

## The Impact of Governance on the Tourism Sector in the Selected MENA Economies (2003-2020): Evidence from Parametric and Non-Parametric Approaches

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### Abstract

**Objectives:** This research aims to examine the impact of governance on the tourism sector in 16 countries in the MENA region during the period (2003-2020). It also aims to answer the main question which is related to the impact of the quality of governance and institutions on the total demand for tourism in the MENA region.

**Methods:** This study adopted the descriptive-analytical approach and the standard analysis method, using the Panel Quantile Regression (PQR) approach to collect data and obtain applicable recommendations.

**Results:** The main findings of this study show that governance is the key determinant of tourism demand. It was also found that political stability, government effectiveness, and corruption have a direct impact on the tourism sector.

**Conclusions:** Based on the results, the study recommends that policymakers should focus on ways to improve institutional quality in MENA countries to increase international tourist arrivals.

**Keywords:** Dynamic panel GMM, Panel Quantile Regression, Governance; MENA, Tourism demand.

**JEL:** O11; Z3; F63

### أثر الحوكمة على قطاع السياحة في منطقة الشرق الأوسط وشمال إفريقيا (2003-2020)

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#### ملخص

هدف الدراسة: يهدف هذا البحث لقياس تأثير الحوكمة على قطاع السياحة في ست عشرة دولة بمنطقة الشرق الأوسط وشمال إفريقيا خلال الفترة (2003-2020) والإجابة على السؤال الرئيسي الذي يتعلق بتأثير جودة الحوكمة والمؤسسات على مقدار الطلب الكلي على السياحة في منطقة الشرق الأوسط وشمال إفريقيا.

منهجية الدراسة: اعتمدت الدراسة منهج التحليل الوصفي والتحليل القياسي من خلال اتباع منهجية (Panel Quantile Regression) للحصول على نتائج الدراسة والوصول إلى توصيات قابلة للتطبيق.

نتائج الدراسة: أظهرت النتائج الرئيسية لهذه الدراسة أنّ الحوكمة هي المحدد الرئيسي للطلب على السياحة. كما أننا وجدنا أنّ الاستقرار السياسي وفعالية الحكومة والفساد لها تأثير مباشر على قطاع السياحة، لذلك، يجب على صانعي السياسات التركيز على طرق تحسين الجودة المؤسسية في دول الشرق الأوسط وشمال إفريقيا لزيادة عدد السياح الدوليين الوافدين.

الكلمات الدالة: الحوكمة، السياحة، تحليل الفئات، الشرق الأوسط وشمال إفريقيا.

## 1. Introduction

Decades ago, the tourism sector has not received significant attention from policymakers and researchers; the tourism industry was not considered a key driver of economic growth (Vanhove, 2011). In the pioneering work conducted by Balaguer and Cantavella-Jorda (2002), changes are recognized by governments, policymakers, and economists to have an economic potential of the tourism industry, which to the host debate in the tourism-economic growth nexus. Based on this association, tourism growth leads to a rise in foreign exchange that boosts domestic production, generates job opportunities for locals, and offers the necessary financial resources for the development of capital goods useful for economic growth (Nunkoo and Ramkissoon, 2011; De Vita and Kyaw, 2017; Nunkoo et al., 2020). On the other hand, the tourism industry crowds in other sectors such as transportation, food, and real estate industries.

The tourism industry is one of the most dynamic economic sectors, which includes accommodations, food, and beverage services, recreation and entertainment, transportation, and travel services, and has grown substantially in the last two decades. With more than 319 million jobs supported by travel and tourism and contributing 10.4% of the global GDP, tourism has become a leading economic sector (Travel and Tourism Global Economic Impact and Issues report, 2018). The Middle East and North Africa (MENA) region is amongst the most attractive areas for tourists. This region attracted about 87 million international tourist arrivals in 2018 with a growth of 10% compared with 2017 which accounts for 6% of global total arrivals. The region earned USD 77 billion in international tourism receipts in 2017, which estimates to be 6% of the world's receipts (Tourism in the MENA region report, 2019).

