



# Investigating the effects of Architecture Residential Recreational Complex on Tourism Industry in Iran

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## Abstract

*Contemporary architecture by symbolic and visual design creates an image in the minds of tourists so that these images are then converted to urban brands. Combining symbolic monuments and modern buildings in the world today is a promising development of cities in many municipalities, municipalities and government agencies to freely and without regard to the needs of their local employs all the resources and capital to meet their local needs of foreign tourists in order to cope with the global tourism and earn easy money. This study discusses the importance of residential leisure complex architectural impact on the tourism industry tried using smooth transition regression (STR) and annual data from 1978 to 2007 time period attempts to examine the impact of a residential entertainment complex nonlinear architecture tourism infrastructure in the tourism industry. Results confirm the impact of tourism on nonlinearity residential resort complex architecture that entertainment complex architecture has resided in both the positive and significant effect on the tourism industry during the period. It should be noted that a threshold value of tourism infrastructure is set 608/20 percent. In addition, the results showed that the release rate of exchange is a significant positive effect on tourism in Iran*

**Keywords:** Tourism, recreation complexes, residential, economic growth, hotels.

## Introduction

Today the tourism industry as a high income and employment in the global scene has become very important and it will be doubled in the future. According to the World Tourism Statistics has more than 10% share of world GDP and this part is also increasingly rising. In some countries, despite efforts to increase foreign trade and presence in global markets, unfortunately, due to the insistence of misplaced reliance on the traditional system, the changes that are commensurate with the dignity and position of those countries, there is still the arena of international trade<sup>1</sup>. The use of planning, policy, tools, practices and trends of modern international trade is an approach that should be of interest to activist's trade. With plenty of tourist attractions and several millennia have many features that can be distinguished from others in the field of tourism. In comparison with other countries, Iran has a relatively better situation than Iraq, Bangladesh, Sudan, Pakistan and Ethiopia alone. Comparing Iran and Ghana indicated that in 1995, revenue from tourism in Ghana is 46 percent higher than in Iran the corresponding income. Experiments show that an average of 10 times in 1998, Turkey has been attracting tourists to our country and it's been an average of 35 times earnings Iran in spite of having the capacity and potential to attract more than Iran<sup>2</sup>. As a cross-section of tourism industry, has taken a variety of activities and interaction with all sectors of the economy, society and culture directly and indirectly.

This means that the development of tourism, industry and agriculture sectors are facing increasing demand for consumer industries and handicrafts increasing investment in facility expansion and residential buildings, proper roads and streets with the increasing demand for services and the utilization of traditional and modern facilities, catering services, transport and communications, financial services, and educational and cultural services, etc<sup>3,4</sup>. In the opinion of some foreign tourists were self-cured on the last night of their stay, they all had low scores of residential Iran full marks were made only for Iranian hospitality. Services from the perspective of tourists and businessmen who travel a lot are hotels and analyze their performance and compare different hotels from the perspective of services provided in their optimal services can be a criterion in the planning involved to help. Must admit that terms of hosting foreign tourists not only satisfactory standard but is far from the minimum standards! In Iran, which together weighed and starred hotels and international standards cannot be ignored. The services of the hotel and resort, unfortunately, many of the hotels in the servicing of foreign tourists are weak. Today, much of the national income is derived from providing services to hotels and travel and in many countries it is only exporting tourism services and facilities and in this way they compensate their national deficits. Units that provide for a stay of tourists, accommodation and related services, are called residential facilities. Types of tourist accommodation facilities include: Hotel, motel, hotel, inn or hospitality, boarding house, hotel, tourist camp, camping, tourist complexes, villa or apartment

(second home). Residential facilities for recreational tourism are one of the most important indicators of quality tourist services. If a country open to the small number of tourists in the best way, revenue from tourism is much more than the time that they spend little time in the country. At present, the situation in Iran is 1.5 days for foreign tourists before the revolution is far from what was expected<sup>5</sup>.

