Tourism Impact on economic growth of Asian countries During the years from 1992 to 2004

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Abstract: Tourism industry can be considered as a major activity to achieve economic growth. Some of the world countries can attract tourists according to their natural recourses and ecotourism but the others introduce their ancient precedence based on their rich cultural background. It is interesting that nowadays most of countries without these kinds of natural recourses and time honored attempts to attract foreign tourists. All these indicate the importance of tourism in the country's economy. By developing tourism in a country, increased employment and production as well as attraction more foreign exchange will be promised. In this research, considering to importance and oldness of Asia continent, the effect of tourism on some of given countries has been studied. For this purpose, the data had been achieved during the period of 1992 to 2004 from these countries and economic growth model was used. Estimated results indicated that in low income countries the effect of per capita tourism on per capita economic growth is positive and significant. In middle-income countries, per capita tourism had a negative effect on economic growth which is not statistically valid. Also in high-income countries, the effect of per capita tourism on per capita economic growth was estimated positive and statistically valid.

1. Introduction

Considering tourism function, it can be one of the world's major economic activities, even greater than industries such as defense, oil and agriculture industries. Tourism means of a rotating wheel that begins from one point and ends at the same one. Mass travel journals, travel books were left since pervious centuries indicate the importance of tourism in human culture. Tourism means of a rotating wheel that begins from one point and ends at the same one. Mass travel journals, travel books were left since pervious centuries indicate the importance of tourism in human culture. Nowadays because of its diversity, tourism can be categorized into several types, cultural, political, commercial, recreational, scientific and religious. Organizing tourism means having tourism with a set of planed program. So that even in religious thought like Islam, there is a specified plan and function for tourism. "Therefore travel in the earth and see what the end of the rejecters was"[1] , means walking around the world to see what was the issue of God deniers. In other verses, it is suggested that by travelling around the world we can realize what the fate of liars, dualists and offenders was[2]. Nowadays, tourism has become an essential part of business and goldmine countries with tourist

attractions. During the past two centuries, different countries of the world exploiting natural donations, ancient artifacts, old civilizations, and even new technologies such as construction touristic town and recreational facilities has become a great hub in attracting tourists . They are from all over the world every year, people make the call and from different parts of world. They annually recall people from all over the world, selling their goods and services, attract huge amount of money overflowed in them. Countries like China, India, Turkey, and Italy… are investing eagerly on it. One of the most important and influential factors on the country's economic growth is the amount of tourists which consequently will be followed by attracting foreign exchange, job creation, cultural development, creating infrastructural industries (hotels, roads, transportation industries, etc) and investment . Also in most of historical and industrial countries like France, Italy, Greek, Egypt, India or even some industrial countries with less historical background such as America and Australia strove hard to expand their tourism industry. Therefore, extensive studies on this subject have been conducted.

Tourism is an industry which can affect the country's economic growth directly. To achieve this goal, the effects of tourism on the economic growth have been studied by most countries with tourism potential. They have outmatched this and conducted

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[1] Al-Emran, 137

[2] Cattle 11, Bees 36, 69, Spider 20.

these kinds of investigations for larger districts in order to gain more progress. In some of the Asian countries despite of a few historical and cultural backgrounds, they spend much cost to attract tourists and investors to this field. In Iran considering to its very rich historical and cultural backgrounds, studying the effect of tourism on economic growth is perceived as a major scientific study. By using cross sectional data and classifying Asian countries in three categories as high incomes, middle incomes and low incomes, this study examine tourism influence on region economic growth during 1992 to 2004 and compare them to each other.

2- Tourism and Economic Growth:
Nowadays, economists pursue the effects of tourism on economic growth in region where tourism acts as a great and major industry.   Critics also quickly reminded the risks of high dependence of economy on tourism. This crisis on regions like Bermuda, the Bahamas and South islands of Pacific Ocean is true. For advanced industrial countries, the tourism is in average 6.3% of GNP. This number is higher and equivalent to 12% GNP in other parts of the world.