It is noticed that the previous studies on inbound tourism demand focused on economic determinants such as tourism cost, income, exchange rate, and inflation, among others. However, there is little attention has been paid to the impact of governance and the institutional quality on demand for tourism (e.g., Habibi, 2017; Tang and Lau, 2017; Tang & Tan, 2016). Good governance and high institutional quality encourage economic development which leads to more investment in the tourism industry such as infrastructure, hotels, and tourism products and services, and this, in turn, attracts more tourists (Nunkoo et al., 2020). In addition, countries with good governance and institutions are secure and safe countries, and this improves the competitiveness of the tourism sector of these economies and attracts more tourists ( Lee, 2015; De Vita and Kyaw, 2017; Li et al., 2018). Most past studies focused on political stability (instability) and corruption as a proxy of governance. These studies found inclusive results. Some of the empirical papers found that countries with a low level of corruption and high political stability increase tourist demand; and this is a common argument (Seetanah et al. 2010; Yaha and Yap, 2015; Habibi, 2017; Nunkoo et al. 2020). However, other papers concluded that a rise in the corruption index would not have a negative impact on the inflows of tourists, mainly for those countries that have a historical and natural heritage (Yap and Saha, 2013).

This paper contributes to the existing literature in three folds. First, to the best of researchers' knowledge, this empirical study is amongst the few studies that investigate the effect of institutional quality on tourist arrival in MENA using disaggregated institutional indicators. This micro-level investigation is more informative and provides a clear understanding of policymakers' perspectives. Second, this study is the first empirical work that applies the Panel Quantile Regressions (PQR). Third, this is the first study that focuses on the MENA region. The purpose of this study is to answer our main question which is related to the impact of the quality of governance and institutions on the tourism demand: Does governance improve the tourism sector and appeal to further tourists in the MENA region?

This paper is structured as follows: The next section reviews the literature on the association between governance and tourism demand. Section 3 presents the model specifications, data descriptions, and methodology. The empirical results are

reported in section 4. Finally, section 5 provides the conclusion and policy implications.

## **2. Literature Review**

Defining good governance is difficult and controversial. However, the previous studies propose several definitions of governance. According to Kaufmann et al. (2003), there are three dimensions of governance: authority, decision-making, and accountability. These three dimensions are shown through the ability of the government to plan and implement policies effectively, in addition to the respect of citizens and empowering the institutions that regulate economic and social interactions within the society. Similarly, Duncan (2003) argues that governance must include participation, where citizens should have a voice in decision-making, in addition to responsibility, where the government, the private sector, and civil society organizations are accountable to the public.

On the other hand, little effort has been made to connect good governance and the performance of the tourism industry at the country level. Just a few studies have examined the relationship between the quality of governance and tourism. However, the quality of governance plays a statistically and practically significant role in the tourism industry (Scott and Marzano, 2015). Yüksel et al. (2005) argue that tourism governance could be described by the case when governments establish an ideal public good and provide infrastructure, planning control, marketing, and promotion aimed to achieve so.

In investigating the impact of governance on the tourism industry, with few exceptions, the majority of the empirical studies have examined the impact of one or two of the governance determinants on the tourism sector, at the individual country case studies level, or as a cross-sectional comparative analysis (Issa and Altinay, 2006; Scott and Marzano, 2015). However, the analysis of the good governance of the tourism industry in the MENA region is scarce. Yap and Saha, (2013) investigate the effect of accountability and transparency on the tourism sector. They found that in the countries that have historical and natural heritage, a decrease in corruption would not have a positive impact on the tourism sector, particularly the tourist arrival numbers.

