



**Estimation of Porosity and Permeability by Using Geostatistical Methods  
in one of the OilFields SW of Iran**

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**Studying the Impacts of Household Size of Tourists on Demand of Domestic Tourism in  
Mashhad City**

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**Abstract**

Tourism plays an important role in the economy of the societies and recognition of various size of its demand, makes a significant contribution to decisions of economic development. The aim of current research is to investigate the impacts of household size of tourists on the demand for domestic tourism in Mashhad city. The information used in this research is the type of cross-sectional which includes 1388 domestic tourist families who have stayed in Mashhad city for at least one night in 2015. The sample study of this research is selected as a randomized stratified sampling and required information is collected by oral interview with the head of the household of tourists and questionnaires completion. By using the AIDS model, the income and price elasticities for 6 products including: food, accommodation, transportation, having fun, shopping and souvenirs are calculated and The impacts of household size on travels are studied on the demand for tourism products in Mashhad city.

**Keywords:** tourism, tourist demand, domestic tourism



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### **Introduction**

The World Tourism Organization considers tourism as a set of activities that a person does during traveling to and in a other place than his/ her own environment and its aim is entertainment, recreation, resting, sports and such activities (WTO,2013). According to the Australian Bureau of Statistics, the tourist refers to a person who traveling to a other place than his/her usual working or living place (Foster,2010). The tourism industry is one of the largest industries in the world tourism Is taken into more consideration by countries in the world and has great importance. So that it is considered as a factor for the development of developing countries and poor countries. The advantage of tourism industry in comparison with other industries is in its low cost and high profitability, that has led to the expansion of this industry in the world. This industry in addition to creating a series of new activities in the country and direct employment, has affected other economic parts too and It will promote sectors like transportation, production and distribution of food, fuel and energy, industry, and the construction industry. The necessity and importance of tourism, especially in the 21st century, are felt more than before. Since in this century the expansion and development of technology has made human time more free than ever. So it will spend more spare time. Tourism in this century brings money and population from industrial centers to villages and natural places (Papoli Yazdi et al., 2006).

In Iran, given the fact that it is a mono-based economy dependent on oil exports, the government has put the movement from a single economy to a diversified and stable economy into its agenda which is one of the developmental programs of tourism.Undoubtedly, gaining such a goal includes understanding the tourism process of classifying approaches, policies and socio-cultural, environmental and economic impacts, for having a scientific background and awareness of the positive and negative effects of this phenomenon in the world and Iran on the choice of a realistic logical strategy, along with the planning of proper tourism management in the framework of the process of sustainable development. Of course, emplacing on the importance of the tourism industry in Iran is for this reason that Iran has the highest tourism rank in South Asia after India (Hosseini Zadeh and Heidari, 2003).



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On the other hand, a significant share of tourists in each country are domestic tourists. Although this kind of tourists do not make foreign exchange earnings for the country, they are still important from the point of view of job creation and spending in tourist destinations. In other words, domestic and foreign tourists can be regarded as necessary and essential for each other. If countries succeed in attracting both types of tourists, they can profit from the double benefits of this industry (Gholami Pour, 2011).

Basically economically, willingness and ability to procure are two essential factors in defining and formulating demand. So, those who do not have the interest or desire for traveling and preferring to stay home, like those who do not have the ability to pay afford for travel costs, are not subject to tourism demands; In another words, such applicant is not considered as a tourist. Although some individuals come to visit friends and relatives and do not pay for most of their expenses, they often travel at their own expense and on their own aircraft, ships, buses or belongings, and accommodate there. Each of these are cost-consuming and affects on demand side of tourism (Kazemi, 2007).

Demand for tourist goods differs based in the characteristics of tourists and can have a different impacts on the economy of the tourism area. So, it is vital to analyze the dimensions of the goods demanded by tourism. Achieving the elasticity of goods makes it possible to recognize the amount of cost and the amount of power of the tourist's image against commodity price changes and help planners for determining and valuing the goods demanded by tourists.

