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The Effect of Urbanization and Industrialization on Tourism Revenues: The Case of Turkey

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Abstract

Tourism revenues constitute a significant and growing part of the Turkish economy. This paper aims to examine the impact of urbanization and industrialization on tourism revenues in Turkey. Time-series analysis is conducted for the period 1990 to 2020. Empirical evidence of this paper supports the presence of cointegration vectors and therefore confirms the long-run relationship between the variables of interest. Fully modified OLS, dynamic OLS, and canonical cointegration regressions are used for the long and short-run estimations. The results indicate the significant positive effect of urbanization on tourism receipts. Industrialization, on the other hand, has a significantly negative effect on tourism revenues. This study suggests the formulation of policy by the policymakers in Turkey that will ensure increase of resources allocation to the leading economic sector that will enable a spread-effect to tourism revenue.

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INTRODUCTION

Over the decades, tourism has steadily become one of the fastest-growing economic sectors in the world (Adetola et al. 2021; Moghal et al. 2021; Wendt et al. 2021; Yang et al. 2016). Tourism has gained prominence as a sector that impacts the economic prosperity of the country (Moghal et al. 2021; Yang et al. 2016). International tourism is said to have a positive impact on long-term economic growth in a variety of ways (Bouzahzah & El Menyari, 2013; Savas, Beskaya, & Samiloglu, 2010; Wu et al. 2018). Despite global and national concerns and a decline in visitor numbers in recent years, tourism remains an essential part of the Turkish economy and is growing faster than other sectors (Eyuboglu & Eyuboglu, 2020). Moreover, the country has experienced a significant increase in tourist visits which makes the country to be currently ranked the sixth most visited country in 2019. Furthermore, the country has some stunning natural attractions and landscapes that attract tourists from all over the world. Tourism was opined to have contributed $35.5 billion to GDP as at 2020 (Aslan, 2016). Considering the serious contribution of tourism revenues to the economy, Turkey will be an important case to examine this relationship. As a consequence, promoting the tourism sector's growth could be vital to long-term development. Indeed, in the literature on growth and development, the association between tourism and GDP growth is already well established (Novoa, 2021). However, the understanding of the reverse relationship (i. e. economic growth – tourism development) has not been exhaustively investigated, especially in the context of Turkey.

The global challenges like the recent outbreak of COVID-19 pandemic are in no doubt has a devastating effect on most nations' economy, which Turkey is no exemption (Acikgoz & Gunay, 2021; Gunay et al. 2020; Tunali, 2020). Further challenges like increase rate of urbanization (Luttge & Buckeridge, 2020; Maryam & Buyukgungor, 2019; Odugbesan & Rjoub, 2020), and industrialization owing to globalization (Brahmasrene & Rene, 2017; Vu & Hartley, 2022), as well as the protracted continuous fluctuation of real exchange rate of Turkey have motivated this present study to provide more insight on how these factors could impact the tourism revenue in Turkey.

The most important change seen in Turkey's demographics is the rate of urbanization. Turkey is undergoing a rapid urbanization process with an increscent rate of urbanization as the economy expands. In modern cities, urbanization refers to a social development process that involves a gradual transition from an agrarian to an industrial, service, technological, and information industrial society. The steady increase in urbanization has been taking attention in Turkey. According to World Data, the urbanization rate is 59% in 1990 and 76% in 2020 (WDI, 2021). Urbanization may have a positive impact on tourism development, therefore on revenues that are received from tourism. Dai and Tang (2016) provided evidence that urbanization's role in promoting the development of tourism. Accordingly, a province with more urban residents is expected to have a greater share of hotels and restaurants (Patty & Kuncoro, 2016). On the other hand, the urbanization process should be considered carefully by the authorities, otherwise, the possible negative impact may arise because of deterioration of nature and urban fabric that may disrupt the tourism sector. The natural environment and wildlife may damage and polluted because of unplanned and uncontrolled constructions, distorted urbanization, and inadequate infrastructure (Tatoglu et al., 2000). Therefore, it may negatively affect the attractiveness of even a popular tourist destination.