On the one hand, Scott and Marzano (2015) highlighted that the quality of governance has a positive impact on the tourism demand in OECD countries; hence, more governance countries receive a higher volume of tourism demand. They also found that government effectiveness and regulatory quality have a significant impact on the ability of a country to generate tourism revenue. Some studies have examined the influence of governance components on tourism. Detotto et al. (2017) found that the ability of a country to produce the services which tourists expect is coming from the efficiency of institutions, which is necessary to achieve significant economic results, especially in the tourism sector. In addition, Gómez et al. (2008) emphasized through theoretical works that the quality of public goods and services is an important attractive factor.

Moreover, Tang and Tan (2018) argue that there is an important role of governance and institutions in tourism demand, where good governance can accelerate economic growth and increase investment in the tourism sector by increasing tourism production, plans, and infrastructure. This can, in turn, enhance tourism competitiveness and appeal to further tourists. Control of corruption and political stability are two important factors in determining tourism demand. Habibi (2017), Saha, et al. (2017), and Yap and Saha (2013) have included these two factors in their tourism demand model. These studies have concluded that tourism destinations with low corruption and more political stability are likely to attract more tourist arrivals.

After reviewing the above literature, it is obvious that the existing literature provides some inconclusive results regarding the debate on the relationship between tourism and the quality of governance in the MENA region countries. The current study is closely related to the tourism and governance relationship as it investigates this relationship in the MENA countries.

### 3. Data, methodology and the economic model

This study mainly addresses how the quality of governance affects tourism demand in MENA countries. Previous studies on this subject mostly focused on the relationship between governance and tourism across the world and are relatively less concerned about this relationship in the MENA region. For an in-depth analysis, 16 MENA countries in the period 2003-2020 have been chosen in order to obtain a panel of countries as large as possible with a minimum number of missing values. As reported in Table 1, the final sample includes 16 countries, and 969 observations were made. Therefore, to estimate the effect of governance on tourism demand, this paper uses panel data for 16 countries in the MENA region.<sup>1</sup> The statistical descriptions of variables are shown in Table 1 below.

**Table 1: Discription**

Variable		Mean	Std. Dev.	Min	Max	Observations
LogGDP	overall	25.23192	3.372499	10.70786	28.11803	N = 300
	between		3.44712	11.37251	27.88693	n = 20
	within		0.217931	24.3136	25.74022	T = 15
Exchange rate	overall	942.3574	3944.811	0.268828	33226.3	N = 300
	between		3477.509	0.288849	15604.77	n = 20
	within		2008.655	-6468.52	18563.88	T = 15
Inflation	overall	5.890441	7.575291	-10.0675	53.23096	N = 279
	between		5.013847	1.407509	17.12411	n = 20
	within		5.783965	-16.2607	47.03772	bar = 13.95
Political Stability	overall	-0.79933	1.099777	-3.18	1.22	N = 300
	between		1.007305	-2.39333	1.056	n = 20
	within		0.492297	-2.47933	0.710667	T = 15
Accountability	overall	-0.93673	0.590511	-1.98	0.79	N = 300
	between		0.542246	-1.74133	0.682	n = 20
	within		0.261609	-1.73807	-0.01807	T = 15
Government Effectiveness	overall	-0.24803	0.801122	-1.92	1.51	N = 300
	between		0.790247	-1.348	1.28	n = 20
	within		0.215745	-0.9867	0.351967	T = 15
Regulatory Quality	overall	-0.30833	0.839673	-2.27	1.32	N = 300
	between		0.824316	-1.60067	1.130667	n = 20
	within		0.23952	-1.16033	0.382333	T = 15
Rule of Law	overall	-0.2819	0.776263	-2.09	1.16	N = 300
	between		0.769296	-1.60733	0.949333	n = 20
	within		0.196162	-1.3519	0.2681	T = 15
Control of Corruption	overall	-0.2309	0.821286	-1.66	1.57	N = 300
	between		0.817524	-1.34333	1.053333	n = 20
	within		0.193544	-0.73223	0.406433	T = 15

<sup>1</sup> The complete list of countries is available in the Appendix (Table 3).

