THE RELATIONSHIP BETWEEN TOURISM REVENUES AND FINANCIAL RATIOS OF ENTERPRISES IN THE BIST TOURISM: PANEL DATA ANALYSIS

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ABSTRACT

In today's world, many countries that want to realize economic development use tourism as a tool. The first definition of tourism that supported this was made in 1910 by the Austrian economist Hermann Von Schullar. He defined tourism as "the whole of the activities that relate to the economic direction of the movement that comes from the arrival of strangers from another country, city or region and their temporary stay" (Kozak vd, 2009: 1). In this study, the relationship between the tourism revenues obtained from TUIK and the financial ratios of the enterprises in the Bist Tourism (XTRZM) Index are examined by panel data analysis. For this purpose, the financial ratios of the tourism revenues and the enterprises in the Bist Tourism Index were used between 2007-2016. In also, hausman test was applied to the data for panel data analysis and the results indicate that there is a random effect. The acceptance of the null hypothesis implies that there is no correlation between random effects and explanatory variables and that constant effects on unit and time dimensions are not taken into consideration.

Key Words: *Tourism Revenues, Panel Data Analysis, Bist Tourism*

Jel Code: D1, E2, I13

1. INTRODUCTION

With the globalization of the world and the economic crises that countries have experienced, tourism comes into prominence day by day. In also, lots of countries all over the world take advantage of tourism for the closure of foreign trade deficits.

The international tourism movements, which have grown steadily since the 1950s, have expanded and diversified as much as everyday. The number of international tourists increased from 25 million in 1950 to 1.2 million in 2016. Over the past several years, the number of international tourists and tourism revenues has been steadily increasing, despite the large number of crises that have been influential in some periods and affecting different tourism regions in different ways. It is estimated that international arrivals will reach 1.4 billion by 2020 and 1.8 billion by 2030.

According to the figures of the year 2016, international tourism movements increased by 3.9% compared to the previous year and reached 1 billion 235 million people. Also, the expenditures of tourists traveling internationally amounted to 1.22 billion dollars in 2016. According to the statistics on employment in the tourism sector, it is seen that the travel and tourism industry provides employment opportunities to 109 million people in 2016 (UNWTO, 2017; TÜROFED, Turizm Raporu, 2017).

Turkey's tourism revenues increased by 37.6 percent compared to the same period of the previous year in the third quarter of this year reached 11 billion 391 million 668 thousand dollars. 77 percent of the tourism income from foreign visitors, 23 percent of citizens who reside abroad were obtained from the camp. 8 billion 855 million 369 thousand dollars in personal spending and 2 billion 536 million 299 thousand dollars in package tour expenses were made in this quarter (TÜİK, 2017).

This study, using the data of the companies in the BİST Tourism index, investigates *Current Rate* (CR), *Total Debt / Equity* (TDE), *Stock Turnover Rate* (STR), *Profit Per Share* (PPS), *Net Sales* (NS), variables' impact on tourism revenues (TR).

2. LITERATURE REVIEW

When we look at the studies about tourism revenues, it is seen that there are many studies in the literature. In a survey conducted by Weber (2001) in Australia, exchange rate changes have affected tourism demand. Dritsakis (2004) argues that there is a relationship between international tourism income and real effective exchange rate and real growth. Sequeira and Campos (2005) found that tourism revenues did not have an impact on economic growth. The research was conducted on Africa, Asia, Latin America and

European Countries. Khalil et al. (2007) have stated that there is a strong relationship between tourism revenues and growth. Mervar and Payne's (2007) the impact of the demand for foreign exchange on tourism in Croatia is weak. Fayissa et al. (2007) have concluded that tourism revenues have an effect on GDP and economic growth. Lee and Chang (2008) have come to the conclusion that per capita tourism spending is influential on the number of tourists and real exchange rate growth. Bahar and Bozkurt (2010) found that a positive and meaningful relationship between tourism and economic growth in terms of developing countries. Ünlüönen and Şahin (2011) claimed that all income entering the tourism sector directly affects employment in the tourism sector and indirectly affects employment in other sectors. Samimi et al. (2011) and Lashkarizadeh et al. (2012) argue that there is a long-term bilateral relationship between tourism revenues and growth, and that both variables influence each other. Srinivasan et al. (2012) in Sri Lanka have observed that tourism revenues have a positive impact both on short and long term on economic growth. Chatziantoniou et al. (2013) indicate that ndicate that oil specific demand shocks contemporaneously affect inflation and the tourism sector equity index, whereas these shocks do not seem to have any lagged effects. By contrast, aggregate demand oil price shocks exercise a lagged effect, either directly or indirectly, to tourism generated income and economic growth. Krelling et al. (2017) found that the trade-off local authority's make between investments to prevent/remove beach litter and the potential reduction in income from a tourist destination change.

