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TOURISM REVENUES-BUSINESS CYCLES RELATIONSHIP: EU COUNTRIES AND TURKEY CASE ¹

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ABSTRACT

With the acceleration of financial liberalization after the 1980s, the frequency and duration of business cycles in the world have increased; the right assumptions about the periods of contraction and expansion have become more and more important in terms of countries. Business cycles that are moving along with a large number of macroeconomic variables undoubtedly affect the tourism industry, which is one of the fastest growing sectors in the world since the middle of the last century. The concept is used not only at the economic level but at the same time in relation to political and political developments. Therefore, the 2011 European debt crisis and the recent political developments between Turkey and the EU countries could affect the economic conjuncture. The relationship between conjuncture fluctuations and tourism revenues in this study is analyzed using panel data methods for EU countries and Turkey for the period 1995-2015. Findings show that tourism revenues are procyclical.

Key Words: Business Cycles, Tourism Revenues, Panel Data Methods.

ÖZET

1980'lerden sonra finansal serbestleşmenin hızlanmasıyla dünyadaki konjonktür dalgalanmalarının sıklığı ve süresi artmıştır; daralma ve genişleme dönemleri hakkındaki doğru varsayımlar ülkeler açısından giderek daha önemli hale gelmiştir. Çok sayıda makroekonomik değişkenle birlikte hareket eden iş çevrimleri, kuşkusuz, geçen yüzyılın ortalarından bu yana dünyanın en hızlı büyüyen sektörlerinden biri olan turizm endüstrisini etkilemektedir. Kavram sadece ekonomik düzeyde değil, aynı zamanda siyasi ve politik gelişmelerle bağlantılı olarak da kullanılmaktadır. Bu nedenle, 2011 Avrupa borç krizi ve Türkiye ile AB ülkeleri arasındaki son siyasi gelişmeler ekonomik konjonktürü etkileyebilir. Bu çalışmada konjonktür dalgalanmaları ile turizm gelirleri arasındaki ilişki 1995-2015 dönemi için AB ülkeleri ve Türkiye için panel veri yöntemleri kullanılarak analiz edilmiştir. Bulgular, turizm gelirlerinin dönemsel olduğunu göstermektedir.

Anahtar Kelimeler: İş Çevrimleri, Turizm Gelirleri, Panel Veri Yöntemleri.

1. INTRODUCTION

Since the 1960s, tourism has been one of the most developing sectors in the world economy. The number of international tourists in the world in 1960 to 69.3 million in 2005 to 806.8 million; in 2016, it reached 1,235 billion dollars. It is estimated that this number will reach 1.8 billion by 2030. Between 2008 and 2016, over 300 million people traveled internationally. In 2016, the total number of tourists increased about 46 million compared to the previous year, and the growth rate of the sector recognized 4%. On the other hand, the tourism sector, which accounts for 10% of the world GDP by 2016,

¹ The article is the full text of the abstract presented at the 7th Advances in Hospitality & Tourism Marketing and Management (AHTMM) Conference held in Famagusta/North Cyprus on 10-15 July 2017.

provides directly employment one out of every ten persons. In addition, while the sector contributed \$ 1.5 trillion in total exports, the share of sector in total exports is 7%; the share in total service exports is 30%. The fact that of the stated sector has recently improved over the average has gradually increased its importance in the economy (UNWTO, 2016: 11-12). When we look at tourism statistics of Turkey, it is seen that similar developments seem to have been experienced. While the number of tourists coming to Turkey in 1990 was 5,389 million, this number increased to 21,125 million in 2005 and to 25,352 million in 2016. At the same time, the share of tourism sector in Turkey's national income rised to 6.2% in 2015 and then decreased to 2.6% in 2016. Furthermore, according to the data of the year 2016; Total income ratio of tourism revenues was 15.5%. On the other hand, when it is thought that Turkey has 55,996 billion dollars foreign trade deficit in 2016 and at the same time 22,107 billion dollars in tourism income, Turkey has met 39.48% of its current deficit through tourism incomes (TÜRSAB, 2017).