For the dependent variable, the expenditures of international outbound visitors in other countries were used as the proxy of tourism demand. These data are measured in U.S. dollars. For the independent variables, we set the real gross domestic product converted to international dollars using purchasing power parity rates as a proxy that covers economic growth which has a significant impact on tourism (Balaguer and Cantavella-Jorda, 2002; Dritsakis, 2004; Durbarry, 2004; Lee and Chang, 2008; Hajaya, 2018). In addition, this study utilized the real exchange rate, to estimate the effect of the change in domestic currency values among countries on tourism demand. According to Dritsakis (2004), the exchange rate (which is adjusted for inflation with the general consumer price index in both the tourist generator and destination countries) measures the effective prices of goods and services in competing tourism destination countries (Cheng et al., 2013; Dritsakis, 2004; Ganchev, 2014; Lee and Chang, 2008; Vogt, 2008). As revealed by both G. Li et al. (2005) and Lim (1999), most of the previous studies' analyses show that real income and real exchange rates are the most used and most important determinant variables in tourism demand models. The data on real GDP, real exchange rate, and inflation are obtained from the World Bank.

The prices are also considered vital variables of explanation for tourism demand, and many studies have clarified the relationship between them (Dwyer et al., 2002; Chao et al., 2013; Martins et al., 2017). The inflation rate is used in this study as a proxy to measure the price level of a consumer basket of goods and services. The collected data for inflation is from 2003 to 2018, and its source is the World Bank. The level of prices in MENA countries is estimated by the inflation rate.

To measure the quality of good governance in the MENA region, we use the Worldwide Governance Indicators (WGI) which cover the three main dimensions of governance (Kaufmann et al., 2003); The first is the democracy by 'voice and accountability' and 'political stability' indicators. Second, the ability of governments to implement public policies covers by two indicators of 'government effectiveness' and 'regulatory quality'. The third is the yield of the governance system which is related to the 'rule of law' and 'control of corruption. According to Kaufmann, Kraay, and Mastruzzi (2010), the WGI measures six broad dimensions of governance, and they are defined as follows:

1. **Voice and Accountability:** capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and free media.
2. **Political Stability and Absence of Violence/Terrorism:** capturing perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism.
3. **Government Effectiveness:** capturing perceptions of the quality of public services, the quality of the civil service, the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
4. **Regulatory Quality:** capturing perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
5. **Rule of Law:** capturing perceptions of the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
6. **Control of Corruption:** capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

Some previous studies have found that political stability and corruption are two important factors in determining tourism demand, such as (Yap and Saha, 2013; Saha and Yap, 2015; Habibi, 2017; Saha et al., 2017). However, all these indicators are used in our models to examine the impact of several aspects of governance on the tourism demand in 16 MENA countries. These indicators are the so-called WGI, covering 212 countries.

**Table 2: Pairwise correlations**

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>LogGDP</b>	1.000								
<b>Exchange rate</b>	0.157*	1.000							
<b>Inflation</b>	0.124*	0.298*	1.000						
<b>Political Stability</b>	0.169*	-0.082	-0.342*	1.000					
<b>Accountability</b>	-0.195*	-0.167*	-0.353*	0.003	1.000				
<b>Government Effectiveness</b>	0.258*	-0.069	-0.412*	0.691*	0.433*	1.000			
<b>Regulatory Quality</b>	0.215*	-0.275*	-0.450*	0.606*	0.441*	0.906*	1.000		
<b>Rule of Law</b>	0.195*	-0.193*	-0.424*	0.741*	0.405*	0.927*	0.918*	1.000	
<b>Control of Corruption</b>	-0.373*	-0.146*	-0.243*	0.450*	0.411*	0.576*	0.533*	0.587*	1.000

\* shows significance at the .05 level

**Table 3: The list of countries under study**

	Country
1.	Algeria
2.	Bahrain
3.	Egypt
4.	Iran
5.	Iraq
6.	Israel
7.	Jordan
8.	Kuwait
9.	Lebanon
10.	Morocco
11.	Oman
12.	Qatar
13.	Saudi Arabia
14.	Sudan
15.	Tunisia
16.	United Arab Emirates

