INTERACTION BETWEEN FINANCE, TOURISM AND ADVERTISING: EVIDENCE FROM TURKEY

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Abstract
The purpose – It is important to emphasize that a research on relationship between tourism, finance and advertisement is very rare. The aim of this study is investigation of causal relationship between these variables.
Design – In this paper, the relationship between tourism revenues and variables like tourism index of Istanbul Stock Market (BIST) & tourism advertising durations which have not been used previously in the literature was investigated for Turkey.
Methodology – To attain more useful and accurate findings, bootstrap granger causality test of Hacker Hatemi-J (2010) was used which can determine critical values by bootstrap simulation method in order to reduce the possibility of potential non-normal dispersion of errors.
Approach – In purpose of contribution to literature, monthly data in the period spanning from Aug 2004 till Dec 2012 and bootstrap causality method were used, thus new findings were tried to be found
Findings – While traditional Toda-Yamamoto (1996) causality test has been determined no causality between these three variables, there was observed one-way causality from tourism index to tourism advertisements by the aid of more advanced Hacker Hatemi-J (2010) causality test. As a result of study, one-way causality from tourism indices, which is an important indicator representing all positive and negative performances of businesses in tourism sector, to advertising durations was detected.
The originality of this research – In this study, unlike others, variables like tourism index which represents businesses in tourism sector and tourism advertising durations were used. The relationship between tourism index, tourism advertisings and tourism revenue was examined with Hacker Hatemi-J (2010) bootstrap causality test which obtains critical values by bootstrap monte-carlo simulation. By this new test, more reliable and advanced results have been obtained. As a result, tourism index which can be considered as a fundamental performance scale of tourism sector has a vital effect on tourism advertisement.
Keywords Tourism Revenue, Tourism Advertising, Tourism Index, Unit Root Test, Bootstrap Causality Test

INTRODUCTION[1]

Having invisible export direction as well as providing direct and indirect employment, tourism sector has become a significant part of economy and finance. The positive developments in the tourism sector are helping the promotions of countries, providing national economy to grow and they also ensure an increase in social welfare. The

[1] Due to the support and convenience of access to advertising data of tourism, we would like to thank to MTM (Media Monitoring Center).

development of tourism sector will be possible by strategic financial decisions taken at the right time and in the right way. Hereby, the existence of tourism firms will be sustainable.

Within this respect, tourism in developing countries plays a fundamental role on economic growth and development.(Sinclair, 1998; Wang et al., 2012; Eugenio-Martín et al., 2004). In these countries, obtained one unit of means contributes to, as well as in tourism sector, investments on other sectors (Wang et al., 2012), and these are used in order to create more employment (Tse, 2001).

Tourism sector has been one of the most important factors of economic development in recent years in Turkey by creating new employment opportunities and positive effect on GDP and balance of payments. In 2009, Tourism sector created 7.2% of total employment and 10.2% of GDP. Number of tourists and tourism revenue has increased in recent years and growth rate of tourism sector in Turkey has observed higher than global growth rate of sector. While the share of foreign tourists coming to Turkey in global total was 1.1% in 1990, this number reached 2.7% in 2008; while the share of tourism revenue for Turkey in total global tourism revenue was 1.2% in 1990 (www.invest.gov.tr). Between the years 2009 and 2012, visitor number and tourism revenue was 14.9% and 17.1, respectively and 0.019$ revenue growth per visitor was provided (www.tüik.gov.tr).

Stock Market of Istanbul (BIST) is calculating indices having different characters for the purpose of making investors to follow movements in the market. One of these indices is tourism index where businesses operating in tourism sector, quoted on the stock market and evaluated together. Thus, analyzing the change in stocks of firms in tourism sector will be easier and general evaluation about financial development of tourism sector will be available for investors.

Advertisement for tourism sector is all defined as commercial techniques in order to services produced by a tourism firm or a group of firms, attract new customers to goods and services, maintain or increase the market share of a firm. The aim of the tourism advertisements is adapting changes & developments in economic & technical conditions and increasing competition, providing sales to customers in an easier way. It is obvious that tourism index expressing tourism income, advertisements and performances of tourism firms can be in a triple interaction.

