

The Impact of Taxation in the Tourism Industry: Dynamic Approach

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ABSTRACT

Tourism is becoming one of the essential pillars of any economy. Therefore, the best way to grow and upgrade this industry is to position the best tax rate that encourages tourism development. The Government should adjust the economies' tax system based on developing their tourism industry to improve this area's investment. Therefore, this study's main objective is to investigate the effect of the tax rate on the tourism industry in selected countries using the dynamic panel modeling (SGMM) method in the range of 2011 to 2016. The results indicate that the position of a robust tax system will harm the tourism industry. The high tax rate will hurt competition, and a major disaster will be toward competition and revenues. So, the hypothesis of this research indicates the negative impact of the tax rate on tourism revenues is accepted. Other variables such as per capita income and trade openness have a positive effect on tourism revenues.

1. Introduction

The capacity of tourism to stimulate economies by creating employment, attracting foreign investment, earning foreign currency, and adding value nationally, regionally, and locally is well recognized. However, tourism operates in a rapidly evolving and highly competitive global marketplace, characterized by solid growth in emerging tourism economies. Hence, the Hotel industry and tourism are significant factors of the competitiveness abilities and development of an observed country. For example, only in European Union member states tourism today contributes to around 10 % of the gross domestic product (Gago et al, 2006), while in many countries, significantly more minor and more dependent on tourism, tax revenues from tourism are considerably higher than 10% (McAleer et al., 2005).

The Study of Deloitte and Touche (1998) showed that a higher tax burden reduces hotels and tourism revenues, while the increase or decrease of tax rate significantly influences the tourists' decisions regarding the destination of a voyage the way and means of accommodation. In other words, because of mobility, information, and sensitivities to prices, tourists often select the destination within mind the expenditures required by providers of accommodation and catering.

Due to all mentioned, the hotel industry in any observed country aims to achieve a more favorable position than its competition. One way to achieve it is to provide encouraging the taxing of tourist services and the hotel industry. As a result, many countries in recent years introduced, reduced, and redesigned a whole scope of tax forms are intended for the hotel industry and tourism (WTTC¹, 2004).

Therefore, tourism is one of the most developed industries in the world. Tourism has a significant share in the economy. Revenues from the tourism industry are crucial sources of income and currency for the budgets of countries worldwide, especially the countries studied in this article. For goods and services, tourism should contribute to revenue growth and be a source of revenue for public services, investment, and infrastructure. Tourists generally pay for good and quality services offered to them. Tourism is linked to and dependent on certain necessary conditions to have a growing attendance of tourists: as a clean environment, a commodore system of transportation, facilities of communication, quality, security, tranquility of health system. This high, quick development of tourism affected the higher taxation of the tourism industry.

Tourism is so sensitive to taxes because taxes will significantly impact prices, but tourism cannot be exempt from them since it is a significant source of revenue for the budget. A local or national government should be a part of the tax revenues to increase and improve the tourism infrastructure. For this purpose, a part of the tourism tax revenues should be used for increasing and improving human and physical capital, for training, investment, etc.

What has been considered less in tourism studies is the relationship between tax rate as one of the financial instruments of governments and revenue from the tourism industry. The main argument that most countries and especially developing countries, use the tax rate to attract foreign investment and promote economic growth is that tax rates serve to attract economic activities in the competitive atmosphere of the economy and lead to strengthening other economic sectors, mainly the tourism sector. Empirical studies on the relationship between tax rates and investment in financial sectors, especially the tourism sector, show a direct connection between tax rates and investment in the tourism sector. An overview of the history of research in developing countries and especially within the country indicates no direct study about the effect of the tax rate on foreign exchange earnings. This study has its degree of innovation.

In this way, this study's primary purpose is to investigate the effect of the tax rate on earnings from the tourism industry in collecting selected countries in southwest Asia. In the following sections of this research, we will examine Materials and Methods, Results, Discussion and, Conclusion.