The Mashhad city has a population of about 2766258, and as the largest religious and pilgrimage city of Iran that attracts the highest amount of pilgrims and tourists (National Iranian Statistics Organization, 2011) annually and it is one of the most important tourism poles in the country. The Mashhad city, with the exception of the historical, cultural and pilgrimage collection of the shrine of Imam Reza (peace on him), has many attraction aspects like historical, cultural, recreational, natural ones.

Investigating the process of entering tourism to this city, indicates the ups and downs that are rooted in the household economy and on the other hand are rooted for supplying the services and facilities. Razavi's shrine is of particular importance since it is one of the Shiites of the world,



particularly among the Iranians, and each year, many Shiites demands for pilgrimage to the Razavi shrine.

### **Research Background**

The demand for requested goods by tourists has been studied in different studies. Most of these studies have been done for estimating the impact coefficients of different variables on tourism demand, and the type and direction of impact have been considered too, but the estimation of product elasticity has been less considered. The current study has been aimed this issue. Below, some of the studies are closer to the subject of the research has been considered.

Maleki et al. (2016) have reviewed the estimation of the demand function of the internal tourism of Isfahan city, by emphasizing on drought of Zayandeh Rood river. In current study, using the data of the years 1996 to 2011 and emphasizing on the impact of mentioned phenomenon and other influential factors on tourism demand, the tourism demand function has been estimated. The outcomes indicate that during the period of this study, the drought of Zayandeh Rood river and the number of holidays have had both the negative and positive impacts on the number of annual visits of Isfahan city, respectively. The two variables of the average income and the average annual, had relatively weak and negative impacts, on the number of annual visitors too.

Farzin et al. (2015) have shown the estimation of tourism demand function using the panel approach (case study: Iran and selected countries). The outcomes of the model indicated that the estimated coefficients of GDP, number of beds of accommodation facilities, the number of airports and the number of aircraft have positive and significant impacts on the incoming tourists. On the other hand, the coefficient of estimation of the relative variable of the price of tourism indicates its negative impact on the incoming tourists. The outcomes indicated that the virtual variable of international sanctions had a negative impact on incoming tourists during the boycott years too.

Sadeghi et al. (2012) have evaluated the demand for domestic tourism in Mashhad city. For estimating the demand function of tourism, the AES model (Almost Ideal Demand System) has been used in the form of regression model. The outcomes of the research indicate that the variable of the tourist expectations in comparison with the economic future has a significant impact on the tourism costs on the five mentioned commodities. The variation in the number of daily working



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hours of the head of the household has a significant impact on the tourist's non-food commodity prices, sightseeing, souvenirs and visits to places of interest too. This variable does not have a significant impact on the tourist's non-existent goods. The amount of variable of tourist debt has a significant impact on the tourist's non-availability of food and visits to places of interest. This variable does not have a significant impact on foodstuffs, Transportation and souvenirs.

Gholami Pour et al. (2011) in an article for investigating the estimation of tourism demand function in selected provinces. By constructing a linear logarithm function and its estimation by panel method, it is determined that travel expenses in the destination like the total index of goods and services (SHB) and the proportion of hotel prices of the province to the household income of other provinces (NHN) are of the most effective variable in the amount of demands for domestic tourism. Also, the coefficient of variation in the number of tourist attractions (Tj), travel agencies (TA) are positive and indicate a direct relationship between the number of domestic travelers and the aforementioned variable in that province.

Nik pour et al. (2009) in an article investigates for identifying and analysis for the impacts of factors on tourism demand in the origin of tourism (case study: Tehran regions). The findings of the research indicate that the two groups of factors affecting the formation of demand of travelling that include: the willingness to travel and the ability to travel, the desire to travel among households according to level of knowledge and knowledge of different regions of the country, the type of mentality and the amount of need the trip is evaluated according to the amount of income, type of employment, educational level, availability of cars, number and life cycle of the household. According to these factors, households who have a higher willingness and ability to travel have indicated a greater need for travel too.