In certain areas, such as "Bahamas" or Cayman[3] islands, the percentage of tourism revenue is more than other incomes gain from other part of society, and if other resources associates with low income, it may be worrisome. Brown (1998) in his studies about tourism effects on economic growth expresses that the sum of major costs of investment on infrastructural sector for tourists entrance can be associated with some positive and negative effects on economic growth. Addressing to this issue is reckoned as an important motivation for tourism development (improving employment, income, exports status). But the determining the costs to be expense in this regard is a key stages in tourism development. Tourism expenses can be effective on other parts of the country. Some of the social costs of tourism are clear and obvious, but in other cases it is not so. By a general approach to the expenditures in tourism sector, it can be illuminated that the opportunity of spending money were taken away from other sections. Thus, a cumulative effect from tourism on other sectors will be appeared. Felcher (1989) in his research on tourism sector observed that public and private organizations need a series of useful data about rate of profitability and costs of tourism related activities in order to enjoy an advantageous program for developing tourism in

their own countries(1). Lack of information about tourism is reckoned a great risk for investment which may be the cause of unsuitable development in region. In the past, the Amsterdam, the capital of Netherland, was one of the central points to attract hippie and drug addicts. It also marred the credibility and reputation of the city. Tourism can influence all sectors of a country but its heavy effect in on economy.

Before Disney land was created, Orlando from Florida had been a boring city and cultural desert; there were a few hotels in there. After creating Disney Land, tens hotels and motels has been built. Nowadays, this region with more than 80,000 guest-rooms to welcome guests is typically one of the greatest recreation centers. Obviously, Disney land, increase economic growth and development and has bring billions of dollars into the region. Also, the land makes it possible to access to first class restaurants, entertainments and so on. For tourism development, it is essential   to perform appropriate condition and facilities in order to the satisfy tourists needs. In other words, urban services such as water, electricity, telephones, roads and transportation system within the urban and suburban should be sufficiently desirable. Table 1 shows international tourism amount received in billion USD during 2000 to 2001, as well as in table 2, the rate of received amount growth and world tourism international entrance through 1950 to 1999 have been determined.

Table 1- Tourism international received amount in terms of billion USD 2000-2001.

2000	2001	Year
463.6	477.0	World
11.7	10.8	Africa
122.5	132.8	America
82.2	82.0	East Asia-Oceania (Pacific)
230.4	234.5	Europe
11.8	12.2	Middle-east
5.0	7٫4	South Asia

Source: World Tourism Organization (WTO).
Professor Christine Ennew, Director, Christel DeHaan Tourism and Travel Research Institute, Understanding the Economic Impact of Tourism, Feb 14th 2003.

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[3] The Cayman Islands (/ˈkeɪmən/ or /keɪˈmæn/) is a British Overseas Territory and overseas territory of the European Union located in the western Caribbean Sea.

Table 2- Rate of growth in world tourism received amounts and entrance

Growth rate in international tourism entrance	Tourism international entrance (Thousand)	Growth rate in tourism international received amount	International received amounts from tourism (B USD)	Year
-	25282	-	2100	1950
0/10	69320	0/11	6687	1960
0/08	165787	0/09	17900	1970
0/05	285997	0/17	105320	1980
0/04	457217	0/09	263647	1990
0/04	565384	0/08	405840	1995
0/04	664437	0/02	445553	1999

Source: WORLD TOURIST ORGANIZATION YEAR BOOK 2002, WORLD TOURIST ARRIVAL DATA ; Tourist Arrivals Statistics – World .

According to Table 2, international tourism entrance was equivalent to 25,282 people in 1950 and international received amount from tourism was about 2,100USD. Considering to adding 44038 tourists in 1960, total numbers were increased to 69320 people and were associated with the growth of 4587 million UDS in international received amounts and 6687 million USD has been observed in international received amount. In 1960, the growth of 0.11% and 0.10 % were respectively relates to international tourism amount received and international tourists entrance. In 1970, according to the entrance level of international tourism about 165,787 people, international received amount level from tourism was equal $ 17,900 million. In this year, a growth rate equal to 0.09% in international received amount from tourism and 0.02% reductions in received amount were observed. In this period of time, the growth rate was 0.08% for international tourism entrance with decreased about 0.02%. This process was being continued till 1995 so that in 1995 international tourism entrance was exceed 565384 people and its received amounts were equal to 405840 USD. In 1995, growth rate index from international tourism received amounts was the 0.08% percent and growth rate index in international tourism entrance level was in the 0/04%, in 1999 international tourism entrance was over 664,437 people with international tourism received amounts was equal to $ 445 553, the growth rate of international tourism received amounts equals to 0.02%. As well as in 1999 the growth rate of international tourism entrance was 0.04 percent. the growth rate of international tourism entrance was 0.04 percent.