For example, consider Shiites, holiest cities like Mashhad, located outside but more than anything else it needs to invest in infrastructure needed to strengthen the religious metropolis of the world. Intellectual capital of Iran is the most developed in terms of religious and cultural situations. One of these problems is discussed in Mashhad Tourism survival and duration of stay in the city, most passengers are safely completed the pilgrimage to the shrine of Imam Reza (AS) and his traveling and why not top shelf and stay tourist in Mashhad. Hence, we can add them to stay in the city with plenty of attractions in the city of Mashhad, Mashhad passengers are properly introduced. Passengers crowd of Mashhad, hotels and other lodgings in the city are not used, and instead of tents in the parks and self-cured, in addition to the appearance of disorder and visual anomalies, has no use for hotels and other accommodation places in Mashhad. In this case, we can provide affordable accommodation facilities to the travelers, preventing them from living near parks and other places. Reflect the experiences and lessons could be learned from the theory and practice of the metropolitan cities of the world and are used create new urban spaces and activities emphasize the development of tourism activities, more attractions for travelers staying with harmonious development of the city's work force development, residence and the entire metropolitan area links, creating a multi core system, the development of modern residential centers, recreation and entertainment, purchase large urban areas, museums and cultural centers and art, especially aboriginal art and culture to tourism development that will benefit city residents and tourists.

## Material and Methods

**The Model:** Most of the studies related to tourism, in order to estimate the travel and tourism have used the variable "incoming foreign exchange tourism" represented as suitable for tourism (the dependent variable). For example, Loeb and Littlejohn<sup>6,7</sup> have defined variables in their model by incoming foreign exchange tourism. So far, the most relevant variables were used as dependent variables in models of tourism, it is the result of foreign exchange earnings for the country's tourism destinations. In some studies, the acquisition of data associated with hard currency earnings another variable is used instead, as it is "the number of nights spent by foreign tourists in the country". Also, some studies have used the variable "number of tourist arrivals to the country" rather than current earnings. However, these two variables, rather than current earnings are not perfect. For example, the number of nights spent by tourists in the destination cannot easily be measured because many of

those in places such as residences and temporary accommodation, they may not report their presence. Also, staying varied in the number of tourist arrivals to the country of destination, the calculation does not change over time. But the independent variables have not been used in previous studies can be explained on the basis of the following applications: i. Income affects the ability to pay a visit (84%), ii. Relative prices of goods and services purchased by tourists in the host country than in the country of origin and other competitor countries (73%), iii. Transportation costs, which refers to the cost of travel between the guest and host (55%), iv. Time-related changes are often shown as "break effects" (25%), v. Exchange between host and guest (25%), vi. Trends suggest changes to the tastes of tourists (25%), vii. Countries when competing or substitute products can cause increased costs related to travel tourism (15%).

Some researchers believe that in relation to the international tourism industry estimates, there are variables used to determine a clear guide. In this study, the factors discussed in the context of theoretical models have been selected for the research study and consultation with leaders of the tourism industry, both public and private sector stakeholders. The overall research model is as follows:

$$INC_t = f(HOT_t, TRA_t, FER_t, INF_t, AGE_t, PRI_t) \quad (1)$$

Where,  $INC_t$  = Iran's foreign exchange earnings from foreign tourists during the period t (in dollars),  $HOT_t$  = number of hotels built during the year during t, it represents the state of infrastructure in residential leisure complex in the tourism industry,  $TRA_t$  = amount of investment made in the training of personnel working in the tourism sector over the period t (the year represent the cultural situation and how to deal with foreign tourists),  $FER_t$  = free exchange rate in period t (the value of a foreign currency to the domestic currency and is indicative of economic conditions),  $INF_t$  = difference of inflation rate of inflation in Turkey during the period t (in percent) in this paper, Turkey as tourist's competitor is selected, it can be appropriate to compare inflation in the country of destination for foreign tourists to choose from,  $AGE_t$  = number of tourism agencies in the period t, and S represents the state of advertising in order to attract tourists,  $PRI_t$  = price of four and five star hotel rooms in Iran for foreign guests during t (in Rials and its reagents and economic conditions affecting demand for tourism services).