Karimiyan (2008) has estimated the demand for domestic and foreign tourism for nature tourism in Gilan. The outcomes indicated that in the domestic sector, among the factors under study, the demand for domestic ecotourism (population of provinces of origin, weather conditions, transportation prices from the province to the province of Gilan, housing prices, prices, and the cost of advertising and the marketing) The impact of variable cost of advertising and marketing and the cost of marketing are not statistically significant, but the impact of other variables is significant.



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Yung (2012) investigates the demand for domestic tourism from urban and rural residents in China. Multilevel models for the development of domestic tourism demand have been used as a function of income, tourism costs and alternative prices. In the multilevel model, the relative impact of income has been overestimated by the interdependent income and average income of the city. The outcomes indicate that the relative incomes are included in the demand for tourism. There are regional differences between residents of different regions and different patterns of factors between urban and rural residents too.

Etzo et al. (2010) investigated on the "demand for domestic tourism in Italy: the predictor of decomposition of fixed effect". Based on the results, generally the main drivers of the Italian tourism flow with an interrupted dependent variable appear. Per capita gross domestic product plays an important role, but its coefficient indicates that in Italy, domestic tourism is not treated as luxury goods, and the luxury of international tourism has been often found. Another interesting outcome is that for Italian tourists, domestic destinations and international destinations act as alternative products. The findings indicate that tourists in the southern regions tend to be more concerned about the changes in production per capita than in the northern regions too.

### **Data and analysis method**

#### **Data**

The collected data in this research are the type of cross-sectional and data field. The interviews are conducted by filling out a questionnaire from 1388 tourist families who have visited from Mashhad city in 2015 and at least have accommodated there for 24 hours.

#### **Theoretical Foundations of the Near-Ideal Demand System and Calculation of Stretches**

In much of the recent literature on systems of demand equations, the starting point has been the specification of a function which is general enough to act as a second-order approximation to any arbitrary direct or indirect utility function or, more rarely, a cost function. For examples, see Christensen, Jorgenson, and Lau; W. Erwin Diewert (1971); or Ernst Berndt, Masako Darrough, and Diewert. Alternatively, it is possible to use a first-order approximation to the demand functions themselves as in the Rotterdam model, see Theil (1965, 1976); Barten. We shall follow these approaches in terms of generality but we start, not from some arbitrary preference ordering, but



from a specific class of preferences, which by the theorems of Muellbauer (1975, 1976) permit exact aggregation over n consumers: the representation of market demands as if they were the outcome of decisions by a rational representative consumer. These preferences, known as the PIGLOG class, are represented via the cost or expenditure function which defines the minimum expenditure necessary to attain a specific utility level at given prices. We denote this function  $c(u,p)$  for utility  $u$  and price vector  $p$ , and define the PIGLOG class by

$$\ln(c(u,p)) = (1 - u) \ln\{a(p)\} + u \ln\{b(p)\} \quad (1)$$

With some exceptions,  $u$  lies between 0 (subsistence) and 1 (bliss) so that the positive linearly homogeneous functions  $a(p)$  and  $b(p)$  can be regarded as the costs of subsistence and bliss, respectively. The Appendix further discusses this general model as well as the implications of the underlying aggregation theory. Next we take specific functional forms for  $\ln a(p)$  and  $\ln b(p)$ . For the resulting cost function to be a flexible functional form, it must possess enough parameters so that at any single point its derivatives  $\delta c/\alpha_i$ ,  $\delta c/\alpha_u$ ,  $\delta^2 c/\delta p_i \delta p_j$ ,  $\delta^2 c/\delta u \delta p_i$ , and  $\delta^2 c/\delta u^2$  can be set equal to those of an arbitrary cost function. We take