MATERIALS and METHODS

First of all, the countries were also selected from developing countries in Southwest Asia. Based on the available data based on population, out of 22 countries, 14 countries were finally selected. The reason for choosing this set of countries was its close geographical and climatic location and the exchanges they had

with Iran. (Table .1) shows the studied countries.

Table 1: List of countries studied in this article

Iran	Kazakhstan	Qatar
Armenia	Kuwait	Saudi Arabia
Azerbaijan	Lebanon	Tajikistan
Georgia	Oman	Turkey
Jordan	Pakistan	-

Since Iran is one of the developing countries of the Asian continent and most of the neighbouring countries of Iran are also in this studied science Iran is one of the developing countries of Asia and most of Iran's neighboring countries are studied in this society, it is crucial to analyze these selected countries in this study. Iran also some other member countries of this study population do not have a solid and orderly financial system; it is crucial to investigate this study. Finally, it is worth noting that the population studied in this study has been selected for developing countries in Southwest Asia. Ety, it is essential to analyze these countries chosen in this study. Finally, it is worth mentioning that this study's study population is selected for developing countries in Southwest Asia.

1.1 Tourism tax - definition and interpretation

According to [Fuji et al. \(1985\)](#), tourism tax exists in different forms; taxes of tourism exist in various shapes and are imposed by national and local governments to fund the public services that foreign tourists and residents use. [Combs and Elledge \(1979\)](#) define the tourism tax as the source of financing source ([Kraja and Osmani, 2012](#)).

According to [Abeyratne \(1993: 51\)](#), tourism taxes are not merely the local administration's instruments, but he thinks that tourism tax is vital at the national level. [Bird \(1992\)](#) says tourism tax can be separated into taxation through the general tax system and special taxes imposed on specific tourist activities. A flexible system of taxation could generate income from taxes and improve the distribution of income ([Kraja and Osmani, 2012](#)).

1.2 How the taxation influence tourism and hotel business?

[Gooroochurn and Sinclair \(2005\)](#) identified around 45 various taxes collected in tourism, where around 30 are born by tourist guests, while hotel firms hold 15. However, shifting can be different depending on demand and supply price elasticity ([Fish, 1982](#)). The impact of the introduced tax on the hotel room price will mostly depend on demand price elasticity. If the demand is sufficiently elastic, hotels will not increase the accommodation price and shift the tax to guests, but they will have to bear it by themselves and reduce the profit. On the other side, the demand is inelastic. Hotels will increase the accommodation price, and guests will have to bear the newly introduced or increased tax through increased accommodation price ([Vjekoslav et al., 2012](#)).

The World Tourism Organization ([WTO, 1998](#)) quotes many taxes and fees related to tourist activity. These are for traveling (visa fees, entry, and exit charge); air and ship transport (airport and harbor charges, charges on travel tickets, contributions and taxes on the fuel, tax on the transit, allowance for the safety); hotel and other accommodation (overall 15 different taxes and fees); restaurant (the value-added tax, excises on the alcohol); road traffic (the toll and excise on the gas); car rental (municipal and local taxes, other taxes, excises on the gas); tax and fees for visiting tourist attractions; and, finally, taxes on games of chance which pay the casino and gambling house ([Vjekoslav et al., 2012](#)).

The impact of the tax rate on the tourism industry

Theoretical reasoning is related to the relation between tax rate and investment in the private sector

to the model presented by the model Zodrow and Mieszkowski (1986). According to this model and if the capital stock has mobility and labor force is not transmitted between countries, countries compete to attract capital stock rather than the optimal level. The reason for lower taxes than the optimal amount of capital stock is that the increased tax on capital stock increases costs and contributes to the outflow of capital to other countries with lower taxes.

The primary assumption in all Tax Competitive Models is that the demand for a fund is inversely related to the cost of capital and decreases the cost of using capital stock by increasing capital tax. The assumption regarding the inverse relationship between investment and capital cost dates back to the neoclassical investment theory. In this theory, investment as a function of the relative cost of capital assumed and the investment function positively associated with current production and inversely with the cost of rental capital (Van Parys and James, 2010).

