

Tourism Sector Performance and Economic Growth in Saudi Arabia

Imad Yousif¹, Mohamad Alnafissa², Mahdi Alsultan³, Yosef Alamri⁴

Department of Agricultural Economics, College of Food and Agricultural Sciences, King Saud University, Saudi Arabia^{1,2,3,4}



ABSTRACT— The tourism industry is considered one of the biggest industrial sectors in the world, which drives economic growth and creates jobs, especially in the developing countries. Saudi Arabia is known for its tourist attractions, especially the religious ones. Saudi Arabia has recently re-formed its tourism sector with the aim of increasing its economic contribution within the plan of economic diversification. The main objective of this paper is to examine the impact of the development of tourism sector on Saudi Arabia's economic growth. The paper examined the impact of the main components of tourism (inbound and outbound) on economic growth, which captures the net effect of tourism on the economy, i.e., the positive impact of domestic tourism and the negative impact of out-bound tourism. To achieve the paper objective, a quarter data from 2015–2020 is used. The paper estimated two-stage least square model with instrumental variables. The study results showed that internal tourism (domestic and inbound) has a positive impact on economic growth, while outbound tourism has a negative one. The results show the importance of the impact of outbound tourism on GDP growth as its negative impact is significant and may outweigh the positive impact of domestic tourism. The paper recommends increasing the scale of investment in the tourism sector to enhance domestic tourism and reduce outbound tourism.

KEYWORDS: Tourism industry, economic growth, two-stage least square, Saudi Arabia.

1. INTRODUCTION

Tourism is considered a potential source of economic growth and poverty eradication in developing economies [36], [32]. Tourism has become one of the major players in international commerce, and represents at the same time one of the main income sources for many developing countries. This growth goes hand in hand with an increasing diversification and competition among destinations. According to the World Tourism Organization (WTO), over the decades, tourism has experienced continued growth and deepening diversification to become one of the fastest growing economic sectors in the world. In this connection, the [36] reported that travel and tourism play a vital role in the creation of jobs, both including its direct, indirect and induced impacts; it estimated that 1 in 4 jobs created across the world, i.e., about 333 million or 10.3% of all jobs, and accounted for USD 9.6 trillion (10.3% of global GDP). Meanwhile, international visitor spending amounted to 6.8% of total exports and 27.4% of global services exports, contributing USD 1.7 trillion in 2019. Thus, tourism is considered a significant part of the trade-in international services and has become a prominent and growing industry. However, in 2020 the effect of COVID -19 leads to a loss of 62 million jobs, leaving just 271 million employed across the sector globally. The sector also suffered losses of almost USD 4.9 trillion, with its global contribution to GDP declining by 50.4% year-on-year, compared to a 3.3% decline of the global economy. In 2021, slight recovery is reported as travel and tourism's contribution to GDP increased by USD 1 trillion (+21.7% rise) in 2021 to reach USD 5.8 trillion, while the sector's share of the whole economy increased from 5.3% in 2020 to 6.1% in 2021.

The development of the tourism sector is important for economic growth from both micro and macro-economic perspectives. Microeconomic results from boosting production and demand for goods and services, while the macroeconomic impact increases foreign export demand for domestic goods creating employment opportunities and foreign exchange earnings. Therefore, the tourism industry is an essential element for the growth of the world economy and an important source of revenue for several countries, especially for developing and least-developed countries [26], [33].

Saudi Arabia, is not an exception as it undergoes into a transformation process to developed tourism sector to diversify income sources. Saudi Arabia occupies most of the Arabian Peninsula and has coastlines on the Arabian Gulf and the Red Sea. Saudi Arabia is known for its tourist attractions, especially the religious ones, as it has holy sites such as Makkah and Madinah, which are considered sacred to Muslims. There is a tourist attraction in each of the country's 13 provinces, such as the Asir Mountains in southwestern Saudi Arabia, the capital city of Riyadh, which is rich in culture and history, the Eastern Province, which is characterized by sand dunes and oases, and Al-Baha Province, the country's green land. Saudi Arabia has a well-developed infrastructure that favors tourism, as there is an extensive road network throughout the country with the necessary services.