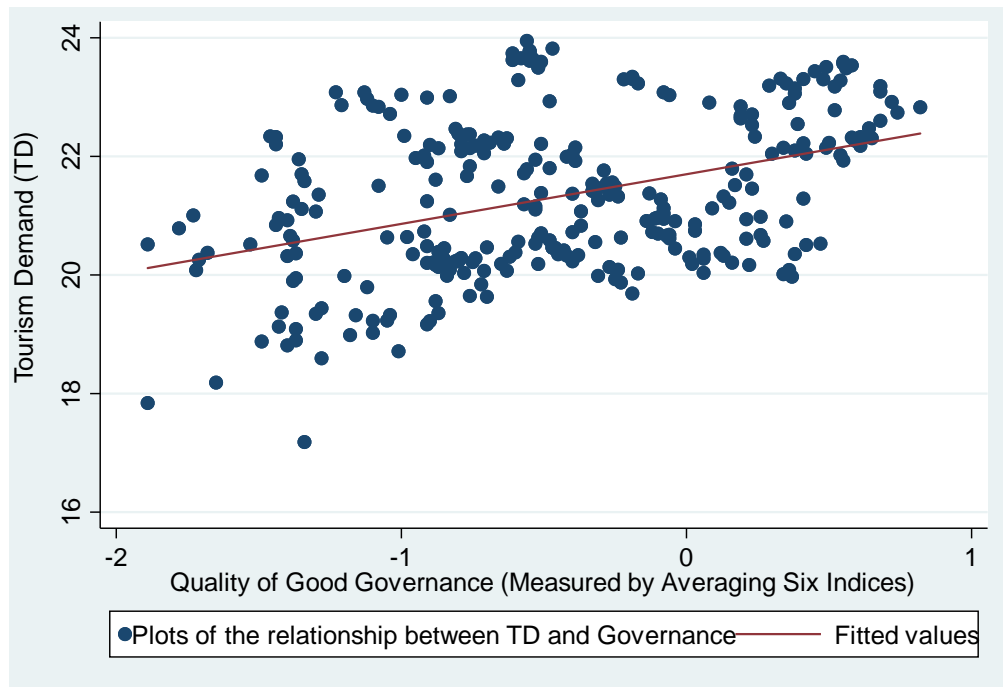
Most studies have focused on the theory of consumer behavior to model and understand the demand behavior of tourism. The theory suggested that demand for tourism depends on income, prices, and a set of other factors affecting tourism demand such as the exchange rate (e.g., Tang and Tan, 2016; Habibi, 2017; Tang and Lau, 2017). Therefore, to examine the impact of the quality of governance that affects tourism demand in MENA countries, the theoretical framework of this study is developed based on the

theory of consumer behavior. Mathematically, the benchmark economic equation can be written as follows:

$$TD_{it} = \beta_0 + \beta_1 RGDP_{it} + \beta_2 EXCH_{it} + \beta_3 INFLTION_{it} + \beta_3 Z_{it} + \varepsilon_{it} \quad (1)$$

where  $TD_{it}$  represents the demand for tourism origin country  $i$ ,  $RGDP_{it}$  represents the real gross domestic products (GDP) of origin country  $i$ ,  $EXCH$  is the exchange rate measures the effective prices of goods and services in competing tourism destination countries to estimate the effect of the change of domestic currency values between countries on tourism demand,  $INFLTION$  is used to measure the price level of a consumer basket of goods and services, which is more appropriate for the tourist's perspective, and  $Z_{it}$  is a vector of governance factors affecting tourism demand. With respect to the aim of the present study,  $Z_{it}$  represents the Worldwide Governance Indicators (WGI).  $\beta_0$  is constant and  $\varepsilon_{it}$  is the composite error.

For more understanding, Figure (1) shows a scatter plot of the association between good governance measured by averaging the six indices of governance and the tourism demand. We find that good governance is positively associated with tourism demand based on World Bank data.



