



Factors Affecting International Tourism Revenues

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Abstract

The aim of this study is to examine the determinants of international tourism revenues using panel data analysis method (fixed effects, random effects models and GMM model). There are 16 countries selected with annual data for the period 2007-2018. In this study, international tourism revenues as a dependent variable; gross domestic product (GDP), gross capital formation (GCF), rule of law index and the number of international visitors are stated as independent variables. According to the results of the analysis, it is determined that there is a statistically significant and positive relationship between international tourism revenues and GDP, gross capital formation, the rule of law index, the number of international visitors.

1. Introduction

Being one of the most important resources for both developing and developed economies, tourism has become one of the fastest growing sectors in the world in recent years. Hence the importance of tourism and tourism income, as throughout the world Turkey in private has increased a remarkable way. At this point, with the increasing importance of tourism in the economy, it is important to determine the factors affecting the international tourism revenues within the scope of the rapid development of this sector and increase the demand for this sector effectively. As a matter of fact, developments in the tourism sector and increases in tourism income have a positive effect on the economy and development.

The aim of this study is to determine the factors affecting international tourism revenues by using the panel data method of 2007-2018. There are 16 countries (USA, Germany, China, France, Britain, Sweden, Japan, Canada, Russia, Turkey, Denmark, Australia, Singapore, South Korea, Malaysia, Netherlands) which have different levels of development were selected in this direction. It is also important that preferred these countries which are generally attract the most tourists and gain tourism income. As a result of the analysis, it was evaluated how gross domestic product (GDP), gross capital formation, rule of law index and the number of international visitors (as independent variables) affect international tourism

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revenues (as a dependent variable). From this perspective, the originality of this study is the use of different variables about which social, economic and law.

In the first part of this study; descriptions and evaluations related to international tourism revenues in Turkey and the world was made. In the second part, the theoretical and empirical literatures on the factors affecting international tourism revenues were emphasized. In the third section, the findings of the research were determined together with this method, data set and models containing empirical analysis by using the panel data model. In the fourth section, where the findings are evaluated, a number of policy suggestions were made in conclusion.

2. International Tourism Revenues and Affecting Factors: Theory and Empirical Literature

Tourism initially emerged in line with people's desire to travel and see other places, and it developed rapidly after the Second World War. Today, the importance of tourism is increasingly understood (Özcan, 2015: 204). With the disappearance of closed economies that lasted until the last quarter of the 21st century, the world encountered the phenomenon of globalization. This concept brought about the disappearance of borders, consumption of resources without knowing borders and sharing of information. Regardless of whether the country economy is developed or developing, tourism has increased its importance in the world with globalization.

Tourism, as an infant industry, has affected countries economically and socially in recent years. Tourism is one of the important sources of income that creates employment in countries and plays a major role in creating new economic and profit opportunities (Lashkarizadeh, 2012: 88). Therefore, tourism is expressed as an economic activity that generates income for the national economies, provides foreign currency income and decreases unemployment through exchange input and job opportunities, and contributes to cultural development. Basically, tourism means a socio-economic event that starts with an economic decision on the leisure and savings and has economic sides such as "investment, employment, foreign sales and public revenues" (Erkan, Kara & Harbalıoğlu, 2013: 220). According to the definition of the World Bank, tourism is expressed as activities to stay or travel to another place without a year other than their own environment for a different purpose (World Bank, 2014: 93). Tourism is also referred to as an invisible foreign trade (international services) item of "goods and services made at retail prices" that have significant effects on the balance of payments. In this regard, it is understood that the increases in tourism income are an important factor in terms of financing the balance of payment deficits and ensuring macroeconomic stability in the country (Erkan et al., 2013: 220). In addition, foreign currency incomes from tourism have the potential to make a positive contribution to the unemployment problem (Aydın, Darıcı & Taşçı, 2015: 145). Likewise; tourism, known as "invisible export or a chimney-free industry", is thought to affect economic growth positively with an export-oriented growth strategy. Tourism, besides being a monetary event, has also become a social phenomenon. Tourism is also vital in the political and economic relations between countries in terms of its effects (Aktaş, 2005: 163).