1. BACKGROUND AND LITERATURE REVIEW

In tourism literature, there are studies to measure the effect of tourism on economic growth. Most of the studies focus on whether there was a long-run relationship between tourism revenue and economic growth and the direction of this relationship. Some studies taking into account the direction of relationship between tourism revenue and economic growth are (Belloumi, 2010; Lee and Chang 2008; Balaguer and Cantavella-Jorda, 2002; Vanegas, 2012) showing relationship from tourism revenue to economic growth in long term;(Kızılgöl and Erbaykal, 2008; Oh, 2005) showing relationship from economic growth to tourism revenue in one-way. In some studies, (Lee and

Chien, 2008; Kim et al., 2006; Lee and Chang, 2008; Gunduz and Hatemi-J, 2005) put forward there was reciprocal relationship. On the other hand, there were studies such as (Katircioglu, 2009) showing no relationship between tourism and economic growth in long run.

Tourism is one of the main sources of foreign exchange earnings. In order to gain necessary exchange earnings via tourism, tourism policy-makers should understand the response of tourists to price changings before and during accommodation periods. But it is difficult to obtain accurate tourist prices. Generally, people are more aware of nominal exchange rates than the costs of living at their destinations during determining decisions about travel. Therefore, exchange rates have been used widely in the empirical literature as a proxy for tourism prices. At the same time in studies, it is suggested to use consumer price indices to measure relative prices between tourist origin country and destination.(Yap, 2010:Webber, 2001).In other words, tourism revenue of countries can increase and decrease depending on real exchange rate. In studies examining the relationship between tourism revenue and exchange rate, (Dritsakis, 2004) observed causality relationship between exchange rate and tourism revenue;(Toh et al., 2006) found Japanese tourists to Singapore are sensitive to exchange rate and revenue. Similarly, (Webber, 2001) announced changes in exchange rate affects tourism demand in long-run. Also,(Tang, 2013) found unidirectional causality running from real exchange rates to real tourism revenue& real income in both short and long-run.(Eilat and Einav, 2004) realized exchange rates matter mainly for tourism to developed country. On the other hand, (Santana et al., 2010) found that less flexible exchange rates promote tourism. In their study (Mervar and Payne, 2007) observed exchange rate was not one of the determinants of tourism demand, (Eugenio-Martin et al., 2004) determined exchange rate was not an important variable in the growth of tourism.

Countries organize promotional activities about their general characteristics in order to inform prospective tourists, exhibit positive image about themselves and gain a share from international tourism market. In this respect, promotional & advertising activities are one of factors affecting the demand of a country in international tourism market. Promotional & advertising activities as well as have an impact to increase current tourism demand have power to stimulate potential tourism demand. Therefore, countries devote much more sources and time to promotional & advertising activities.

In the studies about tourism, variables of advertisement and promotion were emphasized as a significant factor affecting tourism revenue. However, these factors were not included into established models. Çuhadar (2006:53). In order to compensate for this lack in the literature, advertising numbers of tourism was considered as a variable in our study and its effect on other variables was investigated.

The contribution of this study to current literature is to expose the interaction between tourism revenue, advertising duration and tourism index in the terms of Turkey tourism by including tourism index, which is calculated by BIST and not included into established models of current studies, & average advertising durations as two new variables in the terms of Turkey tourism.

2. ECONOMETRIC METHODOLOGY

Compared with Toda-Yamamoto (1995) causality test, the most significant difference in Hacker Hatemi-J (2010) causality test is that critical values are determined according to Monte Carlo simulation method.

Unlike Toda-Yamamoto (1995), Hacker-Hatemi-J (2010) take into account possible normal dispersion of errors and there is no difference between these tests except acquisition of critical values by bootstrap in Hacker-Hatemi-J (2010). In this test, the causality relationship between two series is tested via delayed Vector Autoregressive Model (VAR):

$$y_t = \propto + A_1 y_{t-1} + \cdots + A_P Y_{P-1} + u_t$$

Here, y_t represents variable vector in 2x1 dimension and A state parameter vector. In order to gain Wald statistics which will be used test main hypothesis showing no Granger-causality between series, VAR model represented in this equation is as following:

$$Y = DZ + \delta$$

This model can be expressed as:

$$Y := \left(y_1^+ , y_2^+ , y_3^+ , \ldots , y_T^+ \right)$$

$$D := \left(\alpha , A_1 , A_2 , A_3 , \ldots , A_p \right)$$

$$Z := \left(Z_0 , Z_1 , Z_2 , \ldots , Z_{T-1} \right)$$

$$Z_t := \begin{bmatrix} 1 \\ y_t^+ \\ y_{t-1}^+ \\ . \\ . \\ y_{t-p+1}^+ \end{bmatrix}$$

$$\delta := \left(u_1^t , u_2^t , u_3^t , \ldots , u_T^t \right)$$

Main hypothesis showing no Granger causality can be tested following Wald test statistics:

$$\mathrm{W} = (\mathrm{C}\beta)\mathrm{I}\ [\mathrm{C}(\mathrm{ZIZ}) - 1\ \otimes \mathrm{x\ Su})\ \mathrm{CI})\ \mathrm{CI}] - 1\ (\mathrm{C}\beta)$$