As well as providing foreign exchange inflows to countries, the tourism sector has positive effects on macro variables such as unemployment and balance of payments. When considering the contributions to the economy; the tourism sector is considered one of the sectors that countries should focus on in their economic growth and development strategies (Bahar and Bozkurt, 2010: 256). In this context, important investments aimed at tourism sector in Turkey have been passed on; various incentive policies have been put into practice in order to stimulate the sector. However, when we compare the number of tourists in Turkey and the tourism income with developed tourism countries, it is seen that tourism in Turkey is not developed sufficiently. In this context, it is necessary to analyze of factors affecting tourism so that the number of tourists and tourism incomes can be increased, and the right policies must be passed on in the light of the results obtained (Özcan et al., 2015: 364).

Factors affecting tourism; economic, social, psychological and political dealt with under four headings. In this context, prices of tourist goods and services, expendable income level, education level, population structure, religious belief and political attitudes of countries are among the main factors affecting tourism (Oktayer, 2007: 18-23). Although the effects of these factors on tourism addressed in many studies, business cycle and tourism relations was not handled too much. In this study, relationship between business cycke and tourism incomes is analyzed using panel data methods for EU countries and Turkey for the period 1995-2015.

2. TOURISM INDICATORS

According to the World Tourism Organization data; In 2016, 50% of total tourists to Europe, 25% to Asia Pacific, 16% to America, 5% to Africa and 4% to Middle East preferred. On the other hand, the countries that attract the most tourists in the world in 2015 were France (84.5 million), USA (77.5 million), Spain (68.5 million), China (856.9 million) and Italy (50.7 million). The countries that make the most tourism expenditures in the year 2016 were China (261 billion dollars), USA (122 billion dollars), Germany (81 billion dollars), England (64 billion dollars) and France (41 billion dollars) (UNWTO, 2016: 12-13). Table 1 shows the total number of tourists and tourism incomes in the world and Turkey in the period 1995-2017.

Table 1. Tourism Statistics

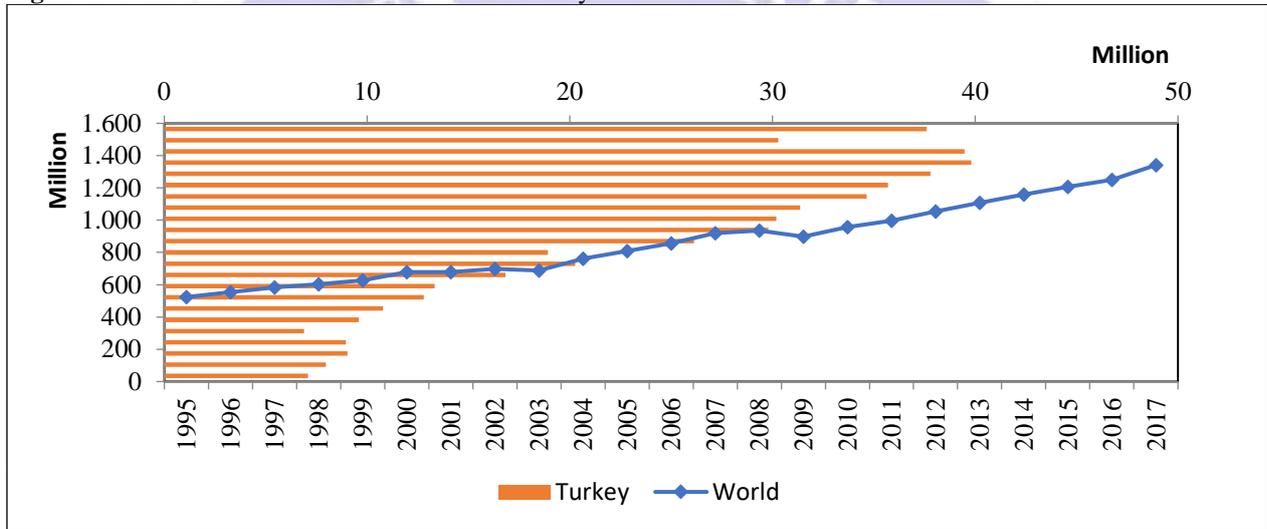
Years	Tourist Numbers		Tourism Incomes	
	World	Turkey	World	Turkey
1995	523.909.597	7.083.000	484.904.998.823	4.957.000.000
1996	554.551.599	7.966.000	523.745.248.945	5.650.000.000
1997	584.304.845	9.040.000	524.846.762.212	7.002.000.000
1998	602.247.338	8.960.000	528.513.876.580	7.177.000.000
1999	627.207.865	6.893.000	552.230.539.377	5.203.000.000
2000	677.386.990	9.586.000	570.988.410.933	7.636.000.000
2001	678.246.238	10.783.000	562.232.181.294	10.067.000.000
2002	698.431.588	12.790.000	588.750.384.848	11.901.000.000
2003	689.071.739	13.341.000	646.413.409.181	13.203.000.000
2004	761.468.261	16.826.000	769.414.432.084	15.888.000.000
2005	808.774.225	20.273.000	816.987.861.687	20.760.000.000
2006	857.088.655	18.916.000	883.266.088.225	19.137.000.000

