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The Relationship Between International Trade and Tourism Revenues in Türkiye

Türkiye'de Uluslararası Ticaret ve Turizm Gelirleri İlişkisi

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Abstract

The tourism industry is a critical sector in Türkiye's economy and plays a significant role in reducing the country's trade deficit. This research paper presents a comprehensive overview of the tourism industry and international tourism in Türkiye. The research paper conducts an empirical analysis of pertinent variables and investigates the association between international trade and tourism revenues. Utilizing the VAR model with data spanning from 2000 to 2021, the study scrutinizes the linkage between the two variables. Firstly, the study checks the stationarity of the variables, then uses the Johansen cointegration test to detect whether a long-term relationship exists between the variables. Next, the direction of the relationship is determined through the Toda Yamamoto causality analysis. The results show that there is a long-run relationship between the variables. The results obtained from the causality analysis also show that there is a reciprocal causality relationship between the rate of openness to trade, which is used as an indicator of international trade, and tourism revenues. Finally, the variance decomposition shows that tourism revenues are an important factor in international trade and this effect gradually increases over time.

Keywords: Tourism Sector, International Trade, International Tourism, VAR model, Causality Analysis

Öz

Turizm sektörü Türkiye ekonomisinde lokomotif bir sektör olup, dış ticaret açığının kapatılmasında önemli rol oynamaktadır. Bu çalışma, Türkiye'deki turizm sektörü ve uluslararası turizme genel bir bakış sunmakta ve ilgili değişkenlerin ampirik bir analizini sunmaktadır. Çalışmada uluslararası ticaret ile turizm gelirleri arasındaki ilişki 2000-2021 yılları baz alınarak VAR modeli ile analiz edilmiştir. İlk olarak, çalışma kapsamında yer alan değişkenlerin durağanlığı ADF ve PP birim kök testleri ile kontrol edilmiştir. Daha sonra, değişkenler arasında uzun dönemli bir ilişki olup olmadığını belirlemek için Johansen eşbütünleşme testi uygulanmış ve ilişkinin yönü Toda Yamamoto nedensellik analizi ile incelenmiştir. Sonuçlar, değişkenler arasında uzun dönemli bir ilişki olduğunu göstermektedir. Nedensellik analizinden elde edilen sonuçlar da uluslararası ticaretin bir göstergesi olarak kullanılan ticarete açıklık oranı ile turizm gelirleri arasında karşılıklı bir nedensellik ilişkisi olduğunu göstermektedir. Son olarak yapılan varyans ayrıştırması ise turizm gelirlerinin uluslararası ticaret üzerinde önemli bir faktör olduğunu ve bu etkinin zaman içinde giderek arttığını göstermektedir.

Anahtar Kelimeler: Turizm Sektörü, Uluslararası Ticaret, Uluslararası Turizm, VAR modeli, Nedensellik Analizi

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Bu makale araştırma ve yayın etiğine uygun şekilde hazırlanmış ve turnitin *intihal taramasından geçmiştir.*

1. Introduction

Since the Second World War's conclusion, travel for tourism has become widespread in developed countries. While the economic significance of the tourism industry has been acknowledged since the mid-1900s, it was largely neglected in terms of growth and development research until the 1950s (Crouch and Ritchie, 1999: 138). The study of the expansion and progress of economies started to take into account the tourism industry during the 1950s when it became integrated into the growth-focused economic strategies of various countries. Tourism is a noteworthy social activity mainly due to its economic dimension, even though it encompasses social and cultural aspects. While engaging in international tourism, foreign visitors make payments in foreign currency for various services such as sightseeing, accommodation, dining, museum tours, souvenir purchases, and other related expenses. This source of revenue is often referred to as the " smokeless industry " as it serves as an export of goods for a given internal economy. Conversely, overall tourism expenses by locals foreign act as imports of goods and a debt item on any country's balance sheet. Tourism promotes interaction between societies with distinct social and cultural backgrounds. As a result, international tourism influences the tourism habits and cultures of nations. These distinctions will foster entrepreneurship activities in tourism, narrow the development gap between countries, and provide a competitive advantage to the relevant country in the global arena (Kitson, Martin, & Tyler, 2004).

Despite being a significant source of export income for many nations, tourism often receives little attention in comparison to international trade. Nonetheless, recent research, including investigations conducted by Phakdisoth and Kim (2007), Mervar and Payne (2007), and Vogt (2008), has recognized that the demand for tourism is a complex and continually changing phenomenon. In conclusion, even though there is a close link between international trade and international tourism, there needs to be more empirical studies investigating the relationships between the two.