For decades, the Saudi economy was primarily dependent on oil exports, which until recently accounted for more than 70% of budget revenues and nearly 40% of GDP [37]. In 2020, the contribution of tourism to GDP in the Middle East was 5.1% and varied from country to country; in Saudi Arabia, it was 2.8% [33]. Saudi Vision 2030, Saudi Arabia's new economic plan, aims to diversify the economy and make the country less dependent on the oil sector. The development of the travel and tourism sector is one of the key sectors to achieve the goal of diversifying the country's economy. Saudi Arabia's national strategy aims to increase the contribution of the tourism sector to 10% of GDP and create one million new jobs by 2030 [30]. In 2022, the tourism sector's contribution to GDP is expected to reach 3.2%. According to the plan, new projects such as Neom, Diriyah Gate, Red Sea, and Al-Ula are being developed, and large investments have been made in the tourism sector. This development of the tourism sector can play an important role in promoting domestic tourism and reducing foreign travel by nationals. This will not only accelerate economic growth, but also improve the living standards of domestic citizens.

As a contribution to the hypothesis that the development of the tourism sector will lead to an improvement in economic growth, the main objective of this study is to analyze the performance of the tourism sector from 2015 to 2020 and examine the impact of domestic tourism (inbound and domestic) and outbound tourism on the economic growth of Saudi Arabia and make a projection for the future. The novel part of this study is to examine the impact of the main components of tourism (inbound and outbound) on economic growth, which captures the net effect of tourism on the economy, i.e., the positive impact of domestic tourism and the negative impact of outbound tourism.

The remaining sections of this paper are as follows: Section 2 presents a literature review on the impact of tourism on economic growth. Section 3 presents descriptive statistics on the performance of various tourism activities in Saudi Arabia. Section 4 discusses the data sources and the theory of the econometric model. Section 5 reports the statistical results of the analysis. Section 6 discusses the results, and finally Section 7 presents the conclusions and recommendations of the study.

2. literature Review

There is strong evidence from the literature that tourism development leads to economic growth, known as the tourism-led growth hypothesis [19]. [22] claimed that tourism has significant positive effects on economic

growth in both developed and developing economies, supporting the prevailing hypothesis of tourism-driven economic growth. Testing the tourism-driven economic growth hypothesis, [14] reported that international tourism does not affect economic growth, but domestic tourism has an increasingly positive impact on economic growth. [9] reported that tourism's contribution to economic growth is highest in Africa, Asia, Latin America and the Caribbean, and its economic impact is slightly negative in Europe, North America and Oceania. [21] examined the impact of tourism spending on sub-Saharan Africa and found that tourism spending negatively affects economic growth, while tourism revenue has the opposite effect in SSA. [13] analyzed the impact of tourism on Italy's economic growth and the results showed that the number of tourist arrivals, international tourism revenue and international tourism expenditure have a significant impact on economic growth. Conversely, some studies findings prove no significant relationship between tourism and economic growth e.g. [5] examined the impact of tourism development on economic growth in developing countries, they used data from 1995-1999, the results showed no evidence to support tourism-led economic hypothesis.

For the relation with sustainable development, tourism was found it play a crucial role through its contribution to diverse cultural, social, technological, experiential, and natural products for leisure and business [31]. Also, the travel and tourism sector are the largest employment sector, both directly and indirectly. According to [19], tourism creates one in four jobs worldwide. For example, about 334 million or 10.6% of all jobs were created in the tourism sector. Furthermore, the sector is considered a strong stimulus of economies as it influences other related economic sectors, increases domestic demand, contributes positively to the balance of payments and allows better redistribution of wealth [25]. In a recent study, [18] examined impact of tourism on regional economic growth from perspective of global value chain as many products in the tourism industry are imported from other economies; whereas other products may be exported as intermediates to other economies. The study used the multiregional input-output table with 35 industries and 63 economies to comprehensively examine the economic contribution of tourism to Thailand as well as to the global economy. The findings suggest that tourism in Thailand contribute significantly to the economy through impact on output and value added. The industry has stronger intra-spillover and linkage with domestic industries, particularly downstream industries, and weaker connections with industries in other economies in the global supply chain. Similarly, [29] reported, according to the results of their study, that international tourism activities have a positive and significant effect on the GDP growth rate because tourism activities create opportunities that increase economic activity and economic growth.

For the tourism sector in Saudi Arabia, [2] reported that there is an increasing trend of tourism expenditure compared to its income, which reduces tourism's contribution to gross domestic product (GDP). [10] conducted a study on Saudi Arabia to analyze the causal relationship between tourism and economic growth for the period 1990 to 2018. The empirical results showed that economic growth in Saudi Arabia is positively influenced by tourism and there is a positive correlation between tourism and economic growth. [8] reported on their study of the positive impact of rural tourism development on the quality of life of local residents in AlAhsa region, Saudi Arabia.