**Methodology:** Based on economic theory many time-series variables have nonlinear behavior, in other words, the variables depending on the state in which they have been self show different behaviors. So to study these variables shall use nonlinear methods. On the other hand suppose drastic changes around the threshold point set many economists doubt and claim that often assuming smooth transition between regimes is better and more realistic than assuming a sharp transition between regimes. Based on lately have developed smooth transition

regression models (STR). These models using a continuous transfer logistic or exponential function provide allow smooth transition between regimes. Based on a standard STR model logistic transition function introduced by Terasvirta<sup>8</sup> is as follows:

$$y_t = \phi'z_t + (\theta'z_t).G(\gamma, c, s_t) + u_t \quad (2)$$

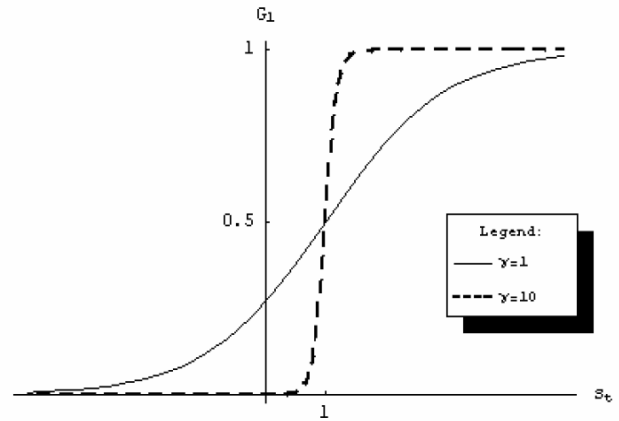
$$G(\gamma, c, s_t) = \left( 1 + \exp \left\{ -\gamma \prod_{k=1}^K (s_t - c_k) \right\} \right)^{-1} \quad \gamma > 0$$

Where  $\phi' = (\phi_0, \phi_1, \dots, \phi_p)'$  vector of linear parameters and  $\theta' = (\theta_0, \theta_1, \dots, \theta_p)'$  is vector of non-linear model parameters.  $Z_t$  is vector of exogenous variables in the model includes lags of the endogenous variable and exogenous variables namely  $z_t = (1, z_{t1}, z_{t2}, \dots, z_{tp})' = (1, y_{t-1}, \dots, y_{t-p}, x_{t1}, \dots, x_{tk})'$   $u_t$  is disruption of the equation which is assumed to be provides condition of the  $u_t \approx iid(0, \sigma^2)$ . Meanwhile, G function that is a logistic function, continuous and bounded between zero and one that shows smooth transition between regimes. In this function S marker variable transmission parameter transfer rate and c is represents the threshold or place a regime change. The STR model discussed by Van Dijk and et al<sup>8</sup> and Lin and Ter'asvirta<sup>9</sup> variable transmission S can interruption of endogenous and exogenous variables, the time of its exogenous variables or is function endogenous and exogenous variables. Parameter K shows visit the regime change. in order to features of Model LSTR, procedure and Van Dijk<sup>10</sup>, suppose the dependent variable y only is a function own significant amounts of lag. In this case, we have assuming a two-state transfer function:

$$y_t = (\theta_0 + \theta_1 y_{t-1} + \dots + \theta_p y_{t-p}) + (\phi_0 + \phi_1 y_{t-1} + \dots + \phi_p y_{t-p})G(\gamma, c, s_t) + u_t \quad (3)$$

$$G(\gamma, c, s_t) = \frac{1}{1 + \exp\{-\gamma(s_t - c)\}}$$

This model is called a LSTR model two dietary the parameter c, show some point between the two regimes  $G(\gamma, c, s_t) = 0$  and the  $G(\gamma, c, s_t) = 1$  that is  $G(\gamma, c, s_t) = 0.5$ . y has been represents the transfer rate regimes higher values y is represents the change faster. Graph (1) examples show logistic transition function of two dietary with two different values. As is clear from the chart with  $\gamma = 1$  the transition between the two regimes slowly and it increases to 10 transfer rate is faster from one regime to another regime. When  $\gamma \rightarrow \infty$  and  $s_t > c$ , then  $G = 1$  and when  $s_t < c$  be  $G = 0$ , Thus equation (2) becomes a model threshold (TR). when  $\gamma \rightarrow 0$  equation (2) becomes a linear regression model.