Türkiye is among the nations that have played a role in advancing the global tourism industry and has witnessed a noteworthy rise in the influx of visitors, particularly after 2000. With the surge in the number of tourists, Türkiye's tourism revenues have also witnessed a substantial upswing. For this reason, this study aims to investigate the effects of the tourism sector on international trade in Türkiye in a way to address the Covid-19 pandemic experienced worldwide. The trade openness ratio, which is used as an indicator of international trade in this study, is important in this regard. In fact, after the pandemic, the closure of the country's entry and exit points prevented the entry of tourists and negatively affected international trade. In this context, this study presents an empirical analysis of the impact of tourism revenues on international trade for the period 2000-2021.

The COVID-19 pandemic has had a major negative impact on tourism worldwide and has negatively affected international trade. The travel restrictions and quarantine measures that emerged during the pandemic led to a major decline in the number of tourists and revenue from tourism. In this context, our study aims to analyze the effects of the pandemic on international trade and tourism and, on the basis of the information provided in this context, to make policy recommendations for applicable professional crises. The accuracy of this relationship between tourism and business is of crucial importance for shaping the economic policy of the business community.

Tourism stands out as an important sector contributing to economic growth and development in developing countries. Especially in developing countries such as Turkey, tourism plays a significant role in closing foreign trade deficits and increasing foreign exchange inflows. However, the effects of tourism revenues on

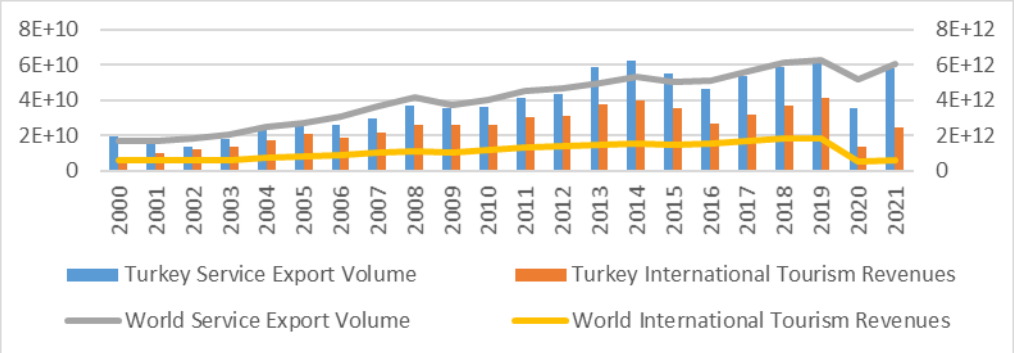
international trade have often been ignored in economic models. This study aims to fill this gap and provides an in-depth analysis of the effects of Turkey's tourism revenues on international trade.

2. Relationship Between International Trade and Tourism Sector in Türkiye

Following the adoption of market-based policies in the 1980s, the Türkiye government started to recognize the importance of international tourism as a source of economic development and foreign exchange. It encouraged private investment by building tourism facilities. Until the late 1970s, Türkiye had applied an import substitution policy for economic growth. However, the monetization of public debt, the oil price shocks of 1973-1974 and 1978-1979, and the balance of payments crisis in 1978 disrupted industrial production and increased inflation. The economic situation leading to the 1979 crisis necessitated a new growth engine (Pehlivanoğlu and Besel, 2013:64). Along with the introduction of the stabilization program in January 1980, there was a change in the industrialization strategy towards an export-led growth regime aimed at the country's integration into the global economy. Since the equilibrium of payments and the deficit in the current account could not be corrected by remittances alone, the external balance has become an important problem for governments (Kitson, Martin, and Tyler, 2004).

In addition, tourism is especially important in developing countries due to its role in the current account balance as well as economic growth and development (Cihangir, Erkan and Harbalıoğlu, 2014,48). This employment-intensive sector is not only a key contributor to economic growth and poverty reduction but also a vital source of foreign exchange. Its positive externalities and value addition to the real sector further underscore its potential. To fully realize the benefits of this sector, it is crucial to manage its interconnections with other parts of the economy. Hence, this research aims to explore the connection between international tourism earnings and international trade, a fundamental source of foreign currency in Türkiye.