Industrialization, which became the focus of structural change with the industrial revolution, has continuously increased production and employment levels, resulting in unprecedented income growth. The impact of

industrialization on economic development has been thoroughly studied. Every historical example of economic progress and catch-up has achieved prosperity and wealth through investment in its sector since 1870 (Copeland, 1991). As a result, the quantity and variety of goods produced increases, leading to more jobs and a better quality of life for people. In the course of economic development as stated by Szirmai (2012), Kaldor (1967), opined that industrial sector is the engine of development owing to its greatest potential for increasing productivity. The tourism sector has the potential to boost the economy and turn a gradual recovery into an economic revival if the appropriate policies are put in place. The industrialization process is another crucial concept that needed to be addressed by authorities. If a well-planned and organized, environmentally friendly, and also nature-protecting industrialization process will be adopted and implemented by authorities that yield a positive effect on the tourism sector, otherwise, the tourism sector will be disrupted. Patty and Kuncoro (2016) investigated the linkage between urbanization, industrialization, and the tourism sector, and concluded that the higher the urbanization will yield higher the industrialization, and also higher the industrialization will yield to higher tourism receipts.

Economists evaluate a country's growth rate by GDP per capita, and there is a close relationship between economic growth, the tourism sector's share of GDP, and the structure of the industrial sector (Panayotou, 1993). Agricultural-based economies with low GDP per capita gradually began to develop light industrial products. These countries began to develop heavy industrial products after they reached middle-income country status or gradually industrialized. The economic development of a middle-income country cannot be achieved without urbanization and industrialization, and the economic growth of a high-income country cannot be achieved without a considerable large-developed cities (World Bank, 2006).

Though, the effects of both urbanization and industrialization on tourism revenues has been receiving greater attention from scholars over the years, but this area of study on tourism have not been exhaustively investigated, especially in the context of Turkey. Thus, the aim of this present study to fill the gap by using time-series data of Turkey from 1990 to 2020 to investigate and determine the nature of the relationship between the economic growth, urbanization, industrialization, and real exchange rate on tourism revenues. Specifically, the study has the following objectives: a) determine the possible cointegration of tourism revenue, urbanization, industrialization, economic growth, and real exchange rate; b) determine the impact of these factors on tourism revenue both in the long and short run.

The paper follows the next sequence: Section 2 reviews recent literature; Section 3 defines theoretical contexts; Section 4 discusses both data and methodology; Section 5 presents empirical findings and discussions, and Section 6 concludes.

Literature Review

Tourism and economic growth nexus have been investigated by numerous papers (Manzoor et al., 2019; Li et al., 2018; Gokovali, 2010; among many others). Tourism-led growth hypothesis has been addressed by many scholars (Tang & Abosedra, 2016; Brida et al., 2015; Tang & Tan, 2015; among many others). Enormous literature exists on the behind of the fact that contribution of the tourism to economic growth. Meanwhile, some studies examine the bidirectional causality between tourism and economic growth. In the study of Caglayan et al. (2012),

causality between tourism and economic growth has been investigated in a panel data estimation. In Europe, bidirectional causality between tourism revenue and income level has been emphasized while unidirectional causality in America, Latin America & the Caribbean, and the World from GDP to tourism revenue and the reverse direction of causality was found from tourism revenue to GDP in East Asia, South Asia, and Oceania. On the other hand, tourism is associated with rapid economic expansion (Diamond, 2005), leading to significant urbanization and industrialization. Some studies investigate and evaluate the nature of the relationship between urbanization and tourism revenues and industrialization and tourism revenues.

Urbanization is a concept that did not receive much attention in tourism literature. Nevertheless, the linkage between tourism and urbanization has been started to investigate recently (Dai & Tang, 2016; Patty & Kuncorro, 2016; Luo et al., 2016a; Luo et al., 2016b; Luo & Lam, 2020). Using time-series data going back to China's economic reform, Xu et al. (2010) conducted a quantitative study of the relationship between urbanization and tourism development. In their study, findings emphasize that there is no long-term relationship between urbanization and tourism development in the case of China. Guo et al. (2015), on the other hand, used dynamic panel data from 31 Chinese provinces from 2000 to 2010 to examine the regional correlation contributions of the urbanization rate and tourism revenue. The article shows that urbanization and tourism receipts have a statistically significant relationship. Although the pace of urbanization contributes positively to the 3.1 percent increase in tourism income, urbanization has different effects in different places. Some studies examine the nexus between urbanization and tourism output which is the contribution of the travel and tourism sector to the GDP. Naidu (2017) examines the short-run and long-run impacts of urbanization and real effective exchange rate on the tourism output of Singapore and provides evidence of enhancing effect of urbanization on tourism in the long run, however decreasing effect detected in the short-run. Naidu et al. (2017) investigated the link between urbanization, inflation, and tourism output and provide evidence of the long-term association between urbanization, inflation, and tourism in Fiji. In the long run, there is a positive relationship between urbanization and tourism production; however, empirical estimates show that there is no effect of urbanization and inflation on tourism output.