**Figure-1**  
**Transfer function Lajestik two regimes with different values  $\gamma$  and a threshold value  $c=1$**

It should be noted that functions of degree 2 used in other studies are only special case of the LSTR and part of it. To prove this considers logistic nonlinear function of the following:

$$G(\gamma, c, y_t) = (1 + \exp(-\gamma(y_t - c)))^{-1} \quad (4)$$

Expansion Taylor function first (5) around point is as follows:

$$G(\gamma, c, y_t) = G(0) + G'_1(0, c, y_t)y_t + R_1(0, c, y_t)y = 0 \quad (5)$$

And on the other hand we have:

$$G(\gamma, c, y_t) = \beta_1 + \beta_2 y_t + R_1 \quad (6)$$

By placing (7) in relation LSTR following:

$$p_t = \phi_0 + \phi y_t + \theta y_t G(\gamma, c, y_t) + u_t \quad (7)$$

Equation (7) becomes as follows:

$$p_t = \phi_0 + (\phi + \theta\beta_1)y_t + (\theta\beta_2)y_t^2 + \theta y_t R_1 + u_t \quad (8)$$

By simplifying the equation (8) we have:

$$p_t = \phi_0 + \phi y_t + \theta y_t (\beta_1 + \beta_2 y_t + R_1) + u_t \quad (9)$$

Or can write:

$$p_t = \delta_0 + \delta_1 y_t + \delta_2 y_t^2 + u_t^* \quad (10)$$

We can see that the function (10) is function of degree 2. To estimate LSTR models beginning should be tested nonlinear relationship between the variables and if confirmed the existence of a nonlinear relationship, be determined threshold values of the for fitting variables also variable transmission. Next according to nature of the model, it is nonlinear, it is estimated with proper initial values algorithm and Newton-Raphson and maximum likelihood model. Finally after estimating the model parameters are estimated, graphical analysis with different tests as constant parameters between different regimes, no linear relationship between residual wastes etc use for check accuracy of estimates.

### Results and Discussion

To evaluate the impact of tourism on the resort entertainment complex architecture, in this study it is assumed that tourism growth is a function of the amount of foreign exchange earnings, infrastructure in residential leisure complex in the tourism industry, investment made in training personnel in the tourism sector, free rate of exchange, the number of tourist agencies and price of rooms in four and five star hotels. In order to check impact of government size on economic growth is assumed in this study, the growth of GDP (GY) function of the growth of fixed investment (GK), population growth (GL) and government consumption spending is as a percentage of GDP (GS). Meanwhile required data extracted from WDI 2010. To estimate the STR model first be determined optimal interval variables used in the model. Using a measure of Akaike, Schwarz and Hannan-Quinn criterion, in this study Schwarz

criterion, the optimal lag is determined for variables under investigation one.

The next step is to estimate the STR model study is testing the nonlinear relationship between the variables that if confirmed nonlinear relationship, should be determined variable transmission, an appropriate and nonlinear models regime based on the test statistic F. the estimation results are presented in the in the study (table 1). F-test rejects the null hypothesis with varying priority will be stronger. Accordingly, it can be considered both current and interval size variable varies with the architecture of the resort entertainment complex but, as variable transmission F test of the null hypothesis that the preference variable that is strongly rejected. Accordingly, the value of the variable is significant interruption in the architectural residential resort complexes ( $HOT_t$ ) is selected as the transmission range. The proposed model is suitable for variable transmission ( $HOT_t$ ) is the transfer function Logistic regression model with smooth transition between the two diets (LSTR<sub>1</sub>).