2007	920.175.482	26.122.000	1.022.579.969.985	21.662.000.000
2008	936.360.913	29.792.000	1.122.335.856.625	26.446.000.000
2009	897.533.848	30.187.000	1.010.312.995.705	26.331.000.000
2010	956.372.260	31.364.000	1.098.725.788.456	26.318.000.000
2011	997.555.261	34.654.000	1.230.969.387.878	30.302.000.000
2012	1.054.602.152	35.698.000	1.286.529.311.039	31.566.000.000
2013	1.106.732.072	37.795.000	1.380.259.380.181	36.192.000.000
2014	1.159.450.156	39.811.000	1.453.293.534.873	38.855.000.000
2015	1.206.215.744	39.478.000	1.402.811.742.082	35.597.000.000
2016	1.250.467.517	30.289.000	1.422.150.366.234	26.788.000.000
2017	1.341.456.974	37.601.000	1.525.677.407.603	31.870.000.000

Source: World Bank, 2017.

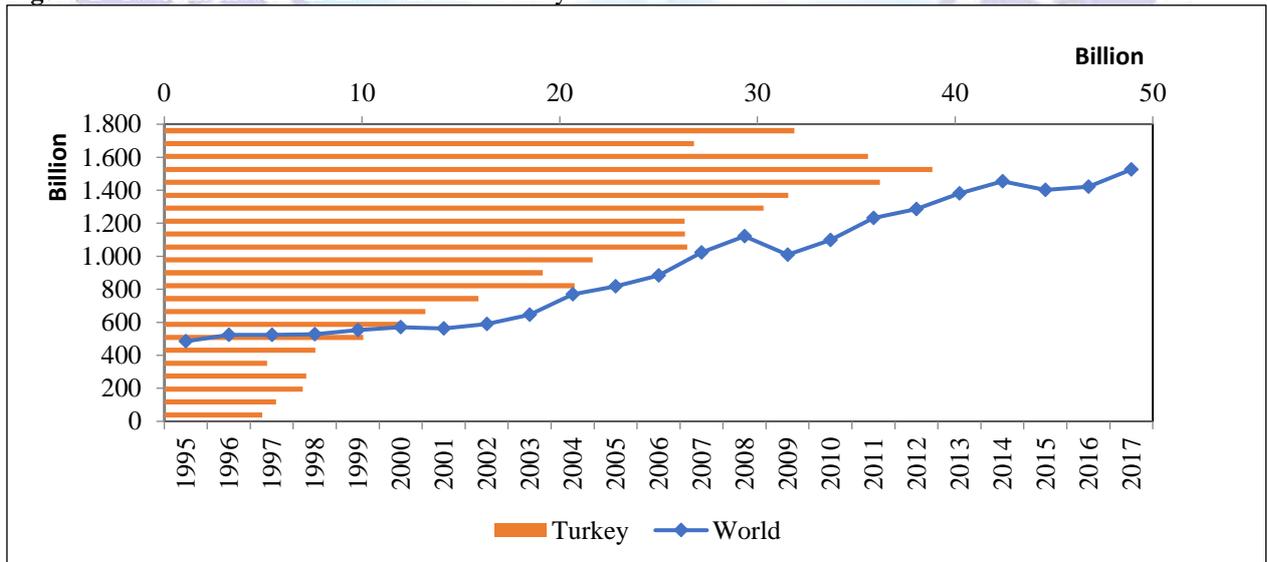
Change between 1995-2017 year in number of arrival in the world and Turkey is shown in Figure 1.