Industrialization is another concept that did not receive much attention in tourism literature. Patty and Kuncoro (2016) investigated the linkage between urbanization, industrialization, and the tourism sector, and concluded that the higher the urbanization will yield higher the industrialization, and also higher the industrialization will yield to higher tourism receipts.

Theoretical Settings

The origin of the theoretical framework of this study is based on the view on urbanization and industrialization might be the determinants of the tourism revenue in the case of Turkey. As an important determinant economic growth and real effective exchange rates are added to the model as control variables. The empirical investigation of the tourism output in the long-run relationship has been observed by using the nexus between tourism revenue, gross domestic product, and reel exchange rate (Ozturk & Acaravci, 2009). The model can be represented as follows:

$$TR_t = f\left(GDP_t^{\beta_1}, URB_t^{\beta_2}, IND_t^{\beta_3}, REER_t^{\beta_4}\right) \quad (1)$$

where TR refers to tourism revenue, GDP is a gross domestic product, URB is urbanization, IND is industrialization, and REER is the real exchange rate. Betas are regression coefficients. A long term-term tourism revenue model is presented below that explores the effect of urbanization, real exchange rate, and industrialization on tourism revenue;

$$lnTR_t = \beta_0 + \beta_1 lnTR_t + \beta_2 lnURB_t + \beta_3 lnIND_t + \beta_4 lnREER_t + \varepsilon_t \quad (2)$$

where t stands for the year; ln stands for the natural logarithm and ε_t is the error term.

Changes in the determinants of the tourism revenue in equation 2 might not cause it to adjust rapidly to its long-run equilibrium path. The model is presented below to estimate the adjustment rate between short and long-run levels:

$$\Delta lnTR_t = \beta_0 + \sum_{i=1}^{n} \beta_1 \Delta lnTR_{t-1} + \sum_{i=1}^{n} \beta_2 \Delta lnGDP_{t-1} + \sum_{i=1}^{n} \beta_3 \Delta lnURB_{t-1} + \sum_{i=1}^{n} \beta_4 \Delta lnIND_{t-1} + \sum_{i=1}^{n} \beta_5 \Delta lnREER_{t-1} + \beta_6 \varepsilon_{t-1} + u_t \quad (3)$$

where Δ imply to the change in the variables of interest, ε_(t-1)stands for lagged error correction term to designate how long it takes to resolve the disequilibrium between the dependent variable's short-term and long-term values (TR).

Data & Methodology

Data

The impact of urbanization and industrialization is examined using annual data for the years 1990 to 2020. The variables are the tourism revenue (TR); the gross domestic product (GDP; GDP constant 2015 US$), urbanization (URB; Urban population as % of the total population); industrialization (IND; Manufacturing, value-added as constant 2015 US$), and real effective exchange rate (REER; annual real effective exchange rate data with 65 trading partners). GDP, URB, and IND have been obtained from the World Data Bank (WDI, 2021). Çımat and Bahar (2003) provided the tourism revenues of Turkey's tourism statistics before 2001 and the rest of the data is collected from the Turkish Statistical Institute (TUIK, 2021). In addition, the real exchange rate has been obtained from the Bruegel datasets (Brugel, 2021).

Firstly, descriptive statistics and correlation matrix of all series under consideration will be presented before proceeding to any empirical estimations. Descriptive statistics and correlation matrix of variables of interest are illustrated in Table 1 and Table 2, respectively.

Table 1. Descriptive Statistics

	TR	GDP	URB	IND	REER
Mean	23.34475	8.958664	4.214005	25.13486	4.351689
Median	23.56098	8.953973	4.217152	25.1286	4.368341
Maximum	24.44691	9.395876	4.332114	25.84299	4.671241
Minimum	21.69933	8.57603	4.080972	24.44256	3.966672
Std. Dev.	0.869151	0.277233	0.076863	0.459756	0.196954
Skewness	-0.41503	0.253876	-0.09268	0.153734	-0.06736
Kurtosis	1.788639	1.683977	1.752064	1.700126	1.781469
Jarque-Bera	2.785355	2.570065	2.055955	2.304604	1.941332
Probability	0.248409	0.276642	0.35773	0.315909	0.378831
Sum	723.6871	277.7186	130.6342	779.1807	134.9023
Sum Sq. Dev.	22.66272	2.305743	0.177237	6.341275	1.163724
Observations	31	31	31	31	31