Most of the literature on the economics of outbound travel looks at the factors affecting the flow of tourists [17], [11], [16], [20], [28], and studying the demand of international destinations such estimating demand elasticities [24]. In another aspect, [34] examined the impact of economic growth on outbound tourism.

Clearly, the above studies demonstrate that there is a positive direct effect of tourism on economic growth, but they have not shed any light on tourism's net effect on the economy. This study will fill this gap by assessing the positive and negative impacts of different tourism activities (domestic and international tourism).

This is relevant to the case of Saudi Arabia, where the number of foreign tourists is increasing and at the same time the number of nationals going abroad is increasing. This study is based on the following hypotheses:

Hypothesis 1 (H1): There is a positive association between economic growth and domestic tourism (inbound and domestic) and a negative association between economic growth and outbound tourism.

Hypothesis 2 (H2): The net impacts of tourism (internal and external) are positive.

3. Performance of Tourism Sector in Saudi Arabia

3.1 Tourist trips

Table 1 shows the number of trips of internal and outbound tourism between 2015-2020. Internal tourism consists of inbound and domestic tourism. As shown by table 1 domestic trips are higher than inbound trips accounting for about 75% of internal trips. Meanwhile, internal tourist trips account for about 59.6 million (77%) of total tourist trips in Saudi Arabia compared to 17.8 million from outbound tourist. In 2020, due to COVID -19 pandemic and pandemic-related regulations, which limited people's movement, there was a sharp decrease in inbound and outbound tourist trips and a slight decrease in domestic trips. COVID -19 affected overall international tourism activity, in 2020 international tourist arrivals declined by 73% and real export earnings from tourism declined by 63% due to widespread travel restrictions [33].

Table 1. Number of tourist trips (000s) between 2015–2020

	Internal Tourism			Outbound	Total
	Inbound	Domestic	Total		
2015	17994	46,450	64,445	20,819	85,263
2016	18044	45,036	63,081	21,207	84,288
2017	16108	43,821	59,930	21,146	81,075
2018	15334	43,255	58,590	19,751	78,340
2019	17525	47,805	65,331	19,010	84,341
2020	4138	42,107	46,245	4,839	51,084
Average	14857	44745	59603	17795	77,399

Source: Tourism Intelligence Center, Ministry of Tourism, Saudi Arabia

3.2 Tourist expenditure

Table 2 shows tourist spending of internal and outbound tourism. The average share of tourism spending in the current GDP is about 7.5%. Inbound spending accounts for 62% of internal spending compared to 38% for domestic tourism, although domestic trips are higher than inbound trips. This means that spending by foreign visitors is high compared to that of domestic visitors, which shows the importance of promoting inbound tourism. Spending by internal tourists accounts for about 65% of total tourism spending in Saudi Arabia. The outbound spending is about SAR 69.5 billion (US \$18.5 billion) compared to SAR 132.2 billion (US \$35.26 billion) for internal tourist spending. It was also noted that there was a sharp decline in all types of tourism spending in 2020 due to COVID -19 and related regulations. At the global level, the estimated losses in export revenues in 2020 are US\$1.1 trillion, accounting for 42% of total losses in international trade [33].

Table 2. Tourist expenditure (SAR Mn) between 2015–2020

	Internal Tourism			Outbound	Total	Share in GDP (%)
	Inbound	Domestic	Total			
2015	82,500	48,419	130,919	84,121	215,039	8.8
2016	93,423	55,429	148,852	97,294	246,145	10.2

2017	97,778	46,100	143,879	77,905	221,783	8.6
2018	93,478	48,122	141,600	67,831	209,431	6.8
2019	103,354	61,206	164,560	68,079	232,639	7.7
2020	20,101	43,347	63,448	21,969	85,417	3.1
Average	81772.21	50437.27	132209.5	69532.99	201,742	7.5

Source: Tourism Intelligence Center, Ministry of Tourism, Saudi Arabia

3.3 Tourism performance by regions in Saudi Arabia

As shown in Table 3, Mecca province dominates the number of inbound and domestic trips compared to the other provinces, with 60% and 34%, respectively, followed by Eastern and Riyadh provinces (20% and 15%, respectively). Madinah and Assir provinces account for 15% and 11% of domestic tourist trips, respectively. Mecca also ranks first in tourist spending, accounting for 71% of inbound spending and 35% of domestic spending, followed by Eastern and Riyadh provinces. The reason behind this is that Mecca is a holy place where many Muslims perform Hajj and Umrah, in addition, the tomb of Prophet Mohammad and his mosque are located in Medina, and all Muslims come from time to time to visit the tomb and pray in the mosque.