Looking at Graph 1, it is seen that the volume of service exports, which was 1.7 trillion US dollars in the 2000s, increased to approximately 6.4 trillion US dollars in 2021. Türkiye International tourism revenues, which were about $596 billion in 2000, increased by about 13 percent in 2021 compared to the previous year, after a dramatic decline in 2020 due to the coronavirus (COVID-19) pandemic. Overall, worldwide international tourism revenues reached roughly USD 621 billion in 2021, up from approximately USD 548 billion in 2020, but remain well below pre-pandemic levels (World Bank, 2022)



Graph 1. International Tourism Revenues and Service Export Volume

As mentioned above, tourism has entered a new era since the 1980s, and investments in this field have been opened up. Therefore, Türkiye needs to make the best use of the opportunities in this sector, which has great potential to finance its foreign trade deficits. On the other hand, the foreign trade deficit in Türkiye was

approximately USD. 22,341 million in 2000, it reached USD 31 billion 174 million in 2019. This figure increased to 50 billion dollars with the effect of the Coronavirus in 2020. Following the decline in the virus impact and the subsequent increase in tourist arrivals, the foreign trade deficit shrank by 7.5% to nearly 46 billion dollars.

In conclusion, the international tourism and travel sector is important in terms of both increasing service exports and reducing the foreign trade deficit. Therefore, it would be appropriate to say that investments in the tourism sector will significantly increase the income and exports of the national economies.

3. Literature Review

Tourism plays a crucial role in fostering economic growth, enhancing industrial development, creating employment opportunities, and improving the overall quality of life. Various factors such as international trade, economic growth, infrastructure, and globalization have been given special attention to facilitate tourism development. Research on the relationship between tourism and international trade can be categorized in the following manner.

Gündüz and Hatemi (2005) investigated the relationship between economic growth and tourism revenue using data covering the period 1963-2002, and their research revealed that tourism revenue has a direct effect on economic growth.

Croes and Vanegas (2008) investigated the correlation between tourism growth, poverty, and economic advancement in Nicaragua. Their study's outcomes revealed a notable cause-and-effect association between these factors.

Santana-Gallego et al. (2011) investigated the link between international trade and tourist arrivals across OECD countries from 1980-2006. The findings suggest that an increase in tourist arrivals can stimulate international trade.

In a gravity model analysis of 195 countries, Santana-Gallego et al. (2016) emphasized the role of tourism in increasing international trade.

Rivera (2017) makes an interesting point as a development strategy while examining the relationship between economic growth, tourism, and human development. The results of the cointegration analysis, in which the relationship between the variables was examined, showed that tourism did not affect economic and social development.

Chaisumpunsakul & Pholphirul (2018) examined the relationship between the degree of trade openness and international tourism demand using 1998-2010 data for Thailand. The obtained panel results show a positive relationship between the variables.

The research by Choi and Remer (2020) investigates the correlation between tourism flows and international trade in the context of US-China relations, and their findings indicate a positive relationship between the two.

Gursoy, D., Chi, C. G. Q., & Lu, L. (2020), this meta-analysis examines the factors that influence tourist satisfaction, including the role of international trade in shaping tourism experiences.

Nguyen, H. T., & Thong, L. T. (2021), investigate the relationship between international trade and tourism demand in the ASEAN region, finding a positive correlation.

Yüksel, F., & Yüksel, A. (2021) examines the impact of the COVID-19 pandemic on international tourism demand in Türkiye, highlighting the importance of international trade in the tourism sector.

In a study by Croes et al. (2021) that examined the correlation between tourism specialization, economic advancement, and human development index, the researchers uncovered that tourism specialization has an unfavorable association with human development, even though it can have a positive effect on short-term economic growth. The results suggest that countries relying heavily on tourism may face challenges in achieving sustainable development and improving human well-being.

4. Method and Data

To analyze the relationship between international trade and international tourism for 2000-2021, this study utilized the Vector Error Correction Model (VECM) model, a generalized version of the univariate autoregressive model. The vector autoregression (VAR) model was constructed based on the statistical properties of the data, with each endogenous variable in the system considered as the lag value of all other endogenous variables. VAR model was initially introduced by Christopher Sims in 1980 and has subsequently gained significant popularity in the dynamic evaluation of economic systems. Engle and Granger utilized both cointegration and error correction models to develop the VECM model. When a cointegration relationship exists among the variables, an error correction model can be derived from the autoregressive distributed lag model. Since each equation in the VAR model is an autoregressive distributed lag model, the VECM model can be viewed as a VAR model subject to cointegration constraints. In the model, the trade openness ratio (Export+Import/GDP) (TO), which is seen as a general indicator of trade globalization, is used as an indicator of international trade. Tourism revenues (TR) are used as international tourism indicators. The study uses data from the World Bank and the Turkish Statistical Institute database, with an annual time frame covering the years 2000 to 2021. The variables analyzed in the study include the following information:

Table 1. Descriptive Statistics

	TO	**TR**
Mean	52.14	22768193
Median	50.20	23885232
Maximum	71.21	38930473
Minimum	42.35	7636.000
Std. Dev.	6.85	9320994
Skewness	1.21	-0.420405
Kurtosis	4.00	2.887280
Jarque-Bera	6.30	0.659696
Probability	0.06	0.719033
Sum	1147.17	5.01E+08
Sum Sq. Dev.	987.05	1.82E+15
Observations	22	22

Before investigating the association between international tourism and international trade in Türkiye descriptive statistics of the variables included in the analysis are presented. Table 1 shows that Türkiye's average trade value is 52 billion dollars and tourism income is 22 billion dollars. The high standard deviation

of the variables indicates that the volatility of these variables is high. In addition, the degree of volatility can be seen by considering the maximum and minimum values.

Table 2. Correlation Matrix

	TO	TR
TO	1	0.56494
TR	0.56494	1

The correlation matrix presented in Table 2 indicates that there is a strong positive relationship between international trade and international tourism revenues.

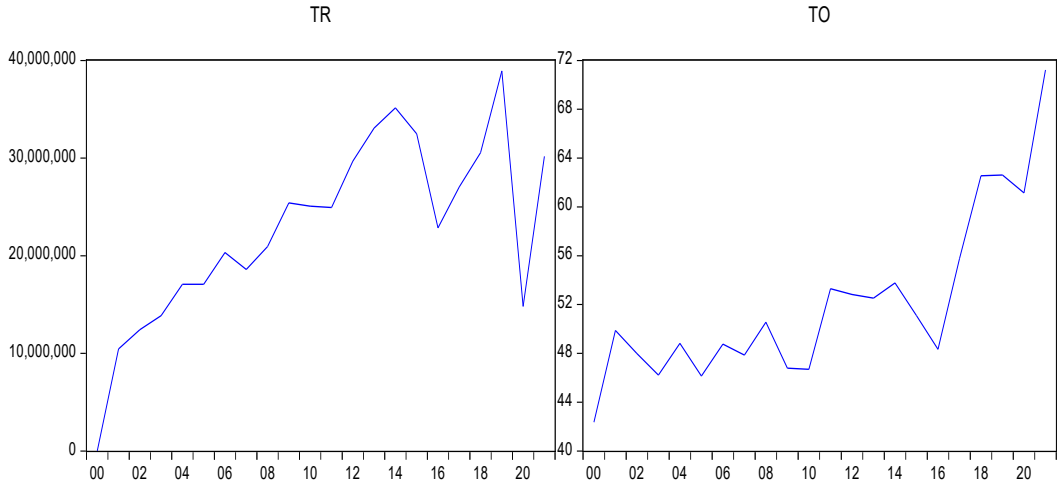


Figure 2. Trends of Variables Between 2000-2021

The trends of the variables in the model are provided in Figure 2. When the trends of the variables are unanalyzed is observed that trade openness and tourism revenues decreased with the COVID-19 pandemic and tended to maintain their previous levels as the impact of the pandemic decreased.

5. Empirical Analysis

5.1. Augmented Dickey-Fuller (ADF) and Philips-Perron (PP) Methods

It is important to ensure the stationarity of the series to obtain econometrically meaningful relationships between the variables. If the stochastic process obtained in time series models is constant over time, the series is stationary and a model with constant coefficients can be obtained by using the past values of the series (Gujarati, 2004). To assess the stationarity of the series, this study employs two conventional econometric methods: ADF and PP. In the ADF test, the error terms are assumed to be independent and homogeneous, and the equations are adjusted by adding the appropriate lag of the dependent variable to the right side of the equation. The Extended Dickey-Fuller (ADF) test is a widely used method in econometrics for determining the stationarity of time series data.

$$\Delta Y_t = \alpha_1 Y_{t-1} + \sum P_i=1\ \beta i\ \Delta Y_{t-1} + \&_t \quad (1)$$

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \sum P_i=1\ \beta i\ \Delta Y_{t-1} + \&_t \quad (2)$$

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \alpha_2\ \text{Trend} + \sum P_i=1\ \beta i\ \Delta Y_{t-1} + \&_t \quad (3)$$

Here, Y; the series under consideration, Δ; cyclic difference of the series, p; lag length, Trend; trend variable, α and β; coefficients, $\&_t$; indicates the error term.