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3. METHODOLOGY

The data used in this study were obtained from the website of the Kamuyu Aydınlatma Platformu (2017), the related companies' own sites, the Financial Information News Network (2017) website and TÜİK official site. The data set consisted of 10 years observation values covering the years 2007-2016 and analyzes were made using Eviews 9 package program.

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In this study, located in Bist Tourism Index (AVTUR, AYCES, ETILR, KSTUR, MAALT, MARTI, MERIT, METUR, PKENT, TEKTU, ULAS, UTPYA), with tourism revenues between the years of 2007-2016 in Turkey it was examined using data generated by the company's twelve variables.

Using the financial data of the companies included in the Bist Tourism Index in Annex 1; The model created to investigate the relationship between variable of Tourism Revenue (TG) and variables of Current Rate (CO), Total Debt / Equity (TBO), Stock Turnover Rate (STH), Profit Per Share (HBK), Net Sales (NS):

$$TG_{it} = \beta_0 + \beta_1 CO_{it} + \beta_2 TBO_{it} + \beta_3 STH_{it} + \beta_4 FK_{it} + \beta_5 HBK_{it} + \beta_6 NS_{it} + \varepsilon_{it}$$

Table 1: Pooled Estimate Results

Dependent Variable: LOGTG?
Method: Pooled Least Squares
Date: 01/06/18 Time: 22:33
Sample (adjusted): 2008 2016
Included observations: 9 after adjustments
Cross-sections included: 10
Total pool (unbalanced) observations: 34
Cross sections without valid observations dropped

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGCO?	-2.63E-17	1.15E-16	-0.228664	0.8208
LOGTBO?	2.97E-17	5.00E-17	0.594671	0.5568
LOGSTH?	-1.92E-17	7.59E-17	-0.253595	0.8017
LOGFK?	1.01E-16	9.28E-17	1.084109	0.2876
LOGHBK?	-3.79E-17	7.87E-17	-0.481940	0.6336
LOGNS?	0.374883	0.283415	1.322735	0.1966

R-squared	0.115947	Mean dependent var	41.83524
Adjusted R-squared	-0.041919	S.D. dependent var	73.42058
S.E. of regression	74.94364	Akaike info criterion	11.63014
Sum squared resid	157263.4	Schwarz criterion	11.89949
Log likelihood	-191.7123	Hannan-Quinn criter.	11.72199
Durbin-Watson stat	0.870345		

$$(LOGTG)_{it} = 2.63E\text{-}17(LOGCO)_{it} + 2.97E\text{-}17(LOGTBO)_{it} + (-1.92E\text{-}17)(LOGSTH)_{it} + 1.01E\text{-}16(LOGFK)_{it} + (-3.79E\text{-}17)(LOGHBK)_{it} + 0.374883(LOGNS) + \varepsilon it$$

Table 2: Random Impact Test Results

Dependent Variable: LOGTG?
Method: Pooled EGLS (Cross-section random effects)
Date: 01/06/18 Time: 22:35
Sample (adjusted): 2008 2016
Included observations: 9 after adjustments
Cross-sections included: 10
Total pool (unbalanced) observations: 34
Swamy and Arora estimator of component variances
Cross sections without valid observations dropped

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-92.25602	108.1784	-0.852814	0.4013
LOGCO?	1.39E-17	1.76E-16	0.078739	0.9378

LOGTBO?	1.76E-16	1.77E-16	0.995130	0.3285
LOGSTH?	6.08E-17	1.42E-16	0.428743	0.6715
LOGFK?	1.59E-16	1.12E-16	1.423693	0.1660
LOGHBK?	-9.04E-17	1.35E-16	-0.669952	0.5086
LOGNS?	0.348663	0.291160	1.197497	0.2415
Random Effects (Cross)				
_AVTUR--C	-37.44688			
_AYCES--C	31.44854			
_ETILR--C	-34.96717			
_KSTUR--C	-8.371120			
_MAALT--C	15.79555			
_MARTI--C	-14.56646			
_METUR--C	20.66410			
_PKENT--C	-16.40221			
_TEKTU--C	-0.943638			
_UTPYA--C	44.78927			