Figure 1: Number of Arrival in the World and Turkey



Change between 1995-2017 year in tourism revenue in the world and Turkey is shown in Figure 2.

Figure 2: Tourism Income in the World and Turkey



Source: World Bank, 2019.

As seen in Figure 1 and 2, tourist numbers and tourism revenues are generally in an increasing trend both in the world and in Turkey. Additionally, according to the data of the year 2015; Turkey ranked

6th in the world in terms of number of tourists and 12th in terms of tourism income. When considered potential that Turkey has, it is clear that these numbers can be further increased.

3. LITERATURE REVIEW

The industrial revolution first appeared in England and then spread to the whole world. After this period technological innovations have gained momentum and this has led to a rapid increase in economic activity, especially in the level of production (Allen, 2006: 1; Selvi, 2012: 197). Thus, after the industrial revolution, the business cycles to be experienced in the economy have begun to gain more importance in terms of countries. Moreover, after the 1970s, economic effects of business cycle due to the globalization movement have begun to be discussed more in the literature.

It is assumed that business cycle are composed of four phases; welfare, decline, collapse and expansion (Parasız and Bildirici, 2014: 16). While the mentioned fluctuations have had important effects on the country's economies, these effects can reach more serious dimensions especially during the decline and collapse phases. Tourism, which is included in the international services section under the current account, leads to an increase in national income, that is, economic growth with the export channel leads to an increase in national income, that is, economic growth through export (Yamak et al., 2012: 205). In this context, business cycles are a fact that tourism sector will also affect. But direction and intensity of this effect is a matter of debate. In the literature, while generally studies about the relationship between economic growth and the tourism sector have been made; the tourism impact of cyclical fluctuations has not been tackle too much. The results obtained from studies performed in the relevant area are summarized in Table 2.

Table 2. Business Cycle and Tourism Sector in the Literature

Authors	Empirical Method	Period	Country	Results
Formica ve Uysal (1996)			Italy	It is stated that the economic stagnation in 1992 affected the tourism sector negatively.
Wong (1997)	Durbin-Watson Testi	1975-1995	Hong Kong	The results show the importance of business cycle in influencing tourism behaviors.
Guizzardi ve Mazzocchi (2010)	Yapısal Kırılmalı Zaman Serisi	1985-2004	Italy	Business cycles are one of the factors that influence tourism demand.
Narayan (2011)	Autoregressive Distributed Lag (ARDL)	1976-2004	Australia	Bidirectional causality relation between business cycles and growth and tourism expenditures is found.
Mayers ve Jackman (2011)	Granger Nedensellik Analizi	1966-2009	Barbados	Business cycles are one of the variables that determine tourism demand.
Smeral (2012)	Zamanla Değişen Parametre Yaklaşımı	1977-2011	Canada, Australia, Japan and Selected EU countries	Business cycles are among the factors affecting export expenditures towards tourism.
Canova ve Dallari (2013)	VAR modeli	2006-2010	Cyprus, Morocco, Syria, Tunisia and Turkey	Moving from samples selected countries; business cycles affect tourism demand.
Merida vd. (2013)	Granger Nedensellik Analizi	1980-2013	Spain	Until 1994, while causality has been found from economic growth towards tourism; after 1999 the relationship between variables became bi-directional.
Özcan vd. (2015)	Markov Rejim Değişimi Modeli	1990-2014	Turkey	Tourism moves in two different regimes. It was found that the number of tourists stayed relatively higher compared to the contraction regime in the enlargement regime.