The Phillips-Perron (PP) test is a unit root test used to examine the time series stationarity. In contrast to the Augmented Dickey-Fuller (ADF) test, the PP test does not add lagged values of the dependent variable to the equation as an explanatory variable, as this may lead to autocorrelation issues. Instead, the PP test assumes that the error terms are weakly dependent and heterogeneous, and it tests the null hypothesis of a unit root against the alternative of stationarity. Instead, the t-statistic for the $\alpha 1$ coefficient is corrected with the help of the Newey-West (1987) estimator. Non-fixed, fixed, fixed and trend models are shown in the figure below, respectively.

$$\Delta Y_t = \alpha_1 Y_{t-1} + \&_t \quad (4)$$

$$\Delta Y_t = 0 + \alpha_1 Y_{t-1} + \&_t \quad (5)$$

$$\Delta Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \alpha_2\ \text{Trend} + \&_t \quad (6)$$

Table 3. Unit Root Test Results

	Augmented Dickey-Fuller (ADF)			**Phillips and Perron (PP)**		
	Intercept	**Intercept and Trend**	**I(1)**	**Intercept**	**Intercept and Trend**	**I(1)**
TO	1.00(2) (0.99)	-2.37(0) (0.39)	-4.76(0) (0.00)	0.37(6) (0.89)	-2.00(5) (0.57)	-4.74(8) (0.00)
TR	-1.93 (3) (0.31)	0.17(3) (0.99)	-7.44(0) (0.00)	-1.47(4) (0.53)	-3.09(1) (0.12)	-7.56(2) (0.00)

The ADF (Augmented Dickey-Fuller) and PP (Philips-Perron) tests are used to test the unit root hypothesis of a series. For both TR and TO series, the calculated values at the level are lower in absolute value than the critical values in the table. However, the values calculated at their first differences are higher in absolute value than the table critical values. Therefore, TR and TO series are not stationary at the level but become stationary after the first difference. In other words, according to the ADF and PP tests, the series are integrated into order 1 (I(1)). (Table 3).

5.2. Johansen Cointegration Analysis

To investigate the long-term relationship between all variables, the Johansen cointegration test is employed in this study (Johansen, 1995). This test is crucial as it "determines the number of cointegration vectors in a non-stationary time series," making it more powerful than Vector. To build Vector the autoregression (VAR) model formulated by Sims (1980), two likelihood tests are used based on the p-order VAR model: the trace test and the maximum eigenvalue test.

Table 4. Johansen Cointegration Test Results

Trace Test Statistics	Statistics	%5 Critical Values
r=0	35.472 0.000	20.261
r<1	10.109 0.03	9.164
Maximal Eigenvalue(λ-max) Test Statistics	%5 Critical Values	Statistics
r=0	25.363 0.0010	15.892
r<1	10.109 0.003	9.164

Table 4 reveals that the λtrace statistic and λmax statistic values surpass the 5% critical values. This finding suggests that the model includes two cointegration vectors. Therefore, it is possible to conclude that international trade and international tourism revenues have a long-term impact on each other. The λmax and λtrace test statistics' asymptotic distributions are used to accurately determine the number of cointegration vectors (Osterwald-Lenum, 1992).

The existence of a long-run relationship between the examined variables implies that their tendency to deviate from equilibrium in the short run should be analyzed using the vector error correction model.

5.3. Vecm Analysis

For the VECM test to be applied, the time series variables must be cointegrated. By determining the significance of the long-run relationship between variables and revealing the direction of the causal relationship between time series variables, the VECM test becomes a valuable tool for analysis.

Table 5. Vector Error Correction Model Results

Independent Variable	Coefficient P	t-statistic
Error Term:-0.56812	-3.224200	0.001
TR	1.74677 0.000	1.827489
R^2: 0.50603 F(p):6.1919 (0.000) Durbin Watson Test: 1.63		
Dependent Variable: TO		

Based on the results presented in Table 5, there exists a favorable and sustainable long-run relationship between international tourism revenues and international trade. Specifically, a 1 percent increase in tourism revenues results in a 1.7 percent increase in international trade. These findings suggest that tourism revenues and international trade are mutually reinforcing for Türkiye. Furthermore, the error correction model is applied to test the responsiveness of the model to deviations from the long-run equilibrium.

