

TOURISM DEMAND AND TAX RELATIONSHIP IN ISLAMIC REGIONS

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Abstract

The relationship between tax and tourism receipts is one of the crucial issues in tourism literature and has been considered empirically in recent years. For this purpose, the main objective of this paper is to determine the long-run relationship between tax ratio to GDP and tourism receipts in OIC selected countries during the 1990-2014. The econometric model for these countries has been estimated by applying dynamic OLS approach. The main findings of this study reveal that tax ratio has negative effect on the tourism receipts and GDP per capita and its growth have positive and significant effect on the tourism receipts in Islamic selected countries. Hence, the main policy implication of this paper is that the tourism managers in these countries should adopt policies to improve the tax revenue through the increase of product capacity. Moreover, the increasing of GDP per capita can improve the tourism receipts in these countries.

Keywords: Tourism, Taxation, Tax Incentives, GDP Per Capita, DOLS Approach

JEL classification: C23:L83:O49

1. Introduction

Upon to macroeconomics literature, tax rate has always been proposed as one of the government tools for the investment attraction. Policymakers try to increase the investment rate, performing some fiscal policies, especially the foreign direct investment, such as optimized tax rate determination. The main argumentation that most countries, especially developing ones, use the tax rate for the foreign direct investment and economic growth promotion is that it works as a tool for the economic activity attraction in competitive environment of economy. In addition, it can strengthen the other economic sectors such as tourism. Empirical studies about the tax rate and investment relation in economic sectors particularly tourism shows that there is a direct relation between the tax rates and investment. In present study, it has been tried to assess the tax rate influence on foreign exchange earnings of tourism in selected Islamic countries during the 1990 to 2014, utilizing the integration approach in panel data and Westerlund method. This study has been organized as below:

In second part a literature review has been done, part three introduces the Dynamic Ordinary Least Square (DOLS) in panel data. In fourth part the study model and statistic database have been presented. The results of model estimation and analysis in addition to conclusion and policy recommendations generate the final part of study.

2. Literature Review

The first theoretical arguments about the tax rate and investment in tourism section belongs to Zodrow and Mieszkowski (1986). Upon to this model and in the event that the

investment has the mobility and the work force does not transferred, countries vie lesser than optimum amount for the investment attraction, mainly through the taxation. Its reason is that the tax increasing on investment causes the cost growth and consequently investment conducting to the countries with lower tax on investments.

Bucovetsky and Wilson (1991) evaluated this model under the asymmetric compete circumstance between the great and small countries. They concluded that great countries has the more taxation ability than the small ones, because the tax base in them has the lower sensitivity against the tax rate fluctuations. In other complex model, proposed by Keen (2002), the tax rate targeting and optimum taxation causes the cost reducing and consequently investment growing in economic parts. The main assumption in all tax competition models is that demand for the capital stock has the inverse relation to cost of capital. More taxation on capital stock will reduce the capital cost. This supposition originated from the Jorgenson neoclassical investment theory. This theory considers the investment as a function of capital relative price and the investment function relates directly to the current production and inversely to the capital (Van Parys and James, 2010). Per capita income in addition to tax rate is effective on tourism demand. Upon to economic theories, if the tourism considered as a normal commodity, it is expected that per capita income increasing, upsurge the tourism demand. Therefore, the per capita income can cause the tourism demand growing in long-run period via the demand curve transferring towards the right and up. Cost of Living index is one of the effective variables on tourism foreign exchange earnings. In the most of empirical studies such as Martin & Witt (1987), Habibi et al (2008) and Gormus and Gocer (2010), the Commodity and services prices index or real exchange rate have been utilized as the appropriate substitute variable for the living costs in destination country. It can be said that in consequence of real exchange rate increasing, the travel cost to the destination country will reduce and people tendency will intensify. Therefore, the real exchange rate has the positive effect on tourism demand. It is used as a suitable variable for the cost of living index in terminus country. In addition, the substitute product price can be one of the effective variables on foreign tourism demand. The substitute product prices defined as the ratio of weighted average cost of living in substitute countries on living cost in destination country. It is expected that increasing of substitute product price caused the foreign tourism demand amplifying. Because the living cost has increased in substitute countries relatively and the tourism demand for the destination country will grow accordingly. Expectation and habit is other effective variable on tourism demand, which generally entered to the demand model as a stuck dependent variable. Its reason is that when a tourist goes to a country, he/she tends to experience again that satisfactory and enjoyment. In addition travelling to a country that has been experienced before has the less risk and is more pleasurable. In most of empirical studies on tourism demand estimation such as Nordstrom (2005), Lim (2003), Song & Witt (2003) and Gormus & Gocer (2010) the amount of stuck dependent variable has been used as the expectation and habit. Upon to this, it can be supposed that other variables such as the per capita income, the real exchange rate and the expectation and habit are effective on tourism demand in addition to tax rate. Due to aforementioned sentences, the tax rate influence on tourism foreign exchange earnings along with per capita income, the real exchange rate and the expectation and habit variables will be introduced and assessed. Studies of Kulendran and Wilson (2000), Song and Witt (2003), Eilat and Einav (2004), Phakdisoth and Kim (2007), Habibi et al. (2008) and Gormus & Gocer (2010) are the most important researches about the effective factors on foreign tourism demand. In these studies, various econometrics methods in time series and panel data have been utilized to explain the most important factors on tourism demand and diverse results have been obtained. As a conclusion of aforesaid studies it can be said that most of them have focused on effective factors on tourism foreign exchange earnings whereas the tax rate effect has not been assessed on tourism foreign exchange earnings especially for the developing and OIC selected countries.