Table 2. Correlation

	TR	GDP	URB	IND	REER
TR	1	0.885598	0.93087	0.900444	0.682251
GDP	0.885598	1	0.977332	0.998359	0.46523
URB	0.93087	0.977332	1	0.985025	0.516889
IND	0.900444	0.998359	0.985025	1	0.481031
REER	0.682251	0.46523	0.516889	0.481031	1

Methodology

Several statistical tests are performed to evaluate the assumed relationship between the variables of interest. First, the stationarity of the variables is evaluated using unit root tests such as Augmented Dickey-Fuller (ADF) and Phillips Perron (PP). Second, the cointegration test was used to determine whether or not a cointegrating vector is present (Odugbesan & Rjoub, 2019). Since all variables are integrated in the same order, the Johansen cointegration technique is used in this study. The FMOLS, DOLS, and canonical cointegration regression (CCR) are used to estimate long- and short-run models, as well as an error correction term.

Emprical Findings

Unit root tests results

First, to avoid a spurious estimate and to ensure that the predictive power of the variables used is not in doubt, the stationarity property of the series employed in this study was examined using ADF and PP unit root tests. The results presented in Table 3 show that tourism revenue (TR) is not stationary at level for both intercept and trend, intercept without trend, and without intercept and trend under the ADF and PP tests, but became stationary after the first difference. This implies that TR is I(1) variable. Similar to TR, GDP, URB, IND, and REER are all not stationary at levels when examined for the three models- at level for both intercept and trend, intercept without trend, and without intercept and trend, but became stationary at the first difference, which implies that they are all I(1) variable.

Table 3. Unit Root Tests

		Levels		First Difference	
Variables		ADF	PP	ADF	PP
TR					
	τ_T	0.872	-1.401	-4.310**	-2.179
	τ_μ	-1.724	-1.744	-3.608**	-3.437**
	τ	1.942	0.919	-3.493***	-3.395***
GDP					
	τ_T	-2.558	-2.604	-5.376***	-5.951***
	τ_μ	-0.012	0.138	-5.483***	-6.027***
	τ	3.380	4.510	-4.047***	-4.146***
URB					
	τ_T	3.306	0.023	-5.363***	-4.940***
	τ_μ	-2.450	-2.973	0.499	-4.061***
	τ	3.824	19.987	-1.440	-2.078**
IND					
	τ_T	-2.734	-2.686	-5.280***	-5.864***
	τ_μ	-0.321	-0.187	-5.383***	-6.042***
	τ	3.849	6.474	-3.808***	-3876***
REER					
	τ_T	0.261	-0.540	-7.284***	-7.141***
	τ_μ	-1.308	1.339	-6.893***	-6.717***
	τ	-0.241	-0.249	-7.014***	-6.821***

Note: * denotes significance levels. All series are used in logarithmic form.

Cointegration Snalysis

After the establishment of the stationary property of the series employed in this study, a cointegration test will be conducted to examine the possible existence of the cointegration vector in this study. This is with a view of ascertain the long-run stable equilibrium relationship among the variables. From the Johansen cointegration test result provided in Table 4, it is evident that there are at most 3 cointegrations among the variables. According to Trace statistics, this is based on the p-value that is less than 0.05 which rejects the H0 hypotheses of no cointegration, at most 1 cointegration, at most 2 cointegration, and at most 3 cointegration but failed to reject at most 4 cointegration because of the p-value of 0.8844 that is greater than 0.05. Max-Eigen statistics provide the similar evidence, so based on the p-value that is less than 0.05 which rejects the H0 hypotheses of no cointegration, at most 1 cointegration, at most 2 cointegration, and at most 3 cointegration, but failed to reject at most 4 cointegration because of the p-value of 0.8844 that is greater than 0.05. As a result, it is safe to conclude in this study that the variables in this model have a stable long-run relationship.

