimated results of this model. It can be seen that the ECM coefficient in foreign tourism equation is statistically significant indicating existence a significant long-run relation among the variables of the model, the coefficient of this variable shows the speed adjustment of the short-run to the long-run. The magnitude of the coefficient shows that 0.21% of the deviation in tourism function from its long-run course is corrected each period. In other word, if there will be any shock or imbalance in foreign tourism, we experience the balance after a period of 5 years.

Table 3: Result from estimating Error- correction model

| Variable | Coefficient | t (p-value) |
|---|---|---|
| dHDI | 0.0177 | 2.2468 [0.031] |
| dD | -0.39 | -2.3617 [0.024] |
| Dc | 1.61 | 1.7035 [0.098] |
| Ecm(-1) | -0.21 | -2.6686[0.012] |

## 2.1. The Impact of the HDI Components on Foreign Tourist Arrivals

As mentioned before, the HDI consists of three elements: the level of education, life expectancy, and GDP per capita. Here, we try to evaluate the impact of the HDI components on foreign tourist arrivals in Iran. Since the variables are I(0) and I(1), we can apply the ARDL to estimate the model. Table (4) summarizes the estimates of this dynamic equation.

Table 4: Results from estimating the components dynamic model

| Variable | Coefficient | t (p-value) |
|---|---|---|
| Ltour (-1) | 0.53351 | 4.4754[0.000] |
| Edui | 0.0043938 | 0.31922[0.752] |
| Lei | 1.3774 | 2.2151[0.035] |
| Lei (-1) | -1.3412 | -2.1911[0.037] |
| Gdpi | 0.11500 | 3.8765[0.001] |
| D | 0.10900 | 0.44915[0.657] |
| D (-1) | -0.22982 | 0.88699[0.382] |
| D (-2) | -0.60113 | -2.4453[0.021] |
| C | -5.3045 | -2.0971[0.045] |

To check the presence of long-run relation, the *t* is calculated which equals to -3.91. So its absolute value is greater than the critical absolute value of Benerji- Dolado and Master (-3.68, -3.64). As a result, the long-run relationship is present in the model. Table (5) shows the results of long-run relation.

The results of the long-run relation indicate that the gdpi significantly and positively influences the tourist arrivals in Iran. This result is consistent with economics theory, as increase in gross domestic product leads to the development of facilities and infrastructures for tourism and thus increases tourist arrivals (Querfelli, 2008). The coefficient of life expectancy has the expected sign, but is significant at 10% level of significance. The positive sing shows that the improvement of life expectancy as an indication of higher life quality and better health and medical services, leads to more tourists visit, especially medical tourists. The coefficient of education index is also positive, but insignificant at any conventional level of significance. However, this variable is incorporated in the model because of its strong theoretical justification. The coefficient of dummy variable for the war is negative as expected and is statistically significant at the standard levels.

Table 5: Results from estimating long-run relation

| Variable | Coefficient | t (p-value) |
|---|---|---|
| Gdpi | 0.24653 | 3.4562[0.002] |
| Lei | 0.077451 | 1.9464[0.061] |
| Edui | 0.0094189 | 0.31571[0.754] |
| D | -1.5476 | -3.1178[0.004] |
| c | -11.3712 | -1.6502[0.110] |

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## 3. Conclusion

This study aimed to examine the impacts of Human Development Index (HDI) and its components on foreign tourism arrivals in Iran during 1967-2007. To this end an ARDL model was employed. The first important finding of this empirical analysis is that the HDI show a long-run positive impact on foreign tourism in Iran. The component of HDI, consist of income, life expectancy, and education have the significant impacts on foreign tourist arrivals. The findings of this study may suggest the direction of some possible policy implications to improve the position of Iran's tourism industry including more investment on especial project to improve the HDI, as well as improvement the environmental conditions to create a more satisfactory and favorable atmosphere for tourist coming into the country from aboard.

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