**Table -1**  
**The results of the linearity tests against the STR model**

Transition Variable	F	Suggested Model
$HOT_t$	0.02	LSTR1
$HOT_{t-1}$ *	0.00	LSTR1
The figures show the p-values of F-test. The suggested transition variable is shown by an asterisk.		

Next section, it is estimated model parameters the results it has been reported in the form table 2:

**Table -2**  
**The estimation results of the STR model**

Variables	Linear Part	Nonlinear Part	Variables	Linear Part	Nonlinear Part
<b>Intercept</b>	5.351 (3.36)	-	<b>FER<sub>t-1</sub></b>	-	0.051 (3.64)
<b>INC<sub>t-1</sub></b>	-	-0.270 (-2.86)	<b>INF<sub>t</sub></b>	-	-0.096 (-1.16)
<b>HOT<sub>t</sub></b>	0.574 (4.79)	0.611 (3.81)	<b>AGE<sub>t</sub></b>	0.223 (3.79)	0.208 (1.89)
<b>HOT<sub>t-1</sub></b>	0.256 (6.10)	0.311 (5.58)	<b>PRI<sub>t</sub></b>	-	-0.49 (-5.58)
<b>TRA<sub>t</sub></b>	0.151 (4.85)	0.168 (5.84)	<b>Gamma</b>	2.58	
<b>TRA<sub>t-1</sub></b>	-	0.114 (2.42)	<b>C<sub>1</sub></b>	20.61	
<b>FER<sub>t</sub></b>	0.065 (4.93)	-	<b>Adjusted R<sup>2</sup></b>	0.94	

As regards the final amount smoothing parameter ( $\gamma$ ) 2.578 and threshold the architecture variable (c) estimated equal to

$$G(2.578, 20.608, GS_{t-1}) = \left( 1 + \exp \left\{ -2.578 \prod_{k=1}^1 (GS_{t-1} - 20.608) \right\} \right)^{-1} \quad (10)$$

20.608, as follows transfer function:

Also based on the results reported Table (2) and given the fact that in the first regime  $G = 0$  is in the second regime,  $G = 1$ , we have for the first:

$$INC_t = 5.351 + 0.574HOT_t + 0.256HOT_{t-1} + 0.151TRA_t + 0.065FER_t + 0.223AGE_t \quad (11)$$

For the second regime will:

$$INC_t = 5.351 - 0.270INC_{t-1} + 0.611HOT_t + 0.311HOT_{t-1} + 0.168TRA_t + 0.114TRA_{t-1} + 0.051FER_{t-1} - 0.096INF_t + 0.208AGE_t - 0.49PRI_t \quad (12)$$

$HOT_t$  coefficients are collected in the first regime with 0.83 in the second regime is equal to 0.922. This shows the number of hotels in each regime has made a positive impact on the tourism industry in Iran during the study period. Therefore, the results could be influenced by the number of hotels built in the asymmetric impact of different factors on tourism in Iran. According to the equation, the first and second coefficients sum investment made in training personnel in the tourism sector the first regime is equal to 0.151 and the second regime is equal to 0.282. These results are consistent with theories of tourism shows manpower training has a positive impact on the tourism industry in Iran. In addition, the total release rate of exchange

coefficients in the first and second variable respectively 0.065 and 0.051 is this shows that the free exchange rate has a positive impact on the tourism industry in Iran. The third stage and words stage after estimated model, is evaluate the model. Before check errors the estimated Logistic function for regime change we have drawn Figure (2) that shows how smooth transition between the first and second models to estimate LSTR.