Table 3. Distribution of tourist trips and expenditure by Saudi provinces, average share for 2015–2020 (percentage)

Province	Tourist Trips			Tourist Expenditure		
	Inbound	Domestic	Internal	Inbound	Domestic	Internal
Assir	0.2	11.1	8.4	0.2	12.5	4.9
Baha	0.0	2.8	2.1	0.0	2.7	1.0
Eastern	19.9	9.5	12.1	10.5	9.6	10.2
Hail	0.1	1.7	1.3	0.1	1.4	0.6
Jizan	0.1	4.8	3.6	0.1	4.9	1.9
Jouf	0.3	1.0	0.8	0.2	1.1	0.5
Madinah	0.9	15.6	11.9	0.7	10.4	4.4
Makkah	59.8	34.2	40.5	71.1	35.5	57.6
Najran	0.1	1.3	1.0	0.0	1.4	0.6
Northern	2.4	0.8	1.2	0.6	0.9	0.7
Qassim	0.4	2.7	2.1	0.2	2.4	1.1
Riyadh	14.9	11.4	12.3	15.8	14.2	15.2
Tabuk	0.9	3.1	2.5	0.4	3.0	1.4

Source: Calculated from Tourism Intelligence Center data

4. Material and Methods

4.1 Data

Quarterly tourism data from 2015 to 2020 was used for the analysis with 20 observation. Tourism data was obtained from the Tourism Intelligence Center, Ministry of Tourism in Saudi Arabia. The data include the number of trips and expenditures on inbound, domestic, and outbound tourism. Quarterly GDP data was obtained from the General Authority for Statistics, Saudi Arabia.

4.2 Variable Specification

In order to capture the impact of different tourism activities on economic growth in Saudi Arabia, the following variables were selected for the analysis: GDP at fixed prices as the dependent variable, inbound tourist spending (IE), domestic tourist spending (DE), and outbound tourist spending (OE) as explanatory variables. The selected variables were first tested for stationarity and normality to avoid spurious regression [6], [23]. Augmented Dickey-Fuller (ADF) and Philips-Perron unit root test statistic reveals that all selected variables were stationary at the level (table 4).

Table 4. Augmented Dickey-Fuller and Philips-Perron unit root test for GDP, IE, DE and OE

Variable	t-statistics	Probability
Augmented Dickey-Fuller		
GDP	-5.545950	0.0001**
IE	-3.803689	0.0220*
DE	-5.391671	0.0002**
OE	-3.866184	0.0187*
Philips-Perron		
GDP	-3.9173	0.0069**
IE	-3.8425	0.0198*
DE	-7.8489	0.0000**
OE	-3.9456	0.0150*

Note: Null hypothesis: variable has a unit root

* significant at 5%, ** significant at 1%

4.3 Econometric Model

Various studies have used different approaches to capture the impact of tourism on economic growth, from cointegration and panel analyses to autoregressive regression models (VAR), grey correlation models, two-stage least squares (2SLS), and log-linear models [35], [12], [4], [15].

For this study, a log-linear model was chosen, which is appropriate because all selected variables are stationary at the level and the other types of analysis are excluded. Before estimating the log-linear model, and due to the expected interdependence between GDP (dependent variable) and the explanatory variable "outbound tourist spending" (OE), an endogeneity problem is expected, i.e., the regressor is correlated with the error term, and the least squares estimators are biased and inconsistent due to endogeneity [27]. Therefore, a Hausman test is first conducted to test for endogeneity. First, the regression analysis of the log-linear model is estimated using equation (1). The predicted error term from the estimated equation is calculated, and second, the calculated error term is included in the model as an explanatory variable; if it is found to be significant, this indicates the presence of endogeneity. The results of the Hausman test in Table 5 show the presence of endogeneity, as the coefficient of the predicted error term (\hat{v}_t) is statistically significant.