$$\begin{aligned} \ln a(p) &= \alpha_0 + \sum_K \alpha_k \ln p_k \\ &+ \frac{1}{2} \sum_K \sum_j \gamma_{Kj} \ln p_k \ln p_j \end{aligned} \quad (2)$$

$$\ln b(p) = \ln a(p) + \beta_0 \prod_K p_k^{\beta_k} \quad (3)$$

so that the AIDS cost function is written

$$\begin{aligned} \ln c(u,p) &= \alpha_0 + \sum_K \alpha_k \ln p_k \\ &+ \frac{1}{2} \sum_K \sum_j \gamma_{Kj} \ln p_k \ln p_j + u \beta_0 \prod_K p_k^{\beta_k} \end{aligned} \quad (4)$$

where  $\alpha_i$ ,  $\beta_i$ , and  $\gamma^*_{ij}$  are parameters. It can easily be checked that  $c(u,p)$  is linearly homogeneous in  $p$  (as it must be to be a valid representation of preferences) provided that  $\sum \alpha_i = 1, \sum \gamma^*_{ij} = \sum \beta_j = 0$ . It is also straightforward to check that (4) has enough parameters for it to be a flexible functional form provided it is borne in mind that, since utility is ordinal, we can always choose a normalization such that, at a point,  $\delta^2 \log c / \delta u^2 = 0$ . The choice of the functions  $a(p)$  and  $b(p)$  in (2)



and (3) is governed partly by the need for a flexible functional form. However, the main justification is that this particular choice leads to a system of demand functions with the desirable properties which we demonstrate below. The demand functions can be derived directly from equation (4). It is a fundamental property of the cost function (see Ronald Shephard, 1953, 1970, or Diewert's 1974 survey paper) that its price derivatives are the quantities demanded:

$\delta (u,p)/ \delta p_j = q_i$ . Multiplying both sides by  $p_i/c(u,p)$  we find

$$\frac{\partial \log c(u,p)}{\partial \log p_i} = \frac{p_i q_i}{c(u,p)} = w_i \quad (5)$$

where  $w_i$  is the budget share of good  $i$ . Hence, logarithmic differentiation of (4) gives the budget shares as a function of prices and utility:

$$w_i = \alpha_i + \sum_j \gamma_{ij} \log p_j + \beta_i u \beta_0 \prod_k p_k^{\beta_k} \quad (6)$$

Where

$$\gamma_{ij} = \frac{1}{2} (\gamma_{ij}^* + \gamma_{ji}^*) \quad (7)$$

For a utility-maximizing consumer, total expenditure  $x$  is equal to  $c(u,p)$  and this equality can be inverted to give  $u$  as a function of  $p$  and  $x$ , the indirect utility function. If we do this for (4) and substitute the result into (6) we have the budget shares as a function of  $p$  and  $x$ ; these are the AIDS demand functions in budget share form:

$$w_i = \alpha_i + \sum_j \gamma_{ij} \log p_j + \beta_i \log \left\{ \frac{x}{p} \right\} \quad (8)$$

where  $P$  is a price index defined by

$$\log p = \alpha_0 + \sum_k \alpha_k \log p_k + \frac{1}{2} \sum_j \sum_k \gamma_{kj} \log p_k \log p_j \quad (9)$$

The restrictions on the parameters of (4) plus equation (7) imply restrictions on the parameters of the AIDS equation (8). We take these in three sets

$$\sum_{i=1}^n \alpha_i = 1 \quad \sum_{i=1}^n \gamma_{ij} = 0 \quad \sum_{i=1}^n \beta_i = 0 \quad (10)$$