A political or economic crisis in a country can also bill the tourism income of the country. Besides the politics and economy, the tourism crisis has also elements such as terrorist events, natural disasters and epidemics. As a matter of fact, the sensitivity of the tourism sector, which has a flexible nature shows how intertwined the tourism demand with the crises. Therefore; political crisis, which is a distinct type, is similar to other crises; it is known that it negatively affects the economy of the country and especially tourism, which has a sensitive and fragile structure against crises. The fact that tourist consumption is not a compulsory consumption being one of the biggest disadvantages of the tourism sector in times of crisis. Other countries don't send their citizen to the countries which referred as 'not safe zone'. The effects of the crisis have revealed elements that threaten security and stability in the regional sense. Especially the security factor can easily cause people to change the destination they intend to visit. The reason of the tourism is one of the most dependent sectors to negative effects of the crises is because flexibility of the demand. Tourism and war are seen as polar extremes "on the one hand, the paradigm of the international agreement and on the other" (Aydınbaş, 2018: 28-29). As it is seen, in the tourism sector, where economic and political crises had a great impact, the development trend decreased in 1991 due to the Gulf War. Chernobyl accident, which took place in 1986 and the Gulf War in 1991 and "November 24, 2015 Aircraft Crisis" which caused a tension between Russia and Turkey for a short-term, are examples of negative events affecting the tourism sector in Turkey (Aktaş, 2005: 166). Although it has a very sensitive structure against crises, tourism is developing a country where it has a positive impact economically, socially and culturally, and it is of great importance in terms of ensuring sustainable development and ecological balance in the country (Erkan et al., 2013: 220).

As a result of researches on tourism, developments in various factors are observed along with the developments in tourism. The main factors can be listed as "the increase in welfare in the world economy, the increase in transportation vehicles and opportunities, the extension of paid leave in advanced industrial societies, the development in communication technology, and the great guarantee of world peace" (Aktaş, 2005:164). Likewise; the developments in the tourism sector has increased the transfer of technology and information so promoted the development of agricultural sector, the manufacturing industry, the transportation and communication sector and as a result increased the level of competition (Yalınpala, 1999:405).

Tourism income is expressed as a factor that provides profit opportunities and foreign currency flow to the country (Terzi & Tütüncü, 2017: 82). The variables that affect international tourism revenues, which are generally evaluated in empirical studies, are essentially seen as interrelated and interacting factors. Each of the determining factors of international tourism revenues are summarized as follows:

Economic Growth (Gross Domestic Product)

Increase in tourism income and expenditures (direct impact); as a secondary (indirect + stimulated) effect causes Gross Domestic Product (GDP) and employment increase in the country (World Travel & Tourism Council, 2013: 2). In

other words, increases in tourism revenues; increases the economic growth rate and makes it sustainable (Arslantürk & Atan, 2012: 36). Accordingly, it provides poverty reduction (Surugiu, Frent & Surugiu, 2009: 356-358). As a matter of fact, it is possible to say that GDP is an important factor which affects international tourism revenues.

International Trade

Studies have found that there is a strong relationship between international tourism and international trade (Kulendran & Wilson, 2000).

Number of Tourists

One of the factors affecting international tourism revenues is number of tourists. In the studies conducted, it was determined that there is an effective relationship between international tourism revenues and international tourist arrivals in general (Aktaş, 2005: 173).

Number of Travel Agencies

In researches, it is determined that there is a relationship between the international tourism revenues and the number of international travel agencies (Aktaş, 2005: 173).

Real Effective Exchange Rate

The other variable that is thought to affect international tourism revenues is “Real Exchange Rate”. With the increase in the real exchange rate, it is estimated that the tourism goods and services will partially become cheaper and the demand will have a positive effect on the tourism income. Otherwise, the tourism income of the country may tend to decrease. In a study by Ghartey (2010), a one-way causality was determined from the tourist income to the exchange rate variable (Ghartey, 2010).

Current Account Deficit

Another factor affecting international tourism revenues is the current account deficit. In the researches, it is determined that international tourism revenues are an important balance of payments item that has a decreasing effect on the current account deficit (Walterskirchen, 1998).

Besides the factors affecting the development of international tourism; increasing factors such as different price types, travel impulses and distribution channels also contribute to international tourism (Crouch, 1994: 12).