Stage evaluation in addition graphical analysis taken above; also be checked errors estimation stage. Not staying test for nonlinear relationships model leftovers is one of these tests. According to the value of the test statistic F satisfied (0.80), the null hypothesis that no additional nonlinear relationship not rejected in good faith. The general model able not specified nonlinear relationship between the variables. Test reviewed other is related to constant parameters in different regimes. The value of the test statistic F for the transfer function,  $H_1$ ,  $H_2$  and  $H_3$  respectively, 0.06, 0.07 and 0.02 estimated that based on the null hypothesis for this test be rejected that same coefficients the linear and nonlinear at the 90% probability level. Other tests that examine possible errors in step estimated the STR model it can be noted to the ARCH-LM test and Jarque-Bera test to arrange for review there anisotropy error variances and non-normal residuals applied. The test ARCH-LM, the value of statistic the F and  $\chi^2$  it is estimated order 0.52 and 0.63 Based on value of both of these statistics the null hypothesis the test in good faith not rejected that the lack of difference its conditional variance, regression (ARCH). Meanwhile value of statistic  $\chi^2$ , Jarque-Bera test, it is estimated 0.52 which the null hypothesis based on normality of residuals not rejected in the level confident appropriate. Briefly according assessment model tests non-linear model estimates be assessed in terms of qualitative acceptable.

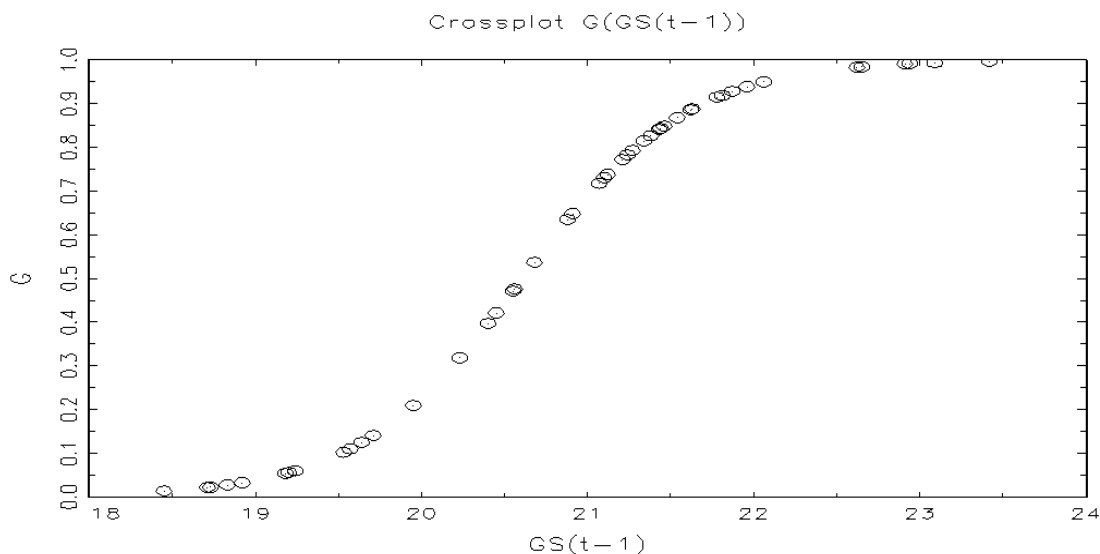


Figure -2  
 Logistic function chart related to regime change Resource: finding research

## Conclusion

This study investigated the impact of non-linear architecture, residential complexes and resorts (representing the number of hotels built in the state of infrastructure in residential leisure complex in Tourism) on the tourism industry. For this purpose, we used annual data from 1978-2007 in Iran. Confirm the linear relationship between the number of tourist hotels made STR model estimation results showed that during the study period, the number of hotels has made the tourism industry in the form of a two-state structure as a threshold on the number of hotels built in 20.608 are estimated. It is important to note that the results showed that variable in both the number of hotels has made a positive impact on the tourism industry. So, with the goal of creating positive momentum in the tourism industry, increase in the number of hotels built can be used as a tool for policy planners in the country. Also, the results showed that the tourism industry in line with the theory investment in human resources training and active tourism agency, are two factors that determine the tourism industry. Thus, policies aimed at promoting investment in human resources training and tourism agencies are adopting lead to increased tourism.

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