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$$\sum_j \gamma_{ij} = 0 \quad (11)$$

$$\gamma_{ij} = \gamma_{ji} \quad (12)$$

Provided (10), (11), and (12) hold, equation (8) represents a system of demand functions which add up to total expenditure ( $\sum w_i = 1$ ), are homogeneous of degree zero in prices and total expenditure taken together, and which satisfy Slutsky symmetry. Given these, the AIDS is simply interpreted: in the absence of changes in relative prices and "real" expenditure ( $x/P$ ) the budget shares are constant and this is the natural starting point for predictions using the model. Changes in relative prices work through the terms  $\gamma_{ij}$ ; each  $\gamma_{ij}$  represents 102 times the effect on the its budget share of a 1 percent increase in the  $j$  the price with ( $x/P$ ) held constant. Changes in real expenditure operate through the  $\beta_i$  coefficients; these add to zero and are positive for luxuries and negative for necessities. Further interpretation is best done in terms of the claims made in the introduction.

By using the equation 8, uncompensated (Marshallian) and compensated (Hicksian) own and cross price elasticity and expenditure elasticity can be derived. The Marshallian own and cross price elasticity for good  $i$  with respect to good  $j$  can be calculated via equation 7:

$$e_{ij} = \frac{\gamma_{ij} - \beta_i}{w_i} - \delta_{ij} \quad (13)$$

Hicksian own and cross-price elasticity for good  $i$  with respect to good  $j$  can be estimated by equation 8:

$$e_{ij} = \frac{\gamma_{ij}}{w_i} + w_j - \delta_{ij} \quad (14)$$

Where  $\delta_{ij}$  is the Kronecker delta and equals "1" for own price and "0" for cross-price elasticity. Finally, the expenditure elasticity can be calculated as follows:

$$E_i = 1 + \frac{\beta_i}{w_i} \quad (15)$$



**Variables studied and their measurement manner**

**Dependent Variables**

Since Mashhad city traveling expenses are divided into six general categories, dependent variables in this study include the share of each of these expenses from the total cost of traveling of Mashhad city. These expenses include food, accommodation, transportation, recreation, shopping and souvenirs.

**Independent Variables**

Independent variables include the variable of cost of goods and the variable of total traveling expenses adjusted by the below measures:

(A) The price of goods for food and accommodation are measured in the form of per capita expenditure per day for each of these goods and for transportation, souvenirs and landmarks in the form of per capita expenditures for these goods.

(B) Total Travel Expense Variable is as a traveler's expense for travel to Mashhad city, and it will gain by dividing the total cost of traveling spent on the Aston Index.

**Discussion and Conclusion**

In current research, an inferential analysis has been done in that the impact of different factors on tourism demand has been estimated using the almost ideal demand system (AIDS). For estimating the outcomes of software packages of stata, Excel and Spss.

Table (1): The coefficients of the tourism demand equation by the number of households less than 5 individuals

Equation	Variable	Coefficient	Prob	Equation	Variable	Coefficient	prob
Equation 1 (accommodation)	Y-intercept	183.01	0	Equation 2 (food)	Y-intercept	222.81	0
	Lnp1	2.21	0		Lnp1	-0.81	0
	Lnp2	-0.64	0		Lnp2	1.59	0
	Lnp3	-0.61	0.004		Lnp3	-0.11	0.679
	Lnp4	-0.84	0.004		Lnp4	-0.30	0.426