4. DATA, METHOD AND APPLICATION

The variables used in this study, which examines the relationship between tourism revenues and business cycles, are presented in Table 3. As can be seen in Table, variables used in analyzes are international tourism revenues and GDP values. Both variables are used in logarithmic form. GDP values are decomposed into components in terms of trend-cycle (trend deviations) using the Hodrick-Prescott (HP, 1997) filter and as suggested by Stock and Watson (1999), cycle component is used to represent business cycles.

Table 3. Variables

International Tourism, Receipts	International tourism receipts are expenditures by international inbound visitors, including payments to national carriers for international transport. These receipts include any other prepayment made for goods or services received in the destination country. They also may include receipts from same-day visitors, except when these are important enough to justify separate classification. For some countries they do not include receipts for passenger transport items. Data are in current U.S. dollars.
GDP	GDP, within the borders of country, is defined as total value of the final goods and services produced by both the citizens of that country and the other countries. In calculation of GDP, three different techniques are used; spending, income, and production. GDP is accepted as the most important indicator of economic growth in the literature of economics. Data are in current U.S. dollars.

Source: WorldBank (2017b). World Development Indicators, <http://databank.worldbank.org/data/home.aspx> (Access Date: 02.06.2017).

The relationship between tourism revenues and business cycles will first be investigated whether there is cross-section dependency between the series. In the case of cross-section dependency, the stability of the series will be analyzed by second generation unit root tests. After stationarity analysis, the Panel Auto Regressive Distrubuted Lag Model (ARDL) model will be applied.

The Panel ARDL method was used in examining the relationship between tourism revenues and conjuncture fluctuations.business cycles. The ARDL method has been proposed by Pesaran, Shin and Smith (1999). The most important advantage of this method is that it does not need to be all variables to be used in practice I (1) as in the cointegration analysis.

ARDL model can be formulated as follows:

$$\Delta(m - p)_t = a_t + \sum_{j=1}^{p-1} \psi_j \Delta(m - p)_{t-j} + \sum_{j=0}^{q-1} \alpha_{1j} \Delta y_{t-j} + \sum_{j=0}^{q2-1} \alpha_{2j} \Delta i_{t-j}^s + \sum_{j=0}^{q3-1} \alpha_{3j} \Delta i_{t-j}^l + \sum_{j=0}^{q4-1} \alpha_{4j} \Delta \pi_{t-j} + \gamma_0(m - p)_{t-1} + \gamma_1 y_{t-1} + \gamma_2 i_{t-1}^s + \gamma_3 i_{t-1}^l + \gamma_4 \pi_{t-1} + u_t$$

In equation, γ_i represent long-run parameters and ψ_j and α_{ij} the short run dynamic coefficients of the model. u_t is uncorrelated with the lagged endogenous and exogenous regressors and the first differences of the exogenous regressors and their lags (Belke and Czudaj, 2010: 16-17).

According to the results of cross-section dependence tests (Breusch-Pagan LM and Pesaran CD) are presened in Table 4, both variables are cross-section dependent. Therefore, it is necessary to use second-generation unit root tests that produce consistent results in the case of cross-section dependency

Table 4. Cross-Section Dependence Test

TESTS/VARIABLES	LNTR	LNBC	TESTS/VARIABLES	LNTR
	Statistic	Prob.		Statistic
Breusch-Pagan LM	6293.637	0.0000	Breusch-Pagan LM	6293.637
Pesaran scaled LM	205.5979	0.0000	Pesaran scaled LM	205.5979
Bias-corrected scaled LM	204.8729	0.0000	Bias-corrected scaled LM	204.8729
Pesaran CD	78.12743	0.0000	Pesaran CD	78.12743

Null hypothesis: No cross-section dependence (correlation)

In the study, a test developed by Pesaran (2007) from second generation unit root tests was used. According to Pesaran CIPS test results are summarized in Table 5, while the variable LNBC was stationary, the LNTR variable was not stable. LNTR variable has been made stable by taking first differences.