2.1. Development of Tourism Industry in the World and Turkey

As a result of the Industrial Revolution, the socio-economic working conditions and better income, which have improved, have created “tourism”, also called “leisure time” in the economic literature. Tourism; which is the subject of scientific research as an economic event, is a vital balance factor in the country’s budget (Aktaş, 2005: 164). The tourism economy has spread effectively in countries “directly or indirectly, with the transport, trade, construction, accommodation, food and beverage and other sectors” (Proença & Soukiazzi, 2008). The distribution of tourism income from rich countries to poorer countries, from developed

countries to less developed countries creates convergence between countries (Bahar & Bozkurt, 2010: 255). In this section, the status of international tourism revenues in the world and Turkey and recent developments will be focused.

The tourism sector, in which one out of every 10 people works in a global framework, is among the biggest and fast developing sectors in the world. Moreover, it is known that 70% of the world's population is exposed to a problem such as poverty; tourism is also an important tool (preventive / reducing) in the fight against poverty (Nadkarni, 2008). International tourism movements have been seen mostly in Europe, America and East Asia Pacific countries for years (Çeken, 2004: 3). The vital development for the tourism industry was experienced after the Second World War. Aids provided by USA and international organizations (unions) have enabled European countries to start development rapidly. As these countries need foreign currency to complete the development process, the tourism sector has emerged as an alternative to exports in solving the problem. In this regard, countries have started to obtain foreign currency with tourism as well as exports (Kozak et al., 2015: 54-55). It is observed that after the 2nd World War, tourism activities developed especially on the basis of developed countries (western societies). In the 1960s, tourism has become one of the fastest growing sectors. According to the indicators in the world tourism sector, tourism constitutes 9% of the world GDP in 2012 (Özcan, 2015: 204).

It is observed that there is a steady increase in the number of tourists and tourism income in the world. In the study published by United National World Tourism Organisation (UNWTO) in 2016; the number of tourists worldwide; While it was 25 million in 1950, it reached 675 million in 2000 and 1,186 million in 2015. Likewise, international tourism revenues; while it was \$2.1 billion in 1950, it reached \$495 billion in 2000 and \$1.260 billion in 2015 (UNWTO, 2016). As a matter of fact, tourism, which gains importance in international trade, has made a significant contribution to economic growth as an invisible export item as it constitutes approximately 40% of the services trade worldwide (Bahar & Bozkurt, 2010: 255). In line with the aim of transforming such an important tourism into a new international industry; international organizations such as the World Bank Agency, the United Nations and international business organizations such as the World Travel and Tourism Council (WTTC) are making serious efforts (Pleumarom, 2001:2). It can be said that European countries are ahead of other countries within the scope of attracting the most tourists and generate tourism income in the world (UNWTO, 2013: 3).

Table 1. Number of Tourists and Tourism Incomes by Years

Years	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Number of Tourists (Million)	922	880	952	994	1040	1088	1134	1189	1235	1329	1,401
Tourism Incomes (Billion\$)	944	852	975	1073	1110	1197	1252	1196	1220	1346	1,451

Source: UNWTO, 2019

From Table 1, it is understood that the interest in the tourism sector has increased in the world every year. As can be seen in the table, since 2009, both the number of tourists and tourism revenues have increased. It is understood that the economic crisis in 2009 affected all sectors, including the tourism sector. The number of tourists increased by 7% in 2017 compared to the previous year (Table 1).

Table 2. The Top Ten Countries Hosting the Most Tourists and Gaining the Most Tourism Incomes in 2017

Hosting the Most Tourists		Gaining the Most Tourism Incomes	
The Countries	Number of Tourists (Million)	The Countries	Tourism Incomes (Billion \$)
France	86.9	USA	210.7
Spain	81.8	Spain	68.0
USA	76.9	France	60.7
China	60.7	Thailand	57.5
Italy	58.3	UK	51.2
Mexico	39.3	Italy	44.2
UK	37.7	Australia	41.7
Turkey	37.6	Germany	39.8
Germany	37.5	Macao(China)	35.6
Thailand	35.4	Japan	34.1

Source: UNWTO, 2018

In Table 2, it is seen that the country that attracts (hosts) the most tourists is France (with 86.9 million people). Other countries following are respectively; Spain (81.8 million people), USA (76.9 million people). USA (with \$210.7 billion) ranks first in tourism revenues. Spain ranks second (as in the number of tourism) in tourism revenues (with \$68 billion). It is seen that France, which ranks first in the number of tourists, ranks third in tourism revenues (with \$60.7 billion). Another country that stands out in the table is Japan. While Japan is not among the top ten in the number of tourists, it is ranked ninth in the ranking of tourism revenues (Table 2).