3 – Theoretical basis of research:

The effects of tourism costs on the national economy are:
1. Direct effects: they arise from the costs immediately change to income for commercial, house and employment sectors and post-tax profits.
2. Indirect effects: it is received from primary income of households, government and local agencies spent for equipment, supplies and services required by tourists.

In each stage, part of this income will be lost because it spends to import and purchase commodities and service from aboard which is come out system as an Economic leakage and decrease the saving.

In graph 1, the direct effect of tourism on earnings raised by selling and buying goods and services which are purchased by tourists, wages from employing in tourism sector, governmental revenues from tax and commission fees can be observed.

Tourists spend their income on essential goods (e.g. food and drink or equipped hotels, and service workers' wages). In this system, costs are the latest data (exuding through imports). The government and households must create conditions for trading goods and services related to tourism. It is clear that, a series of imported goods and services should be purchased by tourists. Since imported goods are bought the government and households, so the costs can reduce incomes indirectly (most of the costs are due to imports). They will spend the income and more incomes would be necessary to purchase needed goods. Thus, the effect of initial cost will be added to the total economy. Also, it is assumed that incomes have been spent on tourists' imported goods totally. As well as, governments, households and merchants spend their income for personal consumption partly and these additional expenditures are due to additional income induced by the tourism sector. This consumption expenditure will be occurred in different income periods for other households, government and merchandises. Four types of goods and services are usually demanded by tourists: residence, food, transportation facilities, and catering services. In many developing countries where these requests are met, the level of production needs to be increased. On one hand, increased production and income and employment due to tourism industry on the other hand, will have positive effect on economy. Thus, the tourism industry can help the economic growth and employment in these regions. This is especially true in regions that have high rates of unemployment. Success of tourism in a country depends on the different aspects. This aspect

is usually decreased over the time. When natural capital is high enough, can be used as a support during the recession. These crises have several resources strict supervision is needed. Policy-makers deal with numerous tourists and visitors. Level of tourists` entrance is important for them in terms of money acquisition. Increasing demands for tourism