Table 5. Results of Hausman test of endogeneity

Variables	Log-linear	Log-linear with error term
constant	18.5*** (0.35)	12.7*** (0.31)
LogDE	-0.02 (0.04)	0.07* (0.04)
LogIE	0.19** (0.05)	0.004 (0.016)
LogOE	-0.35*** (0.07)	
\hat{v}_t		-0.47*** (0.12)
Adjusted R2	0.49	0.44
F-value	23.3***	6.9***

Note: * significant at 10%, ** significant at 5% and *** significant at 1%

- Numbers between brackets are standard errors

When the problem of endogeneity is reported, the use of OLS will yield a spurious regression, where an over-identification is expected, thus, the use of instrumental variables to correct for endogeneity is required. The

appropriate model for this case is 2SLS, the commonly used procedure in instrumental variable estimation, which is expected to provide unbiased and consistent coefficients [7], [3]. The 2SLS model applied for this study includes two endogenous variable (GDP and outbound tourist spending) and two exogenous variables (inbound tourist spending and domestic tourist spending). First step of 2SLS estimation is to select instrumental variables that are not correlated with the error term. The number of tourist trips (Z1) and tourist nights (Z2) are selected as instrumental variables for the 2SLS model that are expected to yield an uncorrelated error term.

The general structural form of 2SLS model representing the relationship between economic growth and tourist activities can be presented by two system equations as follows [7], [1]:

$$\log GDP_t = b_0 + b_1 \log OE_t + b_2 \log IE_t + b_3 \log DE_t + u_t \quad (1)$$

$$\log OE_t = C_0 + C_1 \log IE_t + C_2 \log DE_t + C_3 Z_1 + C_4 Z_2 + v_t \quad (2)$$

Where:

GDP = gross domestic product at fixed prices

OE = outbound tourist spending

IE = inbound tourist spending

DE = domestic tourist spending

Z1 = instrumental variable 1 (number of tourist trips)

Z2 = instrumental variable 2 (number of tourist nights)

b and c = coefficients

ut and vt = residuals (error terms)

The method of least squares, in this case, may not be applied to estimate a single equation embedded in a system of simultaneous equations if one or more of the explanatory variables are correlated with the disturbance term in that equation (presence of endogeneity) because the estimators thus obtained are inconsistent. Instead, 2SLS method is used.

The 2SLS model represented by the above system equations is estimated, using SPSS, in two stages: the first stage uses least squares to estimate the reduced form equation (equation 2) and the predicted value of outbound tourist spending ($\log OE_{t-hat}$) is calculated. The second stage uses least squares once again to estimate the structural form equation where the original value of OE in equation (1) has been replaced by $\log OE_{t-hat}$, the predicted value from equation (2), and the following structural equation is estimated:

$$\log GDP_t = B_0 + B_1 \log OE_{t-hat} + B_2 \log IE_t + B_3 \log DE_t + U_t \quad (3)$$

Where B0, B1, B2, and B3 are coefficients, OE_{t-hat} is the predicted value for outbound tourist spending from equation (2) and U_t is error term.

5. Results

The results of the 2SLS model for the impact of different tourism sectors on the economy of Saudi Arabia, where the size of the economy is represented by GDP, are shown in Table 6. Column 1 shows the results of standardized coefficient of the log linear model without taking endogeneity into account, columns 2 and 3 show the results of 2SLS.

The multiple coefficient of determination of the 2SLS model in the second stage (R2) is 0.70, and the adjusted R2 is 0.42, which is satisfactory. Also, the F-test showed the significance of the estimated model at 1% significance level. The estimated model is valid and provides unbiased coefficient estimates because there is no multicollinearity, the residuals are normally distributed, and there is no autocorrelation or heteroscedasticity (Table 7). The estimated coefficients have a correct sign and are statistically significant. Therefore, the estimated model can be used to explain the impact of the tourism sector on the Saudi economy. Unstandardized coefficients are used to describe the impact of tourism components on GDP growth, while standardized coefficients (beta) are used to compare the strength of the impact of each independent variable on GDP growth.

The results of loglinear model (column1 in table 6) where the endogeneity problem exist generate inconsistent result, incorrect sign for inbound tourism and over-estimation of coefficients of domestic and outbound tourism. This is compared to a consistent result of 2SLS with correct sign and statistical significance of estimated coefficients.