International tourism increases the tolerance between different cultures and contributes to the global peace (Kaygısız, 2019: 619). Prominent sources of tourism; it consists of rich and unique natural, cultural, historical sites and assets in a country. The introduction and marketing of these within the scope of protectionist-sustainable policies by completing the infrastructure activates the economy (Oki et al., 1997). Tourism, as well as developing an important factor in every country of the world, tourism market in Turkey has also great significance. Increasing the demand for tourism, Turkey has entered into a competition within the terms of tourism income. Likewise for tourism in Turkey, increasing economic growth and employment and the payment has been evolved in a sector which decrease the negative effects stemming from the balance sheet. The increased importance given to tourism in the world has increased revenues derived from the number of tourists coming to Turkey as well. The rise in the share of tourism in Turkey's economy, investment in people and institutions are strengthened by expanding economically. Policies within the scope of tourism in Turkey, began to be made in the 1980s. Taking serious steps to become the most important sector

for tourism in Turkey corresponds to the years after 1983. In order to accelerate the development of the tourism sector, “Tourism Incentive Law” came into force in 1982. In addition, tourism took its place among the “Sectors of Special Importance in Development” in 1985 (Terzi & Tütüncü, 2017: 81-82). In 2011, Turkey was among the countries that attracted the most tourists in the world ranked 6th (UNWTO, 2012: 6-7). The difference that is noticed in this regard is that there are significant growths in the sector. Turkey, thanks to its treasure where nature and history have been presented is a country has the potential to be taking advantage of the tourism sector. Therefore, the incoming governments allocate a place for tourism in their development plans and take measures to increase the income that can be obtained in this context. Tourism infrastructure in priority regions in Turkey; accommodation investments, domestic and foreign charter airlines opened new routes and operator firms (partnership) in this context was established (Aktaş, 2005: 165). In this respect, it can be noticed that tourism, has become an important sector for Turkey’s economy as well as for the world’s economy. As a matter of fact, it is important to increase the product range such as health, winter, golf and eco tourism (3. Tourism Council, 2017).

Table 3. The Number of Tourists Coming to Turkey and Tourism Incomes (2008-2019)

Years	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of Tourists (Million)	25.0	25.5	27.0	29.3	35.7	37.8	39.8	39.5	31.3	37.6	45,7	51.9
Tourism Incomes (Billion \$)	22.0	21.3	20.08	23.0	25.6	28.0	29.5	26.6	22.1	22.4	25,2	34,5

Source: UNWTO, 2020

According to Table 3; in 2008, 25 million tourists visited Turkey, \$22 billion in tourism revenue due to this visit were obtained. As a result of the global crisis in 2009, the number of tourists and tourism revenues decreased in the world. Turkey in the absence of a noticeable decline in the number of tourists; there was a decrease in tourism revenues. As a matter of fact, it is noticed that there is an increase in the number of tourists and tourism revenues from 2008 to 2019 (Table 3).

Table 4. Share of Tourism Incomes Closing Foreign Trade Deficits

YEARS	Share of tourism incomes closing foreign trade deficits (%)	YEARS	Share of tourism incomes closing foreign trade deficits (%)
1996	39.07	2006	42.83
1997	41.41	2007	43.34
1998	46.86	2008	44.30
1999	50.19	2009	85.52
2000	37.38	2010	46.09
2001	133.63	2011	34.13
2002	98.19	2012	43.75
2003	73.81	2013	32.35
2004	58.95	2014	40.59
2005	55.72	2015	49.73

Source: TURSAB (The Association of Turkish Travel Agencies), 2018

In Table 4, the foreign trade deficit closing share of tourism revenues in Turkey's economy; while it was 39.07% in 1996, it is seen that this rate increased 98.19% in 2002 and 49.73% in 2015 (Table 4).

2.2. Empirical Literature

Governments make policy decisions regarding tourism and make various plans within this scope. For this reason, it is important to examine the policies affecting international tourism revenues in the economic literature. When the economic literature is reviewed; the analysis of international tourism revenues is mostly focused on the relationship between a single variable (usually GDP). As can be seen below, in table 5, the summary of the empirical studies carried out within the scope of this subject is given.