**Fig. 1. Scatter plot: good governance measured by averaging the six indices of governance and the tourism demand (2003-2020)**

Source: World governance indicator (WGI)

#### 4. Empirical investigation and discussion

To evaluate the potential impact of the quality of governance on tourism in the MENA region, this study employs a variety of empirical models that take into account comprehensive measures of governance and provide sufficient empirical work on the relationship between tourism demand and different governance indicators. In this section, we investigate the

potential relationship between the quality of governance and tourism, using the explanatory variables that might affect tourism demand.

In this study, we include in our model the main factors of governance according to Kaufmann et al. (2003). Practically, we use the Worldwide Governance Indicators (WGI) which contain six different indicators to capture the six different aspects of governance, namely political stability, accountability, government effectiveness, regulatory quality, rule of law, and corruption. All these factors are used in our models in order to examine the impact of the aspects of governance on tourism demand in 16 MENA countries. The empirical results provided in this paper show the results of the estimations, using the generalized method of moments (GMM) estimator Arellano and Bond (1991) to overcome the expected endogeneity problem between governance variables and tourism demand. Then, we employ a panel quantile regression proposed by Powell (2014).

*a. Parametric approach: Generalized method of moments (GMM) estimations*

Table 4 shows the results of the GMM technique. The results of WGI indices indicated in general that governance and tourism demand have a positive relationship and are very significant, where a 1% increase in the quality of governance will improve tourism demand for MENA countries by about 0.80% at the 1% level. All coefficients of governance in the dynamic panel data GMM are positive and statistically significant (except for accountability as it was insignificant), which reflects the importance of each component of governance to higher tourism demand.

Both variables, i.e., the government effectiveness and control of corruption, were found to have a highly statistically significant relationship to tourism demand that is for every 1% increase in government effectiveness, there is an increase in tourism demand by about 0.75%. In addition, with a 1% increase in control of corruption, there is an increase in tourism demand by about 0.74% if all else remains constant. As for examining the effect of rule of law, the regression results show that there is a significant positive relationship with tourism demand. Regulatory quality and political stability both have a significant positive relationship with tourism demand, which means that every 1% increase in regulatory quality and political stability would result in an almost additional 5% and 0.43% increase in tourism demand to the MENA region countries.

These results are consistent with some previous studies such as (Lee, 2015; Saha and Yap, 2015) which confirm that the quality of governance plays a negative role in this region and is considered one of the main factors which determine the demand for tourism in the MENA countries. The coefficient of GDP and the exchange rate are positive and significant, consistent with those of (Balaguer and Cantavella-Jorda, 2002; Dritsakis, 2004; Durbarry, 2004; Lee and Chang, 2008; Vogt, 2008; Ganchev, 2014) who found that income and real exchange rates are strongly correlated with tourism demand.

**Table 4: Results of Arellano-Bond dynamic panel GMM estimation**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Tourism Demand	Tourism Demand	Tourism Demand	Tourism Demand	Tourism Demand	Tourism Demand	Tourism Demand
LogGDP	0.263 (0.178)	0.208 (0.139)	0.311 (0.222)	0.138 (0.129)	0.245 (0.184)	0.230 (0.165)	0.401* (0.231)
Exchange rate	5.70e-05*** (1.75e-05)	5.24e-05*** (1.62e-05)	3.95e-05** (2.01e-05)	5.28e-05*** (1.46e-05)	6.14e-05*** (1.83e-05)	6.26e-05*** (1.74e-05)	4.53e-05** (2.12e-05)
Inflation	-0.00742	-0.0174	-0.00858	0.00362	0.000834	-0.00934	-0.0171