Effects Specification	S.D.	Rho
Cross-section random	51.72806	0.3331
Idiosyncratic random	73.19280	0.6669

Weighted Statistics			
R-squared	0.174677	Mean dependent var	24.33830
Adjusted R-squared	-0.008728	S.D. dependent var	69.47116
S.E. of regression	69.13964	Sum squared resid	129067.8
F-statistic	0.952411	Durbin-Watson stat	1.010426
Prob(F-statistic)	0.475139		

Unweighted Statistics			
R-squared	0.112436	Mean dependent var	41.83524
Sum squared resid	157888.0	Durbin-Watson stat	0.825987

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According to Hausman test results in Table 3 Probe = 0.9072> 0.050, the H_0 hypothesis was accepted at both the unit and time dimensions at the level of 5% significance. So there is a random effect. The acceptance of the null hypothesis implies that there is no correlation between random effects and explanatory variables and that constant effects on unit and time dimensions are not taken into consideration.

Table 3: Hausman Test Results and Random Impact Forecast Results

Correlated Random Effects - Hausman Test
Pool: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.132098	6	0.9072

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
LOGCO?	-0.000000	0.000000	0.000000	0.4865
LOGTBO?	0.000000	0.000000	0.000000	0.9812
LOGSTH?	0.000000	0.000000	0.000000	0.8922
LOGFK?	0.000000	0.000000	0.000000	0.6186
LOGHBK?	-0.000000	-0.000000	0.000000	0.9154
LOGNS?	0.375365	0.348663	0.002874	0.6184

Cross-section random effects test equation:
Dependent Variable: LOGTG?
Method: Panel Least Squares
Date: 01/06/18 Time: 22:36
Sample (adjusted): 2008 2016
Included observations: 9 after adjustments
Cross-sections included: 10
Total pool (unbalanced) observations: 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-112.1366	125.8953	-0.890713	0.3848
LOGCO?	-3.70E-17	1.91E-16	-0.193855	0.8485
LOGTBO?	1.78E-16	1.91E-16	0.930776	0.3643
LOGSTH?	8.36E-17	2.20E-16	0.379930	0.7084
LOGFK?	2.02E-16	1.41E-16	1.431415	0.1694
LOGHBK?	-1.08E-16	2.12E-16	-0.508674	0.6172
LOGNS?	0.375365	0.296054	1.267893	0.2210

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.457925	Mean dependent var	41.83524
Adjusted R-squared	0.006195	S.D. dependent var	73.42058

S.E. of regression	73.19280	Akaike info criterion	11.72926
Sum squared resid	96429.35	Schwarz criterion	12.44755
Log likelihood	-183.3974	Hannan-Quinn criter.	11.97422
F-statistic	1.013714	Durbin-Watson stat	1.322746
Prob(F-statistic)	0.483151		

In accordance with the data set, the natural logarithms of the series are taken first. The results of the Hausman Test are given in Table 3. According to the test results obtained, Probe= **0.9072> 0.050**, the H_0 hypothesis was accepted at both the unit and time dimensions at the level of 5% significance. So, there is a random effect. The acceptance of the null hypothesis implies that there is no correlation between random effects and explanatory variables and that constant effects on unit and time dimensions are not taken into consideration.

4. RESULT

This paper empirically investigated both the short-run and long- run effects of inbound tourism on financial ration in Turkey, directly to Bist Tuourizm index over the period of 2007–2016. We collect yearly data betwen these period in BIST tourizm index. The model created to investigate the relationship between variable of Tourism Revenue and variables of Current Rate, Total Debt / Equity , Stock Turnover Rate, Profit Per Share, Net Sales. The analysis in Table 2 we analyzed Random effect betwen values, as the result shows that there is no correlation between random effects and explanatory variables and that continuous effects on unit and time dimensions are not taken into consideration. The Hausman test was also conducted to prove this data, the test results were significant at the 5% level (Probe= 0.9072> 0.050), there is a random effect. The acceptance of the H0 hypothesis indicates that there is no correlation between random effects and explanatory variables and that continuous effects on unit and time dimensions are not taken into consideration. The result is that although there is a harmony between the data sets, the Bist tourism index and Finacial ratios does not seem to be a direct contribution to tourism.

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