From the 2SLS results, a 10% increase in inbound and domestic tourist spending is associated with a positive change in GDP of 0.23% and 0.4%, respectively, corresponding to a negative impact of -0.6% for inbound tourists and a positive impact of 4.2% for domestic tourism from the log linear model. Moreover, a 10% increase in outbound tourist spending reduces GDP growth by 0.98%, according to the results from the 2SLS model, compared to 8.6% reduction in GDP growth in the linear log model. The results show that using the 2SLS model is better than the log-linear model because the results represent reality well from economical point of view.

The results show the importance of the impact of outbound tourism on GDP growth, followed by inbound and domestic tourism. The negative impact of outbound tourism is large and may outweigh the positive impact of domestic tourism.

Table 6. Results of log linear and 2SLS models

Variables	Log-linear model	2SLS (first stage)	2SLS (second stage)
constant	18.5*** (0.35)	0.79 (1.24)	13.3*** (0.16)
LogDE	0.42** (0.04)	0.1 (0.08)	0.04*** (0.013)
LogIE	-0.07 (0.05)	0.05 (0.14)	0.023** (0.05)
LogOE	-0.87*** (0.07)		
LogOE_hat			-0.098** (0.043)
Z1		0.67** (0.3)	
Z2		0.17 (0.26)	
Adjusted R2	0.49	0.96	0.42
F-value	23.3***	144.6***	6.5***

Note: * significant at 10%, ** significant at 5% and *** significant at 1%

- Numbers between brackets are standard errors

Table 7. diagnostic tests of estimated 2SLS equation

	F-value	Probability
Breusch-Godfrey Serial Correlation LM Test	1.557	0.23
Normality test (Jaque-Bera probability)	2.34	0.31
Heteroskedasticity Test (Breusch-Pagan-Godfrey)	0.832	0.49

6. Discussion

The development of the tourism sector has a greater impact on economic growth as the sector is closely linked to the other sectors of the economy and is considered an incentive for improving the quality of life, employment and income. The results of the present study demonstrate that internal tourism (domestic and inbound) has a positive impact on GDP, which means that an increase or rise in inbound or domestic tourism activities leads to better economic growth, an improvement in the balance of payments and encourage investment government tourism-promoted policy. These results confirm and consistent with the findings of previous studies such as [10], [13], [29] which demonstrate a positive relationship between economic growth and tourism activities by creating opportunities that increase economic activity and growth. However, the results of this study show positive impact for only portion of tourism activities, inbound and domestic tourism. Inbound tourism contributes to the generation income from foreigners, inbound and domestic tourism create more jobs opportunities and promote infrastructure development. This result is similar to Ali (2018) as he reported that there is an increasing trend of tourism expenditure compared to its income, which reduces tourism's contribution to GDP. Also, [21] proved that tourism spending negatively affects economic growth, while tourism revenue has the opposite effect in Sub-Sahara Africa.

Outbound tourism has a negative impact on GDP growth, which means that the increase in the number of resident tourists going outside leads to an adverse impact on economic growth. The adverse impact comes from the spending of national citizens overseas. In the past, the spending of national Saudi citizen traveling abroad represent a huge burden on the economy. The negative impact of outbound tourism on economic growth may outweigh the positive impact of internal tourism (inbound and domestic). However, due to the recent development of Saudi government open policies including the 2030 Vision, there are better, attractive tourism opportunities inside the country that are expected to reduce outbound tourism spending in the near future. The current results of this study are different from previous studies due to its significant contribution to the literature. The empirical findings provide detail descriptive statistics of the performance of tourism for five years and demonstrate the positive and negative contribution of tourism to economic growth, which may be of great importance for policymakers.

7. Conclusions

Saudi Arabia aims to diversify the economic activities and increase the contribution of the tourism sector to 10% by 2030. This study demonstrates the performance of the tourism sector in Saudi Arabia from 2015 to 2020, and examined the impact of tourism activities (inbound and domestic and outbound) on the economic growth of Saudi Arabia and made projection for future. Quarter data for five years was used for descriptive statistics and estimation of 2SLS model. The outcomes of the applied clearly show the importance of tourism in economic growth of Saudi Arabia. The inbound and domestic tourism have a positive impact on economic growth, while the outbound has a negative impact. The enhancement of internal tourism, both domestic and inbound, must have priority due to its importance in accelerating economic growth. Saudi Arabia has the potential to be one of the most attractive tourist areas. Increasing investment in the tourism sector as an approach to enhancing Saudi economic diversification is entirely consistent with the Vision 2030 objectives. Policy makers, depending on the implication of the empirical results of this paper, should increase investment in tourism sector especially domestic and inbound tourism through the development of new tourism-related projects that make internal tourism more attractive for foreigners and local citizens.