Table 5. Empirical Studies Examining Factors Determining International Tourism Revenues

Author	Data set	Metod	Country	Conclusion
Narayan and Prasad (2003)	1988-2004	Granger causality model	Fiji	The relationship between tourism income and economic growth was determined in the study.
Yıldırım and Öcal (2004)	1962-2002	VAR model	Turkey	According to the study; while tourism income increased economic growth in the long term, no relationship could be detected between these variables in the short term. Likewise; tourism revenues positively affect savings, which are tools for investment.
Oh (2005)	1975-2001	VAR model and Granger cointegration model	Korea	According to the study; it has been concluded that as well as exports strongly support economic expansion, tourism also contributes positively to economic growth.

Author	Data set	Metod	Country	Conclusion
Bahar (2006)	1963 – 2004	VAR analysis and Granger causality model	Turkey	The empirical results obtained in the study have determined that tourism has a positive effect on economic growth. According to the cointegration test, it was concluded that there is a mutual relationship between both variables in the long run.
Yavuz (2006)	1992 – 2004	Granger causality model	Turkey	According to the test results conducted in the study, Granger causality relationship could not be determined between tourism revenues and economic growth.
Fayıssa et al. (2007)	1995 – 2004	Panel Data	42 African countries	In the study, it was determined that tourism income, such as investments in physical and human capital, has a significant contribution to economic growth (gross domestic product) for Sub-Saharan African countries.
Khalil et al. (2007)	1960 – 2005	Granger causality model	Pakistan	The study concluded that there was a strong relationship between tourism income and growth.
Kızılgöl and Erbaykal (2008)	1992-2006	Toda-Yamamoto Approach.	Turkey	According to the test results obtained in the study; a right to economic growth from tourism income causal relationship between the two variables were found to be in Turkey.
Lee and Chang (2008)	1990 – 2002	Panel unit root and panel cointegration	OECD and nonOECD countries (including those in Asia, Latin America and Sub-Sahara Africa)	In the study, at least one direction causality was detected in the long-term relationship between tourism developments and real GDP per capita variables.
Chen and Chiou-Wei (2009)	1975-2007	EGARCH-M model	Taiwan and Korea	The results obtained in the study supported the economic growth hypothesis for Taiwan, while mutually causal relationship was found for South Korea.

Author	Data set	Metod	Country	Conclusion
Işık (2010)	1970-2008	ADF, Co-integration, Granger causality test	Turkey	The result reached in the study; is that there is a bidirectional causal relationship between foreign visitors and tourism revenues in the long term.
Samimi et al. (2011)	1995-2009	P-VAR approach	Developing countries	The conclusion reached in the study was that; in the long term, there was a bilateral relationship between tourism income and growth.
Lashkarizadeh et al. (2012)	1980-2009	VAR model and Granger causality test	Iran	The study shows that there is a causality relationship between the two variables in the long term between tourism industry and economic growth in Iran.
Srinivasan et al. (2012)	1969-2009	Autoregressive distributed lag (ARDL)	Sri Lanka	In the study, it is determined that tourism in Sri Lanka has a positive effect on economic growth both in the short and long term.
Kanca (2015)	1980-2013	Granger causality test	Turkey	In the study, it was determined that tourism incomes affect growth positively.
Öncel et al. (2016)	2003-2015	Toda-Yamamoto, FMOLS, DOLS methods	Turkey	According to the analysis results in the study, it was determined that there is a one-way causality relationship from tourism income to real exchange rates.
Yurdakul and Özgencil (2017)	2001-2014	Engle-Granger Method	Turkey	According to the analysis results in the study, it has been determined that the most important variable affecting tourism income is the number of visitors.
Saçık et al. (2019)	2003-2018	VAR Granger Causality test.	Turkey	According to the results obtained in the study, a two-way causality relationship was determined between tourism income and current account balance.

Source: Created by the authors as a result of the literature review.