2.4 SGMM Method Description

This study investigates the effect of network readiness index (e-tourism assessment scale) on income from the tourism industry, dynamic panel data technique, and extensive system circulation method were used for 14 selected Southwest Asia countries from 2011 to 2016. It should be noted that this annual period has been chosen based on available data, especially in the discussion of effective tax rates as well as other main and control variables. Econometric patterns with dynamic relationships are characterized by the entry of interruptions of the dependent variable as an explanatory variable (the model's correct parameters).

The generalized method of moments was first described by Hansen (1982), which provides an easy-to-find estimate of the estimates' efficiency. This method covers the dynamic effects of dependent variables. Suppose the variable depends on the values associated with the interrupt. In that case, it will result in a correlation between the explanatory variables and the disturbing sentences (wastes), which will show the conventional minimum method and incompatibility results. We can use the generalized method of moments in the estimation process.

However, since in a dynamic panel data model, the gap between the dependent variable, such as disturbing the correlation, is used as a tool for the second interruption of the dependent variable and the disruption of other variables (within the framework of a recursive form) as a means of disruption of the dependent variable based on generalized method of the moment. The estimated female (GMM), which was proposed by Arlano and Band (1991), is essentially different from the existing pattern to get rid of the problem of specific effects related to the sections (individuals) and all the fixed time. In this method, to eliminate the correlation between the gap and the error sentence, the interruption of variables as a tool for female estimates, the extended two-step system is applied.

The estimation of a two-step woman in an accessible manner is more efficient and effective if there is an inconsistent variance of the error component. Torque conditions use the conditional mode between the errors and the intermittent values of the dependent variable. In this process, it is assumed that the major disruptions are not serial correlations. In which the method and test of Arellano and Band are used for serial correlation test in disturbances. In this model, the Sargan test is used to test the over-identification constraints to examine instrumental variables (Baltaji, 2005).

Given that our dependent variable in this study is income and tourism revenue affects the years before and after (e.g., 1000 tourists visited a tourist spot). Therefore, part of the income earned from these people in this tourist spot will be spent on reconstruction and promotion. This will lead to the development of this building and increase its facilities), thus attracting more tourists in the coming years. It attracts and attracts and will boost tourism revenues in those years. For this reason, it can rely on that for these variables from the selected countries; the generalized method of moments can be used to assess the impact of each of them on the revenue generated by the tourism industry. However, this study's data have been extracted from the World Bank website, the Global Development Index database, and the Global Governance Index database. In this study, Stata 13 software will be used to make the necessary estimates.

2.5 Research Model Introduction

Inspired by the theoretical foundations and experimental studies, the equation for the analysis of the impact of the Tax rate on tourism industry revenues in selected Southwest Asian countries is as follows:

$$\ln (TR)_{it} = \beta_0 + \gamma \ln (TR)_{i(t-1)} + \beta_1 \ln (TAX)_{it} + \beta_2 \ln (GDPP)_{it} + \beta_3 \ln (TO)_{it} + U_{it} \quad (1)$$

Concerning the number (1), $U_{it} = \mu_i + \lambda_i + v_{it}$, in which μ_i represents the specific effects of the country and λ_i represents the particular effect of the following year; we will describe in more detail each of these cases.

2.6 Definitions and sources of variables

The information sources and the definition of each of the model variables are summarized in (Table. 2).

Table 2. Variables used in the model, short definitions, and statistical sources

Variables	Definition	Source
Ln (T.R.)	Natural logarithm of the income of the tourism industry (in billion U.S. dollars)	World Bank
Ln (TAX)	Natural logarithm of Total Tax Rate	World Bank (WDI)
Ln (GDPP)	Natural logarithm of real GDP per capita based on purchasing power	World Bank
Ln (TO)	Natural logarithm of Trade openness ²	Our World in Data

Source: Research Findings

2.7 Explanatory Variables Used in the model

First, it is essential to note that tourism revenue (T.R.), following the studies of [Boga and Erkisi \(2019\)](#), [Panic \(2015\)](#), and [Cho \(2010\)](#), to maintain the tourism industry's breadth of tourist income index between - International tourism, receipts (in U.S. dollars) is used as the dependent variable.