can make some problems. Three main principal should be considered by policy-makers include:
1. Infrastructures
2. Education and Training
3. Security
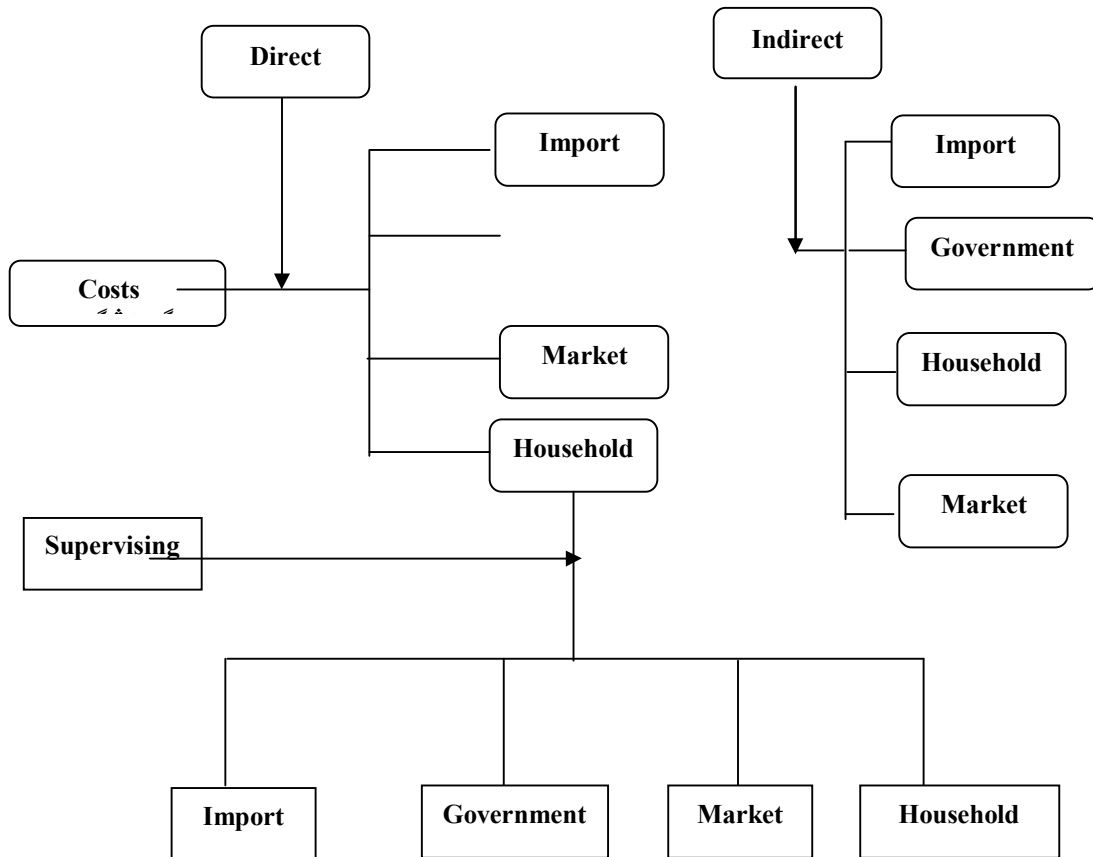
Developing infrastructural facilities in order to gain households` desirability (utility) and requirements is critical for tourism. Education and training are reckoned as same as water, electricity, telephone, gas, transportation services, public transport services and...., they are as prerequisites to create potential jobs for native people in touring activities and usually require several and important districts to learn different knowledge and skills like foreign languages, communication, nutrition, catering, transportation and expert management. In tourism, Issue of security is taken in to account as an important matter. Tourists are mostly seeking residence where provide them with nice without disturbance. Tourists are more risk averse. While assessing a destination for touring, security finds further importance (competitiveness). However, it seems that security is linked to per capita GDP, so that

it can be distributed in the population. Apparently there is a relationship between these three features with nonlinear growth of tourism. Security is a favorable issue for tourists. Tourists mostly may be assured about the security of region want to visit, and then go to visit there. Hence, in order to develop tourism, it is on local forces to establish regional security and reduce risks. Requiring to strong and eager workforce is a main profit of tourism. Therefore, by natural growth of production, the growth in employment is reached which is very useful for reducing unemployment. From macroeconomics point of view economic and employment growth and growth are resulted from tourism. Tourism is a second great industry in the world; according to WTTC it can associate with just 200 million jobs in all over the world and form 10% of

world GDP[4]. Tourism can be examined from different perspectives (especially when its development is observed). Citizens with sufficient income who are satisfied with their own life quality in region oppose to tourism development and progress and predict increased troubles like traffic in highways, pollution intensification, high prices of properties and real estates, foodstuffs and governmental (public) services (establishing security by police force and forestations). In order to attract more tourists, training a local workforce is a necessary requisite which must be adopted by people directly contact with tourists.

Training includes the following subsections:
• Language
• Health
• Management
• Transport
• Nutrition

Training in given matters is essential to accelerate the optimum development of tourism industry. Tourism can attract citizens with low income and it requires increasing welfare services (utilities) and establishing additional schools. Considering to high international costs and expenses of foreign tourists, the effect of these meetings in international level is higher than domestic tourism. Of course, expand of domestic tourism is very great and its importance should not be ignored[5]. Overall, domestic tourism often is less effective than international tourism on the economy. The rapid growth of tourism leads to growth in household incomes and influence government revenues directly and indirectly by its ascending effects. Consequently, tourism development is considered as an important and deterministic role in economic growth. Regarding to these issues, the question of whether tourism has increased economic growth is raised?