3. Research Methodology

In this study, factors affecting the international tourism revenues were tested using panel data analysis by years from 2007 to 2018. In this context, the limitations of studies about international tourism revenues correlate with such different variations (GDP, gross capital formation, the rule of law index, the number of international visitors) in Turkey. The studies are generally about the relation between international tourism revenues and GDP. So this study could be

significant in terms of contribution to the literature. In this section, empirical findings with the research method and model are introduced.

3.1. Data set and Methodology

In the study, a total of four variables (as dependent and independent variables) were used to determine the factors affecting tourism income. In this study, international tourism revenues as a dependent variable and as an independent variable; GDP, gross capital formation, rule of law index and the number of international visitors were used.

Data in this study; It was obtained by using the World Bank and Worldwide Governance Indicators official sites. In the study, 16 countries, selected on the basis of different levels of development (USA, Germany, China, France, Britain, Sweden, Japan, Canada, Russia, Turkey, Denmark, Australia, Singapore, South Korea, Malaysia, Netherlands) analyzed by factors panel that affect international tourism revenues.

In determining this situation, the time series from 2007-2018 was used. In the study, fixed and random effects were compared within the scope of panel data analysis to determine the factors affecting international tourism revenues.

The distinctive feature of panel data is that it does not only cover a time series or cross section analysis, but also provides the opportunity to analyze more realistic models. Panel data (longitudinal and cross-sectional series) is a data set in which the attitudes of the assets are observed over time, there are N units and T observations for each of the units (Torres & Reyna, 2007). The panel data model is formulated as follows:

$$Y_{it} = X_{it} \beta + \mu_i + u_{it} \quad (1)$$

$$i=1, \dots, N \quad t=1, \dots, T$$

In the equation, t represents the time and N represents the unit. Variable Y is represented by two sub-indices, t and i, since values can vary according to different cross sections and sequential time. The components of the error term are formulated as follows:

$$u_{it} = \mu_i + v_{it} \quad (2)$$

Here; μ_i represents certain components of the section, v_{it} represents the remainder effects (Baltagi, Feng, & Kao, 2011: 306).

In panel regressions, two main approaches are used, the fixed effects (FE) model and the random effects (RE) model. The fixed effects (FE) model reveals the change observed in the data depending on time. This model examines the relationship between dependent and independent variables discussed in the research. Units with specific characteristics (country, person and company, etc.) affect or do not affect the estimated variables. The fixed effects model is shown below as a formulation (Bontempi and Golinelli, 2012):

$$Y_{it} = \alpha + \beta X_{it} + \sum_{j=1}^{N-1} \mu_j D_{ij} + \varepsilon_{it} \quad (3)$$

$j=1$ N structural constant

$$Y_{it} = \alpha + \beta x_{it} + \sum_{j=1}^{N-1} \mu_j D_{ij} \quad (4)$$

$$j=1 + \sum_{j=1}^{N-1} \tau_j D_{ij}$$

$j=1 + \varepsilon_{it}$ N ve T structural constant

In the random effects (RE) model, different results can be observed from the fixed effects model. The most important of these difference is that dependent and independent variables are unrelated. The random effects model is shown below as a formulation (Bontempi & Golinelli, 2012):

$$Y_{it} = \alpha + \beta X_{it} + v_{2it} \quad v_{2it} = \varepsilon_{it} + \mu_i \text{ one way model} \quad (5)$$

$$Y_{it} = \alpha + \beta X_{it} + v_{3it} \quad v_{3it} = \varepsilon_{it} + \mu_i + \tau_t \text{ two way model} \quad (6)$$

The variables that affect international tourism revenues are formulated as follows by taking their logarithms:

$$\log(\text{ITR})_{it} = \alpha_{0i} + \beta_1 \log(\text{GDP})_{it} + \beta_2 \log(\text{IA})_{it} + \beta_3 (\text{ROL})_{it} + \beta_4 (\text{GFC})_{it} + \varepsilon_{it} \quad (7)$$

Here; $i = 1, \dots, N$ countries; $t = 1, \dots, T$ represents the time dimension and the error term ε .

Table 6. Explanations on the Variables Used in the Analysis

Variable	Description	Data Source	Expected Values
ITR	International Tourism Revenues	World Bank (WB)	
GDP	Gross Domestic Product	World Bank (WB)	+
IA	International Tourist Arrivals	World Bank (WB)	+
ROL	Rule of Law Index	Worldwide Governance Indicators (WGI)	+
GCF	Gross Capital Formation	World Bank (WB)	+

Source: Explanations about the variables used in the analysis by the authors are provided. In Table 6, explanations about the variables used in the analysis are given. Variables, data source and expected values are shown.