Figure 1. Revenues from the tourism industry in selected countries and the whole world. (color figure available online).

² This has been calculated from the total export and import ratio to GDP (at a fixed price of US \$2010).



Source: World Bank and Researcher Calculations

Also, in (Fig. 1), the tourism industry's income in selected countries and the whole world has been compared. The highest recorded amount for 2015 was in which the average of countries chosen was 6,944 billion dollars, and the total tourism revenues of the world were 1,392 Trillion dollars. This indicates that our governments have made tiny amounts of the global share of tourism revenues. This chart can be used to acknowledge that tourism is among what is now reached in the selected countries of Southwest Asia. However, fundamental thinking shall be considered regarding attracting tourism income in this complex of countries.

In the following, each of the variables introduced in the research model will be examined.

- **Total tax rate (tax):** The total tax rate measures the amount of taxes and mandatory contributions payable by businesses after accounting for deductions and exemptions allowed as a share of commercial profits. Aside from taxes (such as personal income tax) or the collection and transfer to tax authorities (such as VAT, sales or goods tax, and service taxes) are outdated. According to the available evidence, effective tax rates may be a more suitable term for expressing this concept.

- **Per Capita Income (GDPP):** Revenue of the country of origin is one of the most important variables affecting tourism in the destination country. In other ways, since tourism is usually considered as a standard or luxurious commodity, this variable is more sensitive to the income level; it is referred to as one of the most critical and decisive variables in the tourism revenue equation. In this study, the actual revenue variable was based on purchasing power. In most studies, the variable of GDP per capita was very critical in controlling variables.

- **Trade Openness (TO):** This is one of the essential principles in assessing and measuring the development of a country's economy, calculated from the sum of total exports and imports to GDP. So that the more a country's borders are open for exporters and importers, the larger the deduction, that is to say, that country and its economy have a more relaxed and accessible trade degree. According to previous studies, such as Boga and Erkisi (2019), this variable can be considered other essential and influential variables in tourism revenues.

Besides, one should not forget that tourism is affected by natural shocks, war, policy changes, tastes, propaganda, expectations, political instability, terrorism, and other special events. Given that the cases mentioned are not available, the patients are entered into the model as a disruption or error statement and tested.

2. RESULT and DISCUSSION

To obtain a non-false estimation between the model variables, the regression variables must be static or combine to be fixed. If the data used in a study are nonstationary, the estimates' results will lead us to a

false regression. For the panel data resilience test, this study, considering the years studied (due to geographical and statistical constraints), is six years. The Baltic book concepts, panel data for below 15 years, is not needed (Baltaji, 2005).

Nevertheless, in the following, the results of estimating the effects of Tax Rate variables as the main explanatory variables and other control variables on the level of tourism revenues (corresponding to model number (1)), using dynamic panel data method (SGMM approach) in (Table. 3) is displayed. The model results show that all coefficients extracted at an error level of less than 5% were significant, and all of these coefficients had a positive and significant effect.