4-Basis of Empirical Research

There are so many methods for evaluating the tourism effects on economic literature. These methods include econometric methods, statistical and input-output methods. Input-output technique was proposed by Archer in 1970s AD for first time and since then many researchers from several countries used it, also in 1990 it is recommended by Economic and Social Commission for Asia and the Pacific (ESCAP) to calculate economic effects of tourism on Asian countries[6], in that the effects of tourism economy in several Asian countries including South Korea,

Bangladesh, India, Philippines, Pakistan and ... Were calculated by using this techniques. In Iran many research plans and projects in the field of tourism have been done or estimate the supply-demand function of this industry [including Mmoraseli (1374), Musaiee (1383), Sabbagh Kermani (1375)] or descriptively is limited to the economic importance of tourism, sociological and geographical issues and relationships, principles and guidelines and planning for the this industry. Barro, R. J. (1991) using a library and descriptive method, evaluate the importance and role of tourism in economic development and growth. The effect of tourism industry on job creation has been described by noting to tourism importance in terms of national income and improving commercial balance.

According to ESCAP proposed method and by partially adjustment of sampling results from 1352 and changing the table with 78 fragments into 17 economic parts, he concludes that great deal of production, revenue, jobs created from foreign tourists expenditures may be assigned to production hotel industry, restaurant, food industries, leather and clothing industry, internal transportation industry. Also, by calculating production, employment and income multiplier within 27 different segments, tourism enjoy great importance in terms of production, income, employment, income distribution. Also in neighbor countries such as Saudi Arabia, Turkey, Albami (2005) has been conducted the research like this and the results show that the industry has been followed by desirable exchange for hosts. Thomas and Johnson (1990) while performing a framework for estimating regional employment due to tourist attraction, utilized the related information to Bimish museum in north-east of London and measure the level of direct, indirect and induced employment due to tourist attraction and gross employment multiplier due to spend households obtained income from tourism on indirect net activities, key and related activities. Hanningan (1990) examined the role of tourism in regional economic growth, job-creation and income distribution in low-developed area as well as descriptive analysis of investment statistics, subsidies, income from tourism and employment distribution during the years of 1988-92 in different region of Ireland has concluded that the income from tourism is increased and the growth was more in region with tourism condition and history. Also, it results that most of created jobs especially in west part of country are less- worth, part time and seasonal jobs created in contrast to factorial industries. Thomas and Ashworth (1990) using seasonal data of 1996-1982 period of time in U.K have tested the nature of changes in process of seasonal jobs in tourism industry and concluded that seasonal factors in the period of economic prosperity means that the late of 1980s (summer and winter) had

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[4] （WTTC,2003）

[5] eg US ,Brazil ,India.

[6] ST/ESCAP/836/1990

been changed systematically and decreased seasonal fluctuations. Thus governmental policy making in decreasing seasonal employment in tourism had been successful.

5 – Performing a Model for Economic Growth:

Model used in this study tries to explain economic growth reliant to the number of tourists in which the slack random variable, x, is introduced. Gross domestic product (GDP) is one of the most important macroeconomic indexes to measure the product. The growth rate of this index reflects wealth losses or profits index. High volumes of studies seek to find a mechanism for this growth rate and explain it. In new classical model developed by Solo - Chassis - Kapmen, the rate of growth in an economy depends on the initial level of income. Later, Barro and Sala-i-Martin (1992), Mankiw, Romer and Weil (1992) brought up conditional convergence theory that allows us to signify the differences such as the technology development between countries. Cross-sectional analysis has been used in most empirical studies. Although they deal with a growth in panel data credit and improvement in economic measurement techniques, they proved all of hypothesis.

Y_{it} is the logarithm of per capita income or productivity and the growth rate can be written as:

$Y_{it} - Y_{it-1} = BY_{it-1} + U_{it}$

α = governmental stability

$-1 < \beta < 0$ = The convergence between countries and

U_{it} = error

If α will be the same for all countries, there is an absolute convergence. But if α will differ from one country to other, there is a conditional convergence. In conditional converge model; the limit of variables is used as an indicator of stable governments e.g. : Population, human capital, political registers, human resources, technology, trade, development, fiscal policy, monetary indicators. The model is related to the above conditions, is as follow:

$Y_{it} - Y_{it-1} = \alpha + BY_{it-1} + \varphi X_{it-1} + U_{it}$

X_i is a certain vector of per capita income or output in unstable countries. In this study the several stable governments were chosen from various Asian countries with the index of education and public expenditures. Also, the selected countries (Appendix 1) were classified to three categories: high, middle and low income. The panel data presented in economic model is seeking to signify the undetermined differences between countries and introduce suitable estimates for stable production to us. A model with fixed effects is preferable. Because uncertain variables (such as weather, preferences…) depends on independent variables. The determined effects of time have been set by using fixed periodic effects, the

reason is calculating the commercial turnover cycle. The simple structural model is written as:

$Y_{it} - Y_{it-1} = \alpha + BY_{it-1} + \varphi X_{it-1} + \alpha_i + \eta_t + U_{it}$

Or

$Y_{it} = \alpha + (1+B)Y_{it-1} + \varphi X_{it-1} + \alpha_i + \eta_t + U_{it}$

α_i and η_t are respectively, temporary and subjective results and influence any stable country. Also, occurring and repetition of a endogenous variable on the right side of the equation is associated with a more complex estimate than model because of interlink with error sentence. The equation is for a general model:

$W_{it} \lambda + \upsilon_i + \varepsilon_{it} + j Z_{it} = \Sigma Z_{it^-}$

υ_i is a error related to ε variables and independent variables of W do not do any extra thing for the panel components. The first differential equation extracts tasteful results and then makes an equation which can be estimated by institutional variables:

$\Delta W_{it} \lambda + \Delta \varepsilon_{it} + j \Delta Z_{it} = \Delta \Sigma Z_{it^-}$

Arellano and Bond (1991) describe that developed GMM is a dynamic estimator of panel data and contains both independent and dependent variables delays like instrument till a desirable coefficient will be achieved. Of course, by assumption that N/T is insignificant, we can assess such an estimator from our information. Barro and Sala-i-Martin (1992) divide total period of analyzed into some intervals which is usually 5 years. It is for this purpose to investigate the Rash suitably, the time intervals are too short. However, Lee, Pesaran and Smith (1997) describes that this type of model except than the raised issues from autocorrelation errors, cannot explain the heterogeneous growth rate throughout the country or continuous and gradual improvements in production and forming a dynamic complex in countries. Hence the following equation can be estimated:

7. Describing model Variables:

Log (GDP pc it) = c + (1+β) log(GDP pc it-1) + ψ1 DTURPC it-1 + ψ2GDI it-1 + ψ3PEDUCS it-1 + ψ4GCWITHOU it-1 + ψ5D it-1 + ψ6F it + αi + ηt + uit

With t = 1,..,14 (1985-1998); i = 1,...,21 and uit ~ N (0,σi2)

* (DTURPC):

Is equal to $(T_t/P_t - T_{t-1}/P_{t-1}) / T_{t-1}/P_{t-1}$, T is the number of international tourists entrance and P specifies the population.

6. Gross domestic investment (GDI):

It is considered as a percentage of GDP. Fixed (real) assets including land improvements (fences, streams, drainage and so on), machineries and purchasing equipment and constructing roads, railway,

commercial and industrial buildings, offices, schools, hospitals and residential housing will be privatized.

• Public education costs (PEDUCS):

It is a percentage of GDP which is calculated by public costs, public education, and sum of subsidies allocated to education in first, second and third round.

• General government consumption (GCWITHOU):

It is a percentage of GDP. General government consumption excluding public education costs includes all of government current expenditures for purchasing goods and services as well as all huge costs of defense, national and security can be part of it.

Per capita GDP, total gross domestic investment (GDI) variables, public expenditure on education and government public consumption and consequently the World Indicators of production development is announced by the World Bank in 2005 in terms of U.S.D or percentage or constant prices. Data about private investors and investment resulting from liberalization is used from The World Bank. Also information about tourism is provided by the World Tourism Organization.

Hypothetical prediction of the proposed model is as follows:

1- DTURPC variable has positive effect on per capita economic growth.