The results indicate that the error correction model is both statistically significant and negative, which implies that the system will adjust toward equilibrium in the face of any deviations. Approximately 56 percent of the deviations from equilibrium are corrected, thus ensuring stability in the long run.

5.4. Toda Yamamoto Causality Test Results

The most common method used to determine the causal relationship between two or more variables is the Granger Causality Test, developed by Granger in 1969. If the current prediction error of the Y variable decreases depending on the past values of Y and the past values of X. In that case, it is concluded that the X variable is the Granger cause of the Y variable (Jain and Ghosh, 2013:90)

Analyses conducted with non-stationary data may result in incorrect causality relationships, so the series must be stationary. Differencing non-stationary series to make them stationary can lead to information loss. The Granger causality test can also examine the cointegration relationship between series that are non-stationary at the level but whose differences are taken. However, when there is a cointegration relationship between variables, the F statistic used in the Granger causality test does not conform to the normal distribution, thus losing its validity. Due to these issues, Toda and Yamamoto (1995) developed the Toda-Yamamoto causality analysis, which is based on the VAR model and allows for the estimation of causality relationships between variables using level values with the WALD test, without considering the stationarity level and cointegration relationship between the series (Toda and Yamamoto, 1995:227; Mert and Çağlar, 2019:344).

Table 6. Causality Test Results

Direction of Causation	Chi-sq	df	P
TO=>TR	31.792	5	0.000
TR=TO	22.729	5	0.000

According to the Toda-Yamamoto causality test results in Table 6, a bidirectional causality relationship was found between tourism income and international trade balance.

5.5. Variance Decomposition

Variance decomposition investigates what percentage of the change in a variable is due to itself and what percentage is due to other variables. If it explains a value close to one hundred percent of the change in variance on its own, it is considered an exogenous variable. In this analysis, the ordering of the variables is significiant. The ordering is done from exogenous to endogenous. Variance decomposition is the second function targeted in VAR. It investigates what percentage of the change in the variance of variance of each variable examined is own lags and what percentage is explained by other variables. It can also be used as a side assessment of whether the variables are endogenous or exogenous.

Table 7. Variance Decomposition Results

Term	S.E	TO	TR
1	3.422668	100.0000	0.000000
2	5.609131	78.34219	21.65781
3	6.229005	79.15010	20.84990
4	7.066696	81.45128	18.54872
5	7.939354	81.21177	18.78823
6	8.603420	81.65549	18.34451
7	9.269024	82.24658	17.75342
8	9.916012	82.51456	17.48544
9	10.50707	82.82328	17.17672
10	11.07659	83.13245	16.86755

When Table 7 is analyzed, it is understood that the change in international trade was entirely self-driven in the first period. When the recent period is analyzed, it is seen that 83% of the change is due to itself and 17% is due to tourism revenues.

6. Conclusion

The tourism industry is a rapidly growing sector with significant implications for the broader economy. This employment-intensive sector is not only a key contributor to economic growth and poverty reduction but also a vital source of foreign exchange. Its positive externalities and value addition to the real sector further underscore its potential. To fully realize the benefits of this sector, it is crucial to manage its interconnections with other parts of the economy. Hence, this research aims to explore the connection between international tourism earnings and international trade, a fundamental source of foreign currency in Türkiye.

The study employed a VAR model analysis using annual data from 2000 to 2021. The trade openness ratio (TO), a growth indicator, was used as a measure of international trade, while tourism revenues (TR) served as tourism data. The study presented descriptive statistics of the variables and created a correlation matrix. ADF and PP unit root tests were executed to confirm the stationarity of the variables. Following that, the Johansen Cointegration Test was employed to establish the presence of a long-term correlation between the variables. The outcomes indicated that the variables were co-integrated, suggesting that a vector error correction model ought to be implemented to handle short-term deviations from equilibrium. Therefore, the study continued with the VECM model, and the results were found to be consistent with one another.

In the VECM analysis, which was conducted following the identification of a long-term relationship between the variables, the positive coefficient of the TR variable indicated that international tourism had a positive impact on international trade. The Toda Yamamoto causality analysis, which was performed to determine the direction of the relationship between the variables, showed a two-way relationship between international trade and international tourism. Subsequent variance decomposition results also supported the causality analysis. According to the variance decomposition, international trade determined only by its shocks in the first period was defined by its shocks by 83.13 percent at the end of the tenth period, while it was determined by international tourism by 16.8 percent.