8. Acknowledgement

The authors extend their sincere appreciation to the Deanship of Scientific Research at King Saud University for supporting the work through the College of Food and Agricultural Sciences Research Center.

9. References

- [1] Adamopoulos, A. (2021). A System Equation Model for Tourism and Economic Growth. *Economia Interna-zionale/International Economics*, 74(3), 311-334.
- [2] Ali, A. (2018). Travel and tourism: growth potentials and contribution to the GDP of Saudi Arabia. *Problems and Perspectives in Management*, 16(1), pp. 417-427. doi:10.21511/ppm.16(1).2018.39.
- [3] Bascle, G. (2008). Controlling for endogeneity with instrumental variables in strategic management re-search. *Strategic Organization*, Vol 6(3): 285–327.
- [4] Chang, CL, Khamkeav, T and McAleer, M. (2012). IV estimation of a panel threshold model of tourism spe-cialization and economic development. *Tourism Economics*, 18(1), pp. 5-41.
- [5] Ekanayake, E. and Long, A. (2012). Tourism development and economic growth in developing countries. *International Journal of Business and Finance Research*, vol. 6(1).
- [6] Granger, C., & P. Newbold. (1974). “Spurious Regression in Econometrics.” *Journal of Econometrics*. 2:11–120.
- [7] Gujarati, D. (2004). *Basic Econometrics*. London, MC Grow-Hill International Book Company.
- [8] Hassan, T., Salem, A., and Abdelmoaty, M. (2022). Impact of rural tourism development on residents’ satisfaction with the local environment, socio-economy and quality of life in Al-Ahsa Region, Saudi Arabia. *Int. J. Environ. Res. Public Health*, 19(7), 4410.
- [9] Ivanov, SH. and Webster, C. (2013). Tourism’s contribution to economic growth: a global analysis for the first decade of the millennium. *Tourism Economics*, 19(3), pp. 477- 508.
- [10] Jamel, Lamia. (2020). The Relation between Tourism and Economic Growth: A Case of Saudi Arabia as an Emerging Tourism Destination. *Virtual Economics* 3: 29–47.
- [11] Jin, X.C., Qu, M. and Bao, J., (2019). Impact of crisis events on Chinese outbound tourist flow: A framework for post-events growth. *Tourism Management*, 74, pp.334-344. <https://doi.org/10.1016/j.tourman.2019.04.011>
- [12] Jun, YW. (2017). Study on the factor of tourism economic growth based grey correlation model. *Agro-Food Industry Hi-Tech*, 28(3), pp. 1783-1787.
- [13] Khan, Uzma. (2020). Does Tourism Boost Economic Growth: An Evidence from Italy. *International Journal of Economics and Business Administration* 8: 214–22.
- [14] Lee, CG. (2021). Tourism-led growth hypothesis: international tourism versus domestic tourism – evidence from China. *International Journal of Tourism Research*, 23(5), pp. 881-890.