Here, $\otimes$ represents the Kronecker multiplier and C shows the indicator function containing restrictions. Also β is of the form β=vec(D) and vec refers to column stacking operator. q shows the number of lags in each VAR equality, Su represents the calculated variance-covariance matrix for the unrestricted VAR model as $(\hat{\delta}_U' \hat{\delta}_U)/(T - q)$.

3. DATA

In this study monthly data in Turkey between periods from Aug 2004 till Dec 2012 was investigated. Data of Istanbul Stock Market Tourism Index was derived from www.borsaistanbul.com which is official web site of BIST, numbers of tourism revenue per capita was obtained from www.kultur.gov.trwhich is official website of Ministry of Culture and Tourism, average tourism advertising durations were provided by Media Monitoring Center (MTM). Before analysis, logarithmic forms of three series were calculated in order to avoid problem of heteroscedasticity.

4. EMPIRICAL RESULTS

In our study, ADF (1979) unit root test and Zivot Andrews (1992) unit root test which allows structural breaks were used in order to clarify the stationary levels of the series. According to results of ADF (1979) unit root test which does not into account structural breaks, tourism revenue& tourism index had a unit root and advertising durations were stationary at level. However, according to Zivot Andrews (1992) unit root test which allows structural breaks at both level and trend, only tourism index were stationary at first difference. Break dates for tourism revenue was Feb-2009, for tourism index was Dec-2008 (mortgage crises period) and for tourism advertising duration was Jan-2007. The coincidence of break date of tourism index into the period of 2008 global financial crisis is the indicator of choice of suitable model. Moreover, the effects of 2008 global financial crisis were occurred on tourism incomes. The break date was observed as Feb 2009 by Zivot Andrews unit root test. In here, the results of ADF and Zivot Andrews unit root tests were given in table 1 and table 2, resp.

Table1: **Results of ADF Unit Root Test**

	Level	**1st Diff.**
Ln (Tourism Revenue)	-2.02 (0.57)	-13.59(0.00)***
Ln (Tourism Index)	-1.99 (0.59)	-7.63(0.00)***
Ln (Tourism Adver. Duration)	-7.89(0.00)***	-

Optimal lag length was determined according to Schwarz information criterion. *** represents significance level of 1%.

Table 2: **Results of Zivot Andrews Unit Root Test**

	Level	**1st Diff.**	**Break Date**
Ln (Tourism Revenue)	-5,87 (0.06)**	-	Feb-2009
Ln (Tourism Index)	-3,51(0.55)	-9.05(0.00)***	Dec-2008
Ln (Tourism Adver. Duration)	-5,32 (0.03)**	-	Jan-2007

*** and ** represents 1% and 5%significance levels, respectively. Critical value for 1% is-5.57, for 5% -5.08 and for 10% is -4.82.

Next step after determination of stationary levels is investigation of causality relationship between series. According to Toda-Yamamoto (1995) causality test which can examine the relationship between series stationary at different levels, there was no causality relationship between these three series. Because, their significance levels are

above 10%.Results can be seen on table 3. These findings can't be sufficient to make precise comments. Therefore, bootstrap causality test developed by Hacker and Hatemi-J will be used by taking into consideration possibility of non-normal distribution of series in next step.

Table 3: **Results of Toda-Yamamoto Causality Test**

	Independent Variable		
Dependent Variable	**Ln (Tourism Revenue)**	**Ln (Tourism Index)**	**Ln (Tourism Adver. Duration)**
Ln (Tourism Revenue)	-	0.94	0.61
Ln (Tourism Index)	0.50	-	0.83
Ln (Tourism Adver. Duration)	0.82	0.94	-

1 lag was chosen according to Schwarz information criterion. These values of table represent significance levels.