Table 3: Results of Estimation of the Model by (Two-Step SGMM)

variables	Coefficients	Z statistic value	Probably value***	*Indicates the number of statistics. ** indicate the probability level. (Significant at 5% level). Source: Research Findings
Ln (TR) _{i(t-1)}	0.930	130.11	0.000	
Ln (TAX)	-0.078	-4.47	0.000	
Ln (GDPP)	0.0001	9.42	0.000	
Ln (TO)	0.016	2.82	0.005	
Cons	0.306	-0.42	0.676	
Sargan		9.662* (0.7213**)		
M ₁		1.0013* (0.3167**)		
M ₂		-0.861* (0.3891**)		
Wald		41298.48* (0.000**)		

According to the results of (Table. 3) significant, based on this test results, the hypothesis of zero (which is based on the specific equation) will not be rejected. Therefore, the variables used by the means in the model estimates are of the necessary credentials (there is no connection between the disturbing components and variables of the tools handled); therefore, the use of tools variables to control the correlation between explanatory variables and equation of disorder The pattern is considered essential. The results of self-solidarity among (Table. 3) disturbing sentences indicate no significant correlation between the 5% and the second rank self-correlation, and the unexpected estimates are the compatibility characteristics. The interpretation and analysis of the mentioned model results is one place in the classification of this season. The following findings (with 95% confidence level) can be deduced from the results of (Table. 3):

✓ The estimated coefficient of Total Tax Rate as one of the most critical variables in this study on the amount of income from the tourism industry has a negative and significant effect with this interpretation that, with a 1 percent increase in the Total Tax Rate, the tourism revenues reduction by a rate of 0.078 percent. This is a significant finding on the only hypothesis in this study.

✓ The estimated GDPP coefficients have a positive and significant effect on tourism revenues, so that, for a percentage of increase in this variable, the number of tourism revenues increased by 0.0001 Percent, thus improving the income status of countries is one of the factors influencing the amount of income from tourism, which is consistent with the results of Leita0 (2015).

✓ The estimated coefficient of the trade openness is also positive and significant, with a percentage increase in this variable; the amount of income gained from the tourism industry increases to 0.016 Percent. The result is also a step with a study by Boga and Erkisi (2019).

In the end, we also need to mention that the test parent statistic to test whether the parameter estimated by the sample is equal to the desired parameter or not, and sometimes instead of the T. test, with the value of the statistic of 41298.48 and the probability level of zero percent error was obtained for estimating the model, which assumes zero of the test which is based on the ineffective variables in the regression model.

Finally, it is mentioned as a summation that this research's hypothesis based on the Total Tax Rate's negative and significant effect on the number of revenues from the tourism industry has been

confirmed.

3. CONCLUSION

The economy means acquiring optimal gains using scarce resources. No matter what a person is looking for is the spiritual benefits of travel; the business is offering goods and services to tourists, or the host State to tourism, which constitutes the economic benefit of tourists spending; the general rule is the same in all of these. Economic brokers seek to supply limited tourism resources (physical and financial) and meet the tourists' demands. Demands the results of physical and functional needs (usually undersized) and intellectual demands (which are almost unreasonable). Similarly, the notably that economies are trying to resolve is how to achieve an optimal economic share of limited tourism resources. At the same time, they are faced with constantly changing demands (whose physical needs are created).

The present study uses dynamic panel data and a two-stage generalized method of moments approach to investigate the effect of Tax Rate on the amount of income gained from the tourism industry in selected Southwest Asian countries from 2011 to 2016.

This study's results are consistent with previous theoretical foundations and tasks, including [Gago et al. \(2009\)](#) and [Van Parys and James \(2010\)](#).

According to the results obtained in this study, the most crucial policy recommendation is for policymakers and economic experts to provide appropriate fiscal policies such as reducing tax rates and tax incentives to increase tax revenues. Because increasing tax revenues can reduce dependence on foreign exchange earnings in the tourism sector, besides, the level of production and the improvement of production capacity and capacity, and consequently the increase in per capita income, can increase the demand for the tourism industry and pave the way for increased tourism revenues.

In general, for the present study, the following results can be thought:

- *The Total Tax Rate, which is the primary variable of this research model and it has decreased revenues from the tourism industry;*
- *The coefficient of GDP per capita compared to other estimates has been more impressive on the amount of income gained by the tourism industry;*
- *The Degree of Trade Openness as the last independent variable of this research has a positive and significant effect on the amount of income gained from the tourism industry;*

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