3. Dynamic Ordinary Least Square (DOLS) Approach

Present study has exploited the Dynamic Ordinary Least Square (DOLS) method for the long-term equilibrium relationship among the tax rate and tourism foreign exchange earnings variables for OIC selected countries. It has been proposed by Kao and Chiang (2000) and is one of the long-run estimate methods in panel data. Monte Carlo simulation studies have

shown that DOLS method has the lesser RMSE in small samples, comparing the other estimation methods such as Fully Modified Ordinary Least Square (FMOLS). Moreover, the DOLS is a parametric method in parameter estimation. It eliminates the correlation problem between the explanatory variables and disturbance terms, using the lead and lag stuck difference values of explanatory variables and the dependent ones. In addition, the optimum stuck in this method is determined by the Akaike and Schwartz Bayesian test statistics (Kao and Chiang, 2000:182-183).

An important point in DOLS is that there is an ability for Co-integration vector estimation in situation that integration order of variables are different. Another advantage of this method is compatibility and estimators have an asymptotical normal distribution. While the estimated disturbance terms are not compatible and can be considered exogenously.

It is needed to check the model variable stability order before the estimation of long-run relation between the variables. There are many tests for the stability assessment of panel data such as Levine test, Lin and Chu, Britveng and Hardy test, which have the more limited assumptions (see Baltagi (2005) for more details). Because the same and share amount consideration is not appropriate for the unit root tests, therefore the Im, Pesaran, Shin and the extended Fisher-Dickey Fuller test statistics were used for the variable stability assessment. Using of these tests can cause the differences of dependent variable between the individual units and present logic results of variable stability.

4. Study Model and Statistic Database

Utilized model in present study explained as below, upon to theoretical bases and empirical literatures such as Gago et al. (2009), Van Parys and James (2010), Gormus and Gocer (2010).

$$LTR_{it} = \eta_i + \beta_1 LTR_{it-1} + \beta_2 TAX_{it} + \beta_3 LGDPP_{it} + \beta_4 LRER_{it} + v_{it} \quad (1)$$

Where LTR is the logarithmic indicator of tourism foreign exchange earnings. TAX is the tax rate, LGDPP is logarithm of per capita income and LRER is logarithm of the real exchange rate, which is the multiplication of Nominal exchange rate and the consumer price index ratio (CPIit) over the consumer price index of the United States (CPIUS). Therefore, the calculated equation of real exchange rate obtained by equation 2:

$$RER_{it} = NER_{it} * \frac{CPI_{it}}{CPI_{USit}} \quad (2)$$

In model 1, the logarithm of stuck tourism foreign exchange earnings have been considered as the dynamic effects of foreign exchange earnings in previous period over the foreign exchange earnings of current year. It can be said that the tourism foreign exchange earnings in the MENA region will rise due to Increasing in per capita income. Moreover, it is expected that foreign exchange earnings will reduce due to tax rate growing. The real exchange rate also has the positive anticipation effect on tourism foreign exchange earnings. The study period is between the 1990 to 2014 while the related statistics and information have been extracted from the compact disk, published by the World Bank Development Indicators (2015).