There was observed causality from tourism index to advertising durations according to Hacker-Hatemi (2010) bootstrap causality test which can obtain critical values with monte-carlo bootstrap simulation and can investigate relationship between series stationary at different levels like Toda-Yamamoto (1996) causality test. Because, test statistics is bigger than bootstrap critical value of 10% significance level in causality from tourism index to advertisement durations. These findings were given in table 4.

Stock market index of countries accepted fundamental indicators are generally considered as variables which represent changes in market-wide. Tourism index is an important scale showing the performances of businesses in tourism sector. Therefore, all the performance scales whether positive or negative have an effect on tourism advertising duration. Compared with Toda-Yamamoto (1996) test, Hacker-Hatemi (2010) yielded new and important results. According to these results, while firms in tourism sector quoted on BIST are reaching high share prices, this will increase the advertisement durations. Moreover, decrease in share prices will lead the decrease in aforementioned advertisement numbers and durations.

Table 4: **Results of Hacker Hatemi-J Bootstrap Causality Test**

Dependent Variable	**Independent Variable**	
	Ln (Tourism Index)	**Ln (Tourism Ad. Duration)**
Ln (Tourism Revenue)	0.12	1.21
Bootstrap Crit. V. at 1%	6.91	7.23
Bootstrap Crit. V. at 5%	3.93	3.83
Bootstrap Crit. V. at 10%	2.75	2.68
	Ln (Tourism Revenue)	**Ln (Tourism Ad. Duration)**
Ln (Tourism Index)	0.29	0.04
Bootstrap Crit. V. at 1%	6.86	7.09
Bootstrap Crit. V. at 5%	3.86	4.03
Bootstrap Crit. V. at 10%	2.75	2.78

Dependent Variable	Independent Variable	
	Ln (Tourism Revenue)	Ln (Tourism Index)
Ln (Tourism Ad. Duration)	0.41	3.25*
Bootstrap Crit. V. at 1%	7.07	7.05
Bootstrap Crit. V. at 5%	3.95	3.85
Bootstrap Crit. V. at 10%	2.73	2.72

* represents 10% significance levels.

CONCLUSION

Tourism is an important sector in economic growth and development of developing countries by its positive contribution on employment & balance of payments and its expansionist effect upon other sectors. Therefore, there are many studies on tourism in the literature. These studies generally focus on the relationship between tourism and economic growth, tourism demand, tourism revenue and exchange rates.

In this study, unlike other studies, variables like tourism index which represents businesses in tourism sector and tourism advertising durations were used. The relationship between tourism index, tourism advertisings and tourism revenue was examined with firstly Toda-Yamamoto (1996) causality test, then with Hacker and Hatemi-J (2010) bootstrap causality test which eliminates the problem of possible normal non-dispersal of errors and obtains critical values by bootstrap simulation. More advanced and reliable findings were gained through Hacker and Hatemi-J (2010) test for these variables that there was no relationship according to results of Toda-Yamamoto test (1996).

While many one-way and two-way causality relationships were discovered between GDP and tourism income in literature, there was no causality between tourism index which is a fundamental scale of economic performance and tourism income according to our study.

The tourism advertising durations and tourism index used as variables in our study haven't been used in previous studies. Therefore, the results of our study cannot be compared by the literature. The contribution of this study to literature is adding two new variables into the model in order to show the relationship between tourism incomes, advertisement durations and tourism index in Turkish tourism.

As a result of study, one-way causality from tourism indices, which is an important indicator representing all positive and negative performances of businesses in tourism sector, to advertising durations was detected. These new variables, which have not been used before, and these new results were thought as contribution to literature.

The one of constraints of this study is that there is not any data about tourism advertisements before Aug 2004. Another one is that our study is restricted as only Turkey. In further studies, including panel analysis by containing more OECD

countries or unions like EU into the study will be more beneficial in comparison about this subject.

According to observed findings, when considering owned tourism potential of Turkey, tourism firms should give more importance to the promotion and advertising activities in order to provide the expected economic benefits from tourism. Moreover, businesses should show more emphasis while making advertising expenditure and selecting media tools to give advertisement. With these results, advertisements are observed significant in obtaining strategic competitive advantage. Effectively made advertisements will maximize the profit of firms. So, having higher profits and increased stock prices will lead firms to give more advertisements. Consequently, advertising in the tourism sector will contribute to the economic development of the country.

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