6 - Experimental Results:

Estimation of low-income countries:

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Estimation of low-income countries:

$$\text{Log} (\text{GDPpc}_{it}) = (-0.2735) + 1.0989 \log (\text{GDPpc}_{it-1}) + 0.087 (\text{DTURPC}_{it-3}) + 0.002 (\text{GDI}_{it-3})$$

T   (-1.95)   (22.26)   (2.19)   (1.00)

$$+0.0006 (\text{PEDUCS}_{it-3}) + 0.00029 (\text{GCWITHOU}_{it-3})$$

  (0.23)   (2.12)

Estimation of middle income countries:

$$\text{Log} (\text{GDPpc}_{it}) = 0.678 + 0.78 \log (\text{GDPpc}_{it-1}) + 0.028 (\text{DTURPC}_{it-1}) + (-0.006) (\text{GDI}_{it-1})$$

T (1.95) (7.00) (0.99) (-2.05) $+0.0056 (\text{PEDUCS}_{it-1})$

$+ (-0.0019) (\text{GCWITHOU}_{it-1})$ (2.57) (-1.55)

8. Estimation of high-income countries:

$$\text{Log} (\text{GDPpc}_{it}) = (-0.35) + 1.06 \log (\text{GDPpc}_{it-1}) + 0.05 (\text{DTURPC}_{it-1}) + (-6.65) (\text{GDI}_{it-1})$$

T (-0.69)   (8.34) (2.42)

 $(-0.96) + 0.006 (\text{PEDUCS}_{it-1}) + (-0.0002)$

$(\text{GCWITHOU}_{it-1}) (2.47)$ (-0.42)

The above results were achieved by using the EVIEWS 5.1 software at confidence level of 5%.

In low income countries the effect of per capita tourism and government public expenditure on per capita economic growth was assessed positive and significant. The impact of Gross internal Investment and public education costs on per capita economic

growth was assessed positive and but the effects of these two variables are not statistically valid. In middle-income countries, effect of gross internal production on per capita economic growth was negative and the impact of education public costs on economic growth per capita was positive, all of them are statistically valid. In middle income counties, per capita tourism variable has a negative effect on economic growth without statistically validity. Also in these countries, the effect of public costs of education on per capita economic growth is negative without statistical validity. In high-income countries the effect of per capita tourism and public costs of education is assessed positive on per capita economic growth with statistical validity. Also in high income countries, the effect of gross internal investment and government public expenditures on per capita economic growth was negative which none of them are statistically validate.

9 - Conclusion:

Tourism can be considered as one of the major industries. Some of the world counties can attract tourism according to their suitable natural resources and ecotourism and some others introduce their ancient history notifying their rich cultural backgrounds. It is interesting that today most countries without these natural resources and historical background strive to attract foreign tourism. All of these indicate the importance of tourism industry in countries economy. By developing tourism, more foreign currency as well as increasing employment and production rate in country can be promised. In other hand, the sum of the major costs of investment on infrastructural districts for tourist entrance can be associated with negative and positive effects on economic growth. To address the issue is a major motivation for tourism development (improvement in employment, income, exports). But one of the important stages in tourism development is costs that must be determined in this regard. Travel expenses can be effective on other parts of the country. Some social costs of tourism are clear, but in other cases this is not so. By a general approach to the expenditures of tourism sector, it can be observed that the opportunity of spending these costs is taken away from other sectors. Paying attention to importance and oldness on Asia continent, in this research the effect of tourism on economic growth of some countries have been studied. For this purpose, from a cumulative effect of tourism on other sectors appear. For this purpose, cross-sectional data from Asian countries during the years of 1992 and 2004 and the economic growth model is used. Estimated results show that in low income countries the effect of per capita tourism and government public costs on per capita economic growth was assessed positive and significant. The impact of Gross internal Investment and public

education costs on per capita economic growth was assessed positive and but the effects of these two variables are not statistically valid. In middle-income countries, effect of gross internal production on per capita economic growth was negative and the impact of education public costs on economic growth per capita was positive, all of them are statistically valid. In middle income counties, per capita tourism variable has a negative effect on economic growth without statistically validity. Also in these countries, the effect of public costs of education on per capita economic growth is negative without statistical validity. In high-income countries the effect of per capita tourism and public costs of education is assessed positive on per capita economic growth with statistical validity. Also in high income countries, the effect of gross internal investment and government public expenditures on per capita economic growth was negative which none of them are statistically validate.

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Appendix 1

high income countries	Middle-income countries	Low-income countries
Japan South Korea Lebanon Malaysia, Oman	China Indonesia Iran Jordan Kazakhstan Maldives Philippines Syria Sri Lanka Thailand Turkmenistan	Bangladesh Bhutan India Kyrgyzstan Mongolia Myanmar Nepal Pakistan Tajikistan Uzbekistan Vietnam Yemen

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