5. Model estimation and the study results analysis

In this section, the model will be estimated and research results will be analyzed. For this aim, the research variables stability have been tested, using the Im, Pesaran, Shin and the extended Fisher-Dickey Fuller test statistics (table 1).

Table1. Results of IPS unit root test and ADF-Fisher

ADF-Fisher test statistics in Surface				IPS test statistics in Surface		Variable Name
Result	Probable value with Intercept	Probable value with Intercept		Probable value with	Probable value with	

	and time trend			Intercept and time trend	Intercept	
Unstable	0.13	0.15	Unstable	0.19	0.23	LTr
Unstable	0.58	0.62	Unstable	0.36	0.43	LRER
Stable	0.000	0.000	Stable	0.00028	0.0032	TAX
Unstable	0.48	0.54	Unstable	0.74	0.75	LGDPP

Considering the table 1, it can be explained that Tourism foreign exchange income, the real exchange rate, the per capita income logarithms are stable by once differencing while the tax rate logarithm is stable on surface. In next step, existence or absence of long-run balance relation between the variables was assessed by the Westerlund test.

Westerlund test (2008) does not consider the long-term variables equal to estimated parameters for the first order difference unlike the Kao and Chiang (1999) and Pedroni (2004) co-integration tests. However, it suggests four new test that have normal distribution and consider the disturbance term dynamism. In those tests, the hypothesis of co-integration relationship existence between the model variables are assessed via the error correction term coefficient. Table 2 shows the results of Westerlund test.

Table2. Results of Westerlund test for the long-run relation between the model variables

Test statistics name	value	z.value	p.value
G_t	-4.13	-3.41	0.000
G_a	-20.35	-2.23	0.023
P_t	-8.11	-3.22	0.001
P_a	-18.25	-2.82	0.002

Table 2 reveals that the hypothesis H_0 , has been refused and other hypothesis, shows the Co-integration relationship, will be accepted. Therefore, existence of a long-run balance relation between the variables is approved. In the following, the empirical model was estimated by the DOLS and results have been shown in table 3.

Table3. Results of long-run relation between the model variables based on DOLS method in panel data

stuck dependent variable and The explanatory variables	coefficient	-test value t	(PV)
$LTR(-1)$	0.22	27.38	0.000
TAX	-0.09	-2.46	0.014

<i>LRER</i>	0.35	1.75	0.079
<i>LGDP</i>	1.2	5.11	0.000
C	-8.03	-3.94	0.000
Freedom degree	12	----	----
The number of observations	124	----	----

Based on table 3, it can be concluded that the stuck amount of tourism foreign exchange earnings has the positive and meaningful effectiveness on tourism foreign exchange earnings in the current year. In other words, tourism foreign exchange earnings in the current period will increase equal to 0.22% in consequence of tourism foreign exchange earnings in the previous period, which shows the positive influence of that. Stretch revenue logarithm of the real exchange rate equals to 0.75 %, reveals that 1% growth in real exchange rate will cause increasing in destination countries, foreign exchange earns about 0.35%. In consequence of devaluing the national currency, the cost of journey to these countries will be reduced and foreign tourism demand will be amplified subsequently. Tax rate has a negative and meaningful effect on tourism foreign exchange rate in MENA region. In other word, increasing the tax rate will cause the foreign exchange rate reduction. Tax rate coefficient in model is -0.09. Tax revenues improving will cause the exchange dependency reduction to the tourism revenues and it can be expected that tourism revenue increasing will cause the foreign exchange rate declining. The per capita income has the meaningful and positive effect on tourism foreign exchange earnings so, 1 % increasing in per capita income in MENA region, growth the tourism foreign exchange earnings equal to 1.2%. Therefore, it can be stated that tourism foreign exchange earnings will amplify, as a result of production level improving and per capita income growing. Thus, the tourism demand is a luxury item in viewpoint of income elasticity. At the final section, considering the existence of long-term balance relation between the variables, error correction model for panel data have been estimated as below (table 4).