International tourism, which is a crucial factor in the global evolution and adaptation process, serves as an essential catalyst for economic expansion and increased competitiveness. However, the decrease in the number of tourists due to travel restrictions and quarantine measures during the pandemic has led to a decrease in tourism revenues and a decrease in trade in goods and services between countries. Indeed, tourism revenues are an important source of foreign exchange for many countries, and a decrease in tourism revenues leads to a decrease in countries' foreign exchange earnings. This, in turn, increases the need for imports and hurts international trade balances.

As a result, the impact of the pandemic on the tourism sector, the decrease in tourism revenues, and its negative effect on countries' international trade balances once again highlight the importance of the tourism sector in international trade. While this study examines the impact of tourism revenues on international trade in Turkey, both similarities and differences have emerged when compared to other studies in the literature. Santana-Gallego, Ledesma-Rodríguez, and Pérez-Rodríguez (2011) examined the relationship between tourism and trade in OECD countries using dynamic heterogeneous panel data analysis and found that an increase in the number of tourists stimulates international trade. This study suggests that tourism has a positive impact on trade. Moreover, Chaisumpunsakul and Pholphirul (2018) also find a positive relationship between the degree of trade openness and international tourism demand in their study of Thailand. Furthermore, Rivera (2017) examined the relationship between economic growth, tourism and human development and found that although tourism has a positive impact on economic growth, it does not affect economic and social development to the same extent. These results suggest that tourism may have a limited impact on enhancing

social and economic development. A significant lesson from Covid-19 is that countries were caught unprepared. In this context, it is recommended that countries create emergency funds for critical sectors such as tourism and international trade to prepare for future crises, as well as develop alternative sources of income in addition to income sources such as tourism and international trade. Additionally, countries can reduce losses in the tourism sector by focusing more on domestic tourism. This will reduce dependency on the tourism sector and support the local economy during crises.

The tourism sector is critical for economic growth and development, especially in developing countries. Turkey's tourism revenues have a significant impact on the foreign trade balance and play a key role in supporting international trade. However, the dramatic decline in tourism revenues during the COVID-19 pandemic has highlighted the vulnerability of this sector and its dependence on international trade. In this context, Turkey needs to develop long-term strategies for the tourism sector.

To reduce dependence on tourism revenues, Turkey should more rapidly implement policy reforms that promote growth in other sectors. Developing sustainable growth strategies in the agriculture, technology and services sectors could be important policy actions. In addition, contingency funds for the tourism sector and international trade could be established to prepare for future national or international economic crises. These funds can play an important role in supporting the economy in case of sectoral shocks. Finally, if international tourism is affected by global events such as pandemics, policies should also be developed to promote local tourism and increase domestic demand to ensure sustainability. This will not only support the national economy but also ensure the continuity of tourism revenues.

References

Crouch, G. I.& Rıtchıe, J.R. B. (1999), Tourism, Competitiveness, and Societal Prosperity. *Journal of Business Research*, 44, 137-152.

Cihangir, M., Erkan B.& Harbalıoglu M (2014) The effect on the current account of net tourism revenues in Turkey, *European Scientific Journal,* 10(13), 47-65.

Croes, R., & Vanegas Sr, M (2008). Cointegration and causality between tourism and poverty reduction. *Journal of travel research, 47*(1), 94-103.

Choi, S. & Remer, D. S. (2020). International trade and tourism flow: Evidence from the world's largest bilateral tourism market. *Annals of Tourism Research*, 82, 102924.

Croes, R, R., J, Bąk M.& Zientara P. (2021). Tourism specialization, economic growth, human development, and transition economies: The case of Poland. *Tourism Management, 82*, 104181

Chaisumpunsakul, W. & Pholphirul P (2018). Does international trade promote international tourism demand? Evidence from Thailand's trading partners. *Kasetsart Journal of Social Sciences*, *39*(3),393–400. https://doi.org/10.1016/j.kjss.2017.06.007

Eilat, Y.& Einav, L. (2004) The Determinants of International Tourism: A Three-Dimension PanelData Analysis, *Applied Economics,* 36, 1315-1327

Enders, W. (2004) Applied Econometric Time Series, 2nd Edition. In: Wiley Series in Probability and Statistics, *John Wiley & Sons, Inc., Hoboken*

Gray H. P. (1982) The Demand for International Travel by the United States and Canada", *International Economic Review,* 7, 1982, 83-92

Gujarati D.N. (2004) *Basic Econometrics*. 4th Edition, McGraw-Hill Companies.