	Lnp5	-1.40	0		Lnp5	-1.30	0
	Lnp6	-0.46	0.013		Lnp6	-0.83	0.001
	$\text{Ln}(\frac{m}{p})$	-0.21	0		$\text{Ln}(\frac{m}{p})$	-0.06	0.001
Equation 3 (transportation )	Y-intercept	-40.88	0	Equation 4 (recreation )	Y-intercept	12.00	0.009
	Lnp1	-0.05	0.395		Lnp1	-0.036	0.1
	Lnp2	-0.16	0.023		Lnp2	-0.09	0
	Lnp3	5.00	0		Lnp3	-0.04	0.438
	Lnp4	-0.26	0.1		Lnp4	2.79	0
	Lnp5	-0.25	0.023		Lnp5	-0.02	0.594
	Lnp6	-0.26	0.068		Lnp6	-0.09	0.061
	$\text{Ln}(\frac{m}{p})$	-0.17	0		$\text{Ln}(\frac{m}{p})$	-0.03	0.001
Equation 5 (shopping)	Y-intercept	130.27	0	Equation 6 (souvenirs )	Y-intercept	175.32	0
	Lnp1	-0.47	0		Lnp1	-0.19	0.009
	Lnp2	-0.51	0		Lnp2	-0.29	0.001
	Lnp3	-0.18	0.32		Lnp3	-0.02	0.9
	Lnp4	-0.52	0.043		Lnp4	-0.82	0.003
	Lnp5	3.21	0		Lnp5	-0.28	0.038
	Lnp6	-0.47	0.005		Lnp6	2.76	0
	$\text{Ln}(\frac{m}{p})$	-0.12	0		$\text{Ln}(\frac{m}{p})$	- 0.28	0

Table (1) indicates the demand function of Mashhad city tourists with the number of households less than 5 individuals. Based on the outcomes of aforementioned table, and by examining the equation of residence in this table, it can be said that if the price of other non-residents at the expense of the household (food, transportation, recreation, shopping and souvenirs) as well as the proportion of total household traveling expenses to the indicator Prices increase, then the share of



residence at the expense of households has been reduced. In terms of meaningful variables, other equations are also the same, that is, in each equation, if the price of other constituents of the traveler's traveling expense and the ratio of total household expenses to the price index increase, the share of the cost has been reduced. There is just one exception for this table that by increasing the ratio of total household expenses to price index, the share of transportation in traveling costs increases and it indicates the importance of transportation costs in this group of households.

Table (2): coefficients of the demand equation for tourists with the number of households of more than 5 individuals

Equation	Variable	Coefficient	Prob	Equation	Variable	Coefficient	prob
Equation 1 (accommodation)	Y-intercept	49.31	0	Equation 2 (food)	Y-intercept	30.4	0
	Lnp1	1.14	0		Lnp1	-0.33	0
	Lnp2	-0.44	0		Lnp2	0.64	0
	Lnp3	0.04	0.836		Lnp3	-0.14	0.052
	Lnp4	-0.30	0.315		Lnp4	-0.20	0.085
	Lnp5	-0.45	0.018		Lnp5	-0.39	0
	Lnp6	0.05	0.784		Lnp6	-0.27	0
	$\text{Ln}(\frac{m}{p})$	-0.04	0.509		$\text{Ln}(\frac{m}{p})$	0.024	0.338
	Y-intercept	-2.18	0.779		Y-intercept	6.79	0.1



Equation 3 (transportation)	Lnp1	-0.09	0.07 2	Equation 4 (recreation)	Lnp1	-0.06	0.017
	Lnp2	-0.057	0.37		Lnp2	-0.01	0.678
	Lnp3	1.77	0		Lnp3	-0.07	0.1
	Lnp4	-0.090	0.61 9		Lnp4	1.59	0
	Lnp5	-0.10	0.35 8		Lnp5	-0.05	0.378
	Lnp6	-0.12	0.1		Lnp6	-0.11	0.09
	$\text{Ln}(\frac{m}{p})$	0.032	0.41 9		$\text{Ln}(\frac{m}{p})$	-0.04	0.04
Equation 5 (shopping)	Y-intercept	10.88	0.00 1	Equation 6 (souvenirs)	Y-intercept	66.94	0
	Lnp1	-0.13	0		Lnp1	-0.13	0.081
	Lnp2	-0.071	0.04 1		Lnp2	-0.22	0.015
	Lnp3	0.05	0.41 7		Lnp3	-0.23	0.1
	Lnp4	-0.10	0.1		Lnp4	-0.53	0.04
	Lnp5	1.07	0		Lnp5	-0.32	0.046
	Lnp6	-0.16	0.01 2		Lnp6	1.44	0
	$\text{Ln}(\frac{m}{p})$	0.02	0.34 7		$\text{Ln}(\frac{m}{p})$	-0.21	0

Table (2) indicates the coefficients of Mashhad tourists demand function in households of more than 5 individuals too. In these equations, just like the equations in Table (1), it will be concluded that in the equation for each cost, if the price of other constituents of the traveler's traveling expense



and the ratio of total household expenses to the price index will increase, the share of the cost of the considered item has been reduced.