- [15] Lee, JW and Brahmaasrene, T. (2016). Tourism effect on the environment and economic sustainability of sub-Saharan Africa. *International Journal of Sustainable Development and World Ecology*, 23(3), pp. 221-232.
- [16] Li, Z., Shu, H., Tan, T., Huang, S. and Zha, J., (2020). Does the demographic structure affect outbound tourism demand? A panel smooth transition regression approach. *Journal of Travel Research*, 59(5), pp.893-908. <https://doi.org/10.1177/004728751986714>
- [17] Lim, C., (2004). The major determinants of Korean outbound travel to Australia. *Mathematics and Computers in Simulation*, 64(3-4), pp.477-485. [https://doi.org/10.1016/S0378-4754\(03\)00113-7](https://doi.org/10.1016/S0378-4754(03)00113-7).
- [18] Liu, A. (2022). Impact of tourism on regional economic growth: a global value chain perspective. Asian Development Bank (ADB) economic working paper series number 646. DOI: <http://dx.doi.org/10.22617/WPS220014-2>
- [19] Naseem, S. (2021). The Role of Tourism in Economic Growth: Empirical Evidence from Saudi Arabia. *Economies* 9: 117. <https://doi.org/10.3390/economies9030117>.
- [20] Nguyen, C.P., Schinckus, C. and Dinh Su, T., (2022). The determinants of outbound tourism: a revisit of so-cioeconomic and environmental conditions. *Tourism Analysis*, 27(2), pp.199-218.
- [21] Nyasha, S., Odhiambo, N. and Asongu, S. (2020). The impact of tourism development on economic growth in Sub-Saharan Africa. UNISA working paper series, working paper 6/2020.
- [22] Paramati, SR, Alam, MS and Chen, CF. (2017). The effects of tourism on economic growth and CO2 emissions: A comparison between developed and developing economies. *Journal of Travel Research*, 56(6), pp. 712-724.
- [23] Philips, P. C. (1986). Understanding spurious regression in econometrics. *Journal of econometrics*, 33(3), 311-340.
- [24] Seetaram, N., (2012). Estimating demand elasticities for Australia's international outbound tourism. *Tourism Economics*, 18(5), pp.999-1017.
- [25] Selimi, N., Sadiku, L. and Sadikuand Sadiku, M. (2017). The impact of tourism on economic growth in the Western Balkan countries: An empirical analysis, *International Journal of Business and Economic Sciences Applied Research (IJBESAR)*, ISSN 2408-0101, Eastern Macedonia and Thrace Institute of Technology, Kavala, Vol. 10, issue 2, pp. 19-25, <http://dx.doi.org/10.25103/ijbesar.102.02>
- [26] Sherbini, A., Abdul Aziz, Y., Md Sidin, S. and Yusof, R. (2016). Income diversification for future stable economy in Saudi Arabia: an overview of the tourism industry. *International Journal of Economics, Commerce and Management*, Vol. IV, issue 11, pp.173-189. ISSN 2348 0386. <http://ijecm.co.uk/>
- [27] Shin, K.; You, S.; Kim, M. A. (2021). Comparison of Two-Stage Least Squares (TSLS) and Ordinary Least Squares (OLS) in Estimating the Structural Relationship between After-School Exercise and Academic Performance. *Mathematics* 9, 3105. <https://doi.org/10.3390/math9233105>.

- [28] Simundic, B., (2022). EVIDENCE ON PRE-PANDEMIC OUTBOUND TOURISM DEMAND DETERMINANTS IN OECD COUNTRIES. *Economic and Social Development: Book of Proceedings*, pp.75-85.
- [29] Tabash, I., Suhaib A., Bilal S., Mamdouh, A. and Krzysztof, D. (2023). Tourism, Remittances, and Foreign Investment as Determinants of Economic Growth: Empirical Evidence from Selected Asian Economies. *Economies* 11: 54. <https://doi.org/10.3390/economies11020054>
- [30] Tourism Intelligence Center, Ministry of Tourism, Saudi Arabia. (2022). <https://mt.gov.sa/>
- [31] Turner, R., & Freiermuth, E. (2016). *Travel & Tourism economic impact 2016 world*. Council of the Federation.
- [32] United Nations Conference on Trade and Development (UNCTAD). (2013). *Sustainable Tourism: Contribution to Economic Growth and Sustainable Development*. D/B/C.I/EM.5/2.
- [33] UNWTO, World Tourism Organization. (2022). *The Economic Contribution of Tourism and the Impact of COVID-19*. Website: <https://www.e-unwto.org>. <https://doi.org/10.18111/9789284423200>.
- [34] Wang, C.M., Pan, S.L., Morrison, A.M. and Wu, T.P., (2022). The dynamic linkages among outbound tourism, economic growth, and international trade: empirical evidence from China. *SN Business & Economics*, 2(11), p.169.
- [35] Wang, H. (2020). A Cointegration Test and Granger Causality of Ocean Tourism and Marine Economic Growth. *Journal of Coastal Research*, 112(SI), 148-151.
- [36] World Travel & Tourism Council (WTTC). (2022). *Travel & Tourism Economic Impact 2022*. WTTC, London, U.K.
- [37] Yousif, I., Aqahtani, S., Alsultan, M. and Alnafissa, M. (2020). General Trade Performance of Saudi Arabia before and After Accession to the WTO with Special Emphasis on Agricultural Trade. *International Journal of Agriculture Innovations and Research*, Volume 8, Issue 5, pp. 390-400. ISSN (Online) 2319-1473.



This work is licensed under a Creative Commons Attribution Non-Commercial 4.0 International License.