Table 4. Johansen Cointegration Test

Trace				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistics	Critical Value 0.05	Probability**
None *	0.910440	157.0156*	69.81889	0.0000
At most 1 *	0.784891	89.45599*	47.85613	0.0000
At most 2 *	0.610928	46.43085*	29.79707	0.0003
At most 3 *	0.510074	19.99910*	15.49471	0.0098
At most 4	0.000753	0.021092	3.841466	0.8844

Max-Eigen				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistics	Critical Value 0.05	Probability**
None *	0.910440	67.55961*	33.87687	0.0000
At most 1 *	0.784891	43.02515*	27.58434	0.0003
At most 2 *	0.610928	26.43175*	21.13162	0.0082
At most 3 *	0.510074	19.97801*	14.26460	0.0056
At most 4	0.000753	0.021092	3.841466	0.8844

Note * denotes the significance level at 0.05. MacKinnon-Haug-Michelis (1999) p-values

Long and Short-run Relationship Estimations

Since the cointegration test earlier conducted has established the existence of a long-run relationship among the variable, hence, the FMOLS, DOLS, and CCR estimation techniques were employed to establish the long-run relationship. The results from the analysis as presented in Table 5 reveal that GDP has a positive and significant long-run relationship with tourism revenue (TR). The result implies that a percentage change in GDP will increase the tourism revenue of Turkey by 2.51%, 2.99%, and 2.01% holding all other variables constant at 1%, 5%, and 1% significant levels respectively for FMOLS, DOLS, and CCR. The demonstration of a significantly positive long-run relationship between economic development and tourism revenue in our study is congruent with the study of Rasool et al. (2021) that performed a similar study in the context of BRICS countries and found a bi-directional long-relationship between the two variable and concluded that development of the economy will boost the international tourism of the BRICS countries. Our finding is also consistent with the position of Oh Co (2005), and Payne & Mervar (2010) who belongs to the "economic-driven tourism growth hypothesis (EDTH)" school of thought and argued that the tourism growth of a country is a trigger by the stability of an effective and efficient economic policy, governance structure and investment targeted at the development of human and physical capital.

Furthermore, the results of the long-run relationship estimates, as shown in Table 5, reveal that urbanization (URB) has a positive and long-run association with tourism revenue using the FMOLS, DOLS, and CCR estimators. This means that holding all other variables constant, a percentage change in urbanization leads to a

change of about 13.21 percent, 19.01 percent, and 14.17 percent at the 1 %, 5 %, and 1 % significance levels, respectively, in the long run, as shown by the FMOLS, DOLS, and CCR estimates. Our results are consistent with previous research that has shown that urbanization has a significant impact on tourism development (Wu et al., 2020; Guo et al., 2015). Based on a dynamic panel estimation of Chinese provinces, Guo et al. (2015) provide evidence of statistically significant relationship between urbanization and tourism revenue. Similarly, Naidu (2017) and Naidu et al. (2017) provided evidence of statistically significant and long-run relationship between urbanization and tourism.

Meanwhile, our study also demonstrates the existence of a negative long-run relationship between industrialization (IND) and tourism revenue (TR). Table 5 shows that holding all other variables constant, a percentage change in industrialization reduces TR by 2.30%, 3.31%, and 2.28%, respectively, as estimated by the FMOLS, DOLS, and CCR estimators at a 1% significance level. Though, the reverse of the relationship has been the focus of previous studies. For instance, Patty and Kuncoro (2012) opined that high industrialization yields high tourism.

The estimation of the long-run relationship between REER that was introduced in the model as a control variable on tourism revenue (TR) reveals the existence of a positive and significant long-run relationship between the two REER and TR. The result as presented in Table 5 implies that a percentage change in REER will trigger 1.26% and 1.20% in tourism revenue of Turkey as estimated by FMOLS and CCR which is significant at both 1% of the significance level.

Table 5. Long-run Estimations

	FMOLS	DOLS	CCR
Variable	Coefficient	Coefficient	Coefficient
GDP	2.517***	2.990**	2.012***
URB	13.219***	19.017**	14.174***
IND	-2.303***	-3.319***	-2.287***
REER	1.264***	0.622	1.207***
R-squared	0.90647	0.891053	0.875206
Adjusted R-squared	0.895246	0.955216	0.86023
S.E. of regression	0.256025	0.162645	0.295736
Long-run variance	0.027931	0.021591	0.027931
Mean dependent var	23.4515	23.50862	23.4515
S.D. dependent var	0.791038	0.768562	0.791038
Sum squared resid	1.638717	0.290987	2.186488

Note:* denotes the significance levels.

Differently from the long-run relationship estimation, this study also examined the short-run effect of economic growth (GDP), urbanization (URB), industrialization (IND), and real effective exchange rate (REER) as a control variable on tourism revenue. The following are the results of the estimations utilizing the DOLS, FMOLS, and CCR estimators in Table 6 shows that only DOLS confirms the short-run effect of GDP on TR; URB short-run effect on TR was established by FMOLS and DOLS; the IND was also confirmed to have a short-run effect on TR by FMOLS and DOLS; while the three estimators confirm the effect of REER on TR in a short-run. Both long-run and short-run estimations provide a similar interaction between the explanatory variable and tourism revenue.