Table 5. Pesaran (2007) Panel Unit Root test (CIPS)

Variable	Specification without trend			Specification with trend	
	lags	Zt-bar	p-value	Zt-bar	p-value
LNTR	0	-3.188	0.001	-1.762	0.039
	1	-2.895	0.002	-0.812	0.208
	2	-3.881	0.001	-2.320	0.010
	3	-1.322	0.093	-0.404	0.343
LNBC	0	-10.610	0.000	-6.732	0.000
	1	-8.586	0.000	-4.442	0.000
	2	-6.422	0.000	-2.117	0.017
	3	-4.269	0.000	-1.918	0.028
First Differences					
DLNTR	0	-12.444	0.000	-9.979	0.000
	1	-6.564	0.000	-5.880	0.000
	2	-4.056	0.000	-2.313	0.010
	3	-2.752	0.003	-2.423	0.008

Null for CIPS test: series is I(1). CIPS test assumes cross-section dependence is in form of a single unobserved common factor.

After the unit root analyzes, the relationship between tourism revenues and business cycles is estimated using the panel ARDL model and the findings are presented in Table 6. The long and short term coefficient of LNBC is positive and statistically significant. We know from macroeconomic literature, in terms of cycle movement, a variable can act as procyclical, countercyclical or acyclical. If the business cycles variable is positively related to a variable, it indicates that this variable is moving in a conjuncture direction (procyclical). In other words, the positive correlation of a variable with the cycle suggests that this variable increases during the expansion period and decreases during the contraction period. Findings show that tourism revenues increased during the expansion periods and decreased during the contraction periods. On the other hand, the error correction parameter, which indicates the rate of short-term imbalances to long-term balance, is also negative and statistically significant. In line with this situation, approximately 63% of imbalances in a period will be recovered in the next period and will be approached to the long-run equilibrium. It can be said that the speed of convergence is less than 2 years. For unit effects; the coefficients of error correction parameters of all European countries except for Finland, France, Romania and Slovenia are significant. Along with that, the coefficients of error correction parameter of candidate country Turkey is significant. All findings show that, during periods when economic activity slows down, due to decrease in income levels, there is also a decline in tourism revenues of countries.

Table 6. Panel ARDL Results (Dependent Variable: D(LNTR), Selected Model: ARDL (4, 4))

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
LNBC	0.031973	0.004637	6.895189	0.0000
Short Run Equation				
COINTEQ01	-0.633857	0.077549	-8.173672	0.0000
D(LNTR(-1))	0.205069	0.078978	2.596549	0.0099
D(LNTR(-2))	-0.017553	0.067012	-0.261940	0.7935
D(LNTR(-3))	0.116018	0.069322	1.673618	0.0952
D(LNBC)	0.298014	0.089721	3.321554	0.0010
D(LNBC(-1))	0.219996	0.095680	2.299293	0.0221
D(LNBC(-2))	0.134509	0.063692	2.111869	0.0355
D(LNBC(-3))	0.142569	0.046567	3.061571	0.0024
C	13.76598	1.643137	8.377866	0.0000
@TREND	0.037907	0.007176	5.282571	0.0000

5. CONCLUSION

In this study which examines the relationship between business cycle and tourism incomes, findings show that tourism revenues are procyclical. Therefore, it is predicted that tourism incomes will also decrease in periods when economic recession is taking place in Turkey. In this context, continuity in economic growth is crucial in terms of increasing tourism revenues. On the other hand, that taking into account the solution proposals mentioned below will be able to provide useful results in terms of the development of solution policies to the existing problems with the tourism sector:

- ✓ The realization of inclusive and sustainable growth,
- ✓ Diversification and correct pricing of tourism products,
- ✓ Increasing of quality,
- ✓ Resolution of political and social issues, especially like terror,
- ✓ Increasing of advertising and promotional activities.

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