3.2. Research Findings

In this study; Fixed Effects, Random Effects and Dynamic GMM (Generalized Moments Method) developed by Arrellano & Bond (1991) and Robust (resistant error estimators) were compared in estimating the factors affecting international tourism revenues. In the study, the models evaluated within the scope of panel data analysis methods were used to determine the stationarity of the series. The results of the estimations are reported in "Table 7."

Table 7. Factors Affecting International Tourism Revenues: 2007-2018, Fixed Effects, Random Effects and GMM Forecast Results (dependent variable international tourism revenues logarithm)

	I	II	III	IV	V
VARIABLES	GMM_ROBUST	FIXED	FIXED_ROBUST	RANDOM	RANDOM_ROBUST
L.lnitr	0.181*** (0.0623)				
lngdp	0.376*** (0.113)	0.193*** (0.0443)	0.193 (0.113)	0.196*** (0.0411)	0.196* (0.107)
lnia	0.542*** (0.098)	0.806*** (0.0349)	0.806*** (0.0492)	0.794*** (0.0342)	0.794*** (0.0462)
rol	0.114 (0.129)	0.0495 (0.08)	0.0495 (0.146)	0.108* (0.0642)	0.108 (0.0707)
gcf	0.0143*** (0.00552)	0.00916** (0.00357)	0.00916* (0.0047)	0.00860** (0.00351)	0.00860** (0.00411)
Constant	0.485 (3.14)	4.733*** (1.2)	4.733 (3.013)	4.816*** (1.113)	4.816* (2.804)
Observations	160	192	192	192	192
R-squared		0.798	0.798		
Number of country	16	16	16	16	16

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Calculated by authors with the help of Stata 14 program.

The findings obtained as a result of the estimation are generally in line with expectations and also evidence of previous studies. According to the findings; a statistically significant and positive relationship was determined between as a dependent variable international tourism revenues and one of the independent variables "GDP" (Table 4. FE, RE and GMM). Also, the relationship between international tourism revenues and the number of international visitors was statistically significant and positive (Table 4. FE, RE and GMM). The relationship between international tourism revenues and the rule of law index was also found to be statistically significant and positive (Table 4. RE). There was a statistically significant and positive relationship between international tourism revenues and gross capital formation (Table 4. FE, RE and GMM). In this study, it is seen that the model is statistically significant in line with expectations. According to the findings; in the model evaluated within the scope of selected countries, the variable of international tourism revenues, which is the dependent variable, is explained by approximately 80% by all other independent variables.

4. Conclusion and Discussion

Today, tourism creates critical social and economic results in countries. Tourism income contributes to the economic growth by increasing the foreign trade balance, employment and related national income. Otherwise, decreasing tourism incomes have a negative effect on macroeconomic factors. Therefore, the importance of tourism income is increasing day by day in many countries and regions around the world. For tourism purposes, people make cultural and intellectual exchanges where they go. International tourism depends on the good

development of political relations between governments. At this point, governments need to identify incentives or legal requirements for international tourism investments.

This study aimed to measure the effects of international tourism revenues. The study is to be followed in terms of political and methodological inferences. In the study analyzed by panel data method, dependent variable international tourism revenues, independent variables; GDP, gross capital formation, the number of international visitors and the rule of law. This study is different from other studies in the literature because of using different types of variables about social, economic and law. When reviewed the literature, it was noticed that other studies generally evaluated the variables about economic and tourism. According to the results of the analysis, when these models are compared, it is determined that there is a statistically significant and positive relationship between international tourism revenues and GDP, gross capital formation, the rule of law index and the number of international visitors. According to the findings; in the model evaluated within the scope of selected countries, the variable of international tourism revenues which is the dependent variable, is explained by approximately 80% by all other independent variables.

Evaluating the potential to increase the number of sectoral incentives in Turkey's tourism sector will effectively allow to achieve better results in this regard. Exactly at this point due to Turkey's ability to come to a better position in world tourism sector and the structural arrangement for tourism and the sustainability of the reforms, the diversification of tourism services and alternative tourism types (winter, nature, health) will be developed.

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