Gunduz, L.& Hatemı-J, A. (2005) Is the Tourism-led Growth Hyphotesis Valid for Turkey? *Applied Economics Letters,* 12, 499-504.

Gursoy, D., Chi, C. G. Q., & Lu, L. (2020). Antecedents and outcomes of tourist satisfaction: A meta analysis. *Journal of Travel Research, 5*9(1), 3-21.

Hassan Asari, F.F.,Baharuddin N.S ,Jusoh,N.,Mohamad,Z.,Shamsudin,N.& Jusoff,K.(2011)A Vector Error Correction Model (VECM) Approach in Explaining the Relationship Between Interest Rate and Inflation Towards Exchange Rate Volatility in Malaysia, *World Applied Sciences Journal* 12,49-56,

Jain, A. & Ghosh, S., (2013), Dynamics of global oil prices, exchange rate and precious metal prices in India, *Resources Policy, 38* (1), 88-93.

Johansen, S. (1995) Likelihood Based Inference in Cointegrated Vector Autoregressive Models. Oxford: Oxford University Press. *Journal of Money Credit and Banking,* 10

Oscar, C. (2020) Sustainable tourism community: A case study of İstanbul*, Journal of Multidisciplinary Academic Tourism*, *5* (2), 63-79

Kitson, M., Martin, R.& Tyler, P. (2004). Regional competitiveness: An elusive yet key concept? *Regional Studies*, *38*(9), 991-999.

Kulendran, N.& Wilson, K. (2000) Is there a relationship between international trade and international travel, *Applied Economics*, 32,1001-1009

Mert, M. ve Çağlar, A. E., (2019), *Eviews ve Gauss Uygulamalı Zaman Serileri Analizi*, Detay Yayıncılık*,* 1. Baskı, Ankara

Mervar, A.& Payne, J. (2007) An Analysis of Foreign Tourism Demand for Croatian Destination: Long-run Elasticity Estimates, *Working Paper*: 1-20

Nguyen, H. T., & Thong, L. T. (2021). The impact of international trade on tourism demand: Evidence from ASEAN countries. *Journal of Economics, Finance, and Administrative Science*, 26(51), 63-72.

Osterwald-Lenum, M. (1992) A Note with Quantiles of the Asymptotic Distribution of the Maximum Likelihood Cointegration Rank Test Statistics1. *Oxford Bulletin of Economics and Statistics,* 54: 461-472.

Pehlivanoğlu, F.& Besel, F. (2013) Relationship between Foreign Trade Deficit and Special Consumption Tax Revenues with Structural Breaks in Turkey, *Journal of Economics and Sustainable Development*,4(17).

Phakdisoth, L. & Kim, D. (2007). The Determinants of Inbound Tourism in Laos, *ASEAN Economic Bulletin*, 24 (2),225- 237

Rivera, M. A. (2017) The synergies between human development, economic growth, and tourism within a developing country: An empirical model for Ecuador. *Journal of destination marketing & Management, 6*(3),221-232.

Sharma, G.D., Thomas, A., & Paul, J. (2021). Reviving tourism industry post-COVID-19: A resilience-based framework. *Tourism Management Perspectives,* 37, 100786.

Santana-Gallego, M. Ledesma-Rodríguez, F.& J, Pérez-Rodríguez J. V. (2016) International trade and tourism flows an extension of the gravity model. *Economic Modelling*, *52*,1026–1033.

Santana-Gallego, M. Ledesma-Rodríguez, F.& J, Pérez-Rodríguez J. V. (2011) Tourism and trade in OECD countries. A dynamic heterogeneous panel data analysis. *Empirical Economics*, *41*(2), 533–554.

Toda H. Y.& Yamamoto T. (1995) Statistical Inferences in Vector Autoregressions with Possibly Integrated Processes. *Journal of Econometrics,* 66, 225-250

Vogt M. (2008) Determinants of the demand for US exports and imports tourism", *Applied Economics*, 40 (6), 667-672

Yüksel, F. & Yüksel, A. (2021). The impact of COVID-19 on international tourism demand: Empirical evidence from Turkey. *Tourism Management Perspectives,* 38, 100830.