Meanwhile, the ECT(-1) coefficient as presented in Table 6, it is less than 1 and negatively significant by FMOLS and CCR, implies that the model has the capability of returning to equilibrium in case of any shock to the model. In addition, it also implies that GDP, URB, IND, and REER have a stable long-run relationship with tourism revenue.

Table 6. Short-run Estimations

	FMOLS	DOLS	CCR
Variable	Coefficient	Coefficient	Coefficient
Δ.GDP	5.356	2.990***	0.059
Δ.URB	17.865***	19.017***	0.661
Δ.IND	-3.622*	-3.319***	-1.337
Δ.REER	1.019**	0.622***	2.080***
ECT(-1)	-0.984***	0.000	-0.727**
R-squared	0.641405	1.000000	0.051945
Adjusted R-squared	0.245297	1.000000	-0.120428
S.E. of regression	0.251938	0.000000	0.306972
Long-run variance	0.034945	0.000000	0.027698
Mean dependent var	0.046169	0.087150	0.046169
S.D. dependent var	0.290006	0.192677	0.290006
Sum squared resid	1.396406	0.000000	2.073098

Note:* denotes the significance levels.

Empirical Findings

In this study, a rigorous attempt was made to investigate the effect of both urbanization and industrialization on tourism revenues in Turkey. Most of the previous studies have focused on the tourism-led growth hypothesis (TLGH) with less focus on the reverse case. This study aims to fill the gap by empirically investigating some determinant factors of tourism revenue, especially in the context of Turkey with the use of annual data from 1990 to 2020. This study employed FMOLS, DOLS, and CCR to detect the long and short-run effects of industrialization, urbanization, economic growth, and real effective exchange rate on tourism revenue in Turkey. Our study is in no doubt has made a significant contribution to the determinants of tourism growth literature, especially in the context of Turkey, and this will serve as the basis for empirically-based policy formulation by the policy makers on Tourism in Turkey and similar countries like Turkey. The empirical estimates from FMOLS, DOLS, and CCR posit that Turkish tourism revenue has a significant long-run relationship with industrialization, urbanization, economic growth, and real effective exchange rate. Moreover, the methodology employed in our study also enable us to obtain elasticities of industrialization, economic growth, urbanization, and real effective exchange rate concerning tourism revenue both in the long and short run. In addition, the negative and statistically significant coefficient of ECT in our analysis supports the presence of a stable long-run relationship among the variables and indicates the potential of the model to return to equilibrium in the event of a shock.

Given our results, our study makes two significant contributions to the tourism literature. First, from tourism perspective, this study demonstrates a stable long-run relationship among tourism revenue, economic growth, urbanization, industrialization, and real exchange rate. In addition, the significant long run impact of industrialization, urbanization, economic growth, and real exchange rate was established in this study. Hence, the

argument of this study for an economy-driven tourism growth. Second, from practitioner or government perspective, a more empirically insight on the impact of industrialization, urbanization, economic growth and real exchange rate have been provided in this study. Thus, in formulating policies targeted at improving tourism revenue, attention should be paid to leading economic sectors that will ensure spread effect to tourism, also stem the challenges of urbanization and industrialization in order to ameliorate its potential negative implications, as well as developing a strong financial policy to ensure stability of real exchange rate. The urbanization should be managed with appropriate policy in place to mitigate the negative implications of urbanization which could affect the tourism revenue if not addressed. Policymakers in Turkey should develop policies to address the challenges posed by the country's industrialization, which has a long-term negative impact on tourism revenues. Finally, Turkey should ensure that the allocation of its resources policy should support both tourism-related industries which would benefit the tourism development in the country and boost its tourism revenue.

This study is not devoid of limitation, hence, some limitations that need further investigation are highlighted. First, the data utilized in this study was based on secondary data obtained from Turkey's economic and tourism statistics, which is limited in availability. Consequently, data on the number of tourism developments before 1990 and other variables affecting tourism development were omitted. Subsequent studies can source for a more longer time series data or employ other means of data collection to confirm the validity of estimations from this study. In addition, differently from the factors examined in this present study, factors like political stability, economic uncertainty may also affect tourism revenue, however this is beyond the scope of this study, and as such would be a good area for future study to explore.

Declaration

The contribution of all the authors of the article to the article process is equal. The authors have no conflict of interest to declare.

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