Table4. Results of error correction model estimation for panel data (ECM)

Variable Name	coefficient	t-test amount	(PV)
$\Delta LGDP_{it-1}$	0.14	1.69	0.03
$\Delta LRER_{it-1}$	0.78	1.04	0.29
ΔTAX_{it-1}	-0.2	0.69	0.56
e_{it-1}	-0.58	-6.75	0.000
C	0.29	2.56	0.02

Considering the table 4, first order stuck difference of tax rate has a negative and meaningful effect in short-term on tourism foreign exchange earnings. Furthermore, Short-term adjustment error speed has been about -0.58 towards the balance amount and long-term. It shows that about the 58 % of adjustment error in each period has been balanced in relatively little time. It is worth noting that in estimated model, some variables are meaningful and some are not. The per capita income has the positive influence on tourism foreign exchange earns, in short-time period. One unit increasing in per capita income will boost the tourism foreign exchange earns about the 0.14 unit.

6. Conclusion and Recommendations for Policy Research

Model estimation results show the positive effectiveness of the tourism foreign exchange earns stuck amount on the tourism foreign exchange earns in current year while the tax rate variable has the negative influence. Therefore it can be concluded that improving the tax rate earns can generate the reduction of dependency on tourism foreign exchange earns. The per capita income and the real exchange rate have the positive influence on tourism section and the producing level growing will cause the demand increasing especially in tourism demand. Moreover, the real exchange rate increasing in this group of countries simplify the tourist entrance circumstance and tourism foreign exchange earns subsequently. The obtained results of present study is compatible with theoretical bases and empirical studies of Gago et al. (2009), Van Parys and James (2010). The most important political advice is that politician and economy experts should provide the situation of tax incomes by the performing of appropriate fiscal policies such as tax rate reduction and giving the tax incentives. Since the tax income growing can cause the dependency deteriorating on tourism foreign exchange earns. Additionally, producing level increasing, improving the capacity and production power and subsequently growing the per capita income can rise the demand amount for the tourism industry and tourism foreign exchange earns. Producing increasing and per capita incomes in addition to the general level of domestic prices control for the real exchange rate amplifying can be another policy suggestion in this field.

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Annexes and attachments:

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xtabond ltr L.ltr lrer lgdpp tax, inst(L.lgdpp) lags(1) maxldep(1) twostep ar
> tests(2)
note: L.ltr dropped because of collinearity
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Arellano-Bond dynamic panel-data estimation   Number of obs       =          94
Group variable: i                             Number of groups    =          12
Time variable: t                               obs per group:      min =           2
                                              avg =       7.833333
                                              max =           13

Number of instruments =          19             wald chi2(4)         = 311670.81
                                              Prob > chi2          =       0.0000
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Two-step results

	ltr	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ltr							
L1.		.223621	.1054061	2.12	0.034	.0170288	.4302132
lrer		.7518932	.4285892	1.75	0.079	-.0881262	1.591913
lgdpp		2.568735	.5023116	5.11	0.000	1.584223	3.553248
tax		-.0038006	.0015478	-2.46	0.014	.000767	.0068341
_cons		-8.032545	2.038952	-3.94	0.000	-12.02882	-4.036273

List of the studied countries

Iran	Azerbaijan	Albania	Palestine	Mali
Jordan	Uzbekistan	Afghanistan	Algeria	UAE
Indonesia	Uganda	Ivory Coast	Senegal	Sudan
Suriname	Syria	Somali	Sierra Leone	Niger
Nigeria	Brunei	Bangladesh	Pakistan	Bahrain
Benin	Burkina Faso	Iraq	Saudi Arabia	Oman
Cameron	Kuwait	Chad	Tajikistan	Turkmenistan
Turkey	Tunisia			