Table (3) Price elasticity values according to the household size of tourists

Row	Different classes	Number	accommodati on	food	transportati on	recreatio n	shoppin g	souveni rs
1	Total	1388	-0.921	0.94 -	-0.271	0.113	-0.840	-0.818
2	households up to 5 individuals	1108	-0.69	- 0.88	-1.09	0.18	-0.71	-0.53
3	households of more to 5 individuals	280	-0.92	-1	-1.06	-0.35	-0.95	-0.69

Table (3) indicates the values of elasticity according to the household size of the tourists. In relation to total elasticity, all goods are inelastic demand. In the case of elasticity in households more to 5 individuals, all goods are inelastic ,except for transportation , it means that one percent change in price, demand is less than 1% , it means that these commodities are essential, In this case, transportation is elastic commodity, which means a one percent change in demand is more than 1%. This issue expresses that most tourists with expensive airplane and train ticket prefer to travel to Mashhad city by their own car. So, transportation to other goods is a commodity elastic since it has an alternative and replaces aircraft and trains, Personal car. in the household more than 5 individuals, some goods like accommodation, leisure, shopping and souvenirs are inelastic and transportation is elastic . In this case, food is a commodity unitary elastic, it means that as a percentage change in price, demand for food differs by one percent too. In all these cases, by increasing prices, demand for goods has been reduced, except for recreational activities in two different types of the total households and households of more to 5 individuals, in such case the recreation is a Giffen product, it means that with increasing prices , the demand will increase. It



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can be due to the fact that tourists are more in demand than expensive entertainments in their own city .

With Comparing the price elasticities in households up to 5 individuals and households with more than 5 individuals, it can be concluded that in the case of accommodation, food, recreation, shopping and souvenirs in the second case, in the case of households more than 5 individuals, the price elasticity of more demand From households up to 5 individuals, it indicates that mass travel will increase the ability of individuals to react for the changes in price, since per capita costs are lower for a more populous household and are more responsive. It is an increment in household size that is more responsive to commodity price changes, but not with regard to transportation, that is, in more crowded households, the responses to changes in transportation prices is less than that of low-income households, this can be The reason is that in households with a population of more than 5 individuals, they can use less personal cars and so they will have to use public transportation, that will increase transportation costs for these households too.

Table (4): Estimates of income elasticity due to the household size of tourists

Row	Different classes	Number	accommodati on	foo d	transportati on	recreati on	shoppin g	souveni rs
1	Total	1388	1	1	1	1	1	1
2	households up to 5 individuals	1108	1	1	1	1	1	1
3	households of more to 5 individuals	280	1	1	1	1	1	1

Table (4) indicates the amount of income elasticity according to the household size of the tourists. As seen, household income elasticity in all states is equal to 1, it means for each 1% the increment of household income, the demand for the commodity will increase by one percent.

### Suggestions



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According to the results of the study, it can be concluded that by increasing household size, the reaction of individuals of society about price increment will become more so, it is suggested that discounts must be considered at the price of services for more populous households.

Because of the elasticity of accommodation for more populous households, one of the ways for attracting these households is to create affordable accommodations.

Tourism products for households less than 5 individuals are inelastic, and the prices for these goods may be higher for these individuals than for high-income households.

Most tourists are applicant for more expensive entertainments that do not exist in their own city, so it must be planned for creating new entertainments .

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