	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Tourism Demand	Tourism Demand	Tourism Demand	Tourism Demand	Tourism Demand	Tourism Demand	Tourism Demand
	(0.0119)	(0.0148)	(0.0111)	(0.0115)	(0.0103)	(0.0116)	(0.0113)
Good governance	0.790***						
	(0.236)						
Political Stability		0.434***					
		(0.166)					
Accountability			0.181				
			(0.341)				
Government Effectiveness				0.756***			
				(0.212)			
Regulatory Quality					0.502**		
					(0.211)		
Rule of Law						0.645***	
						(0.219)	
Control of Corruption							0.745***
							(0.240)
Wald Chi-square	72.49***	74.73***	49.45***	87.76***	66.52***	73.63***	51.36***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sargan-Hansen test	900.84***	1022.27***	1056.03***	863.62***	879.16***	901.44***	894.37***
P-value	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Arellano-Bond AR(1)	1.90	1.37	1.59	1.42	1.91	1.50	1.09
	(0.058)	(0.170)	(0.111)	(0.155)	(0.056)	(0.132)	(0.274)
Arellano-Bond AR(2)	1.08	1.85	1.42	0.59	0.96	1.02	1.40
	(0.282)	(0.065)	(0.156)	(0.555)	(0.336)	(0.309)	(0.162)

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0

**b. Non-Parametric approach: Panel quantiles regression results**

To investigate whether the effect of quality governance on tourism demand varied across different MENA countries, we employ in this section the panel quantile regression estimator developed by Powell (2014). By the quantile regression, the entire conditional distribution of the dependent variable (tourism demand) can be described. Utilizing this model can estimate the impact of quality governance on tourism demand in the MENA region throughout the conditional distribution, with a special focus on the highest and lowest governance countries (Tayem et al. 2019). The distributional and heterogeneous effects of GDP, exchange rate, inflation, and the quality of governance variables were examined with the panel quantile regression estimator and presented in Tables (5–10). The panel quantile results are reported for the 5<sup>th</sup>, 10<sup>th</sup>, ..., 90<sup>th</sup> and 95<sup>th</sup> percentiles of the tourism demand.

**Table 5: Panel quantile regression results- Model1**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
VARIABLES	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.95
LogGDP	0.204***	0.810	9035221.106	3622317.897	5.941e+11	7.387e+30	-3.478e+18	-3.987e+23	-5.643e+11	0.269***	0.184***
	(0.045)	(0.748)	(30197611.366)	(11970654.709)	(1.706e+12)	(1.044e+32)	(1.316e+19)	(2.384e+24)	(1.756e+12)	(0.074)	(0.009)
Exchange rate	-0.000	-0.001	-531.481	-403.997	-8.904e+07	-8.583e+26	4.544e+14	5.763e+19	39115152.465	0.000*	0.000***
	(0.000)	(0.003)	(1,776.305)	(1,334.660)	(2.556e+08)	(1.213e+28)	(1.719e+15)	(3.446e+20)	(1.218e+08)	(0.000)	(0.000)
Inflation	-0.033***	-0.008	-233,763.768	-98,440.382	-4.930e+09	-1.508e+29	2.165e+16	4.846e+20	1.655e+10	-0.026**	-0.028***
	(0.005)	(0.017)	(781,291.761)	(325,394.476)	(1.416e+10)	(2.130e+30)	(8.189e+16)	(2.897e+21)	(5.151e+10)	(0.011)	(0.008)
Political Stability	0.364***	0.494***	-874,145.052	-13,353.523	-6.931e+10	-2.134e+30	6.601e+17	1.541e+22	7.227e+10	0.381***	0.573***
	(0.019)	(0.151)	(2921679.244)	(42,955.732)	(1.990e+11)	(3.015e+31)	(2.497e+18)	(9.216e+22)	(2.250e+11)	(0.078)	(0.079)
Constant	14.997***	-0.775	-2.429e+08	-9.522e+07	-1.554e+13	-1.913e+32	9.104e+19	1.052e+25	1.514e+13	16.239***	18.816***
	(1.146)	(19.788)	(8.119e+08)	(3.147e+08)	(4.462e+13)	(2.703e+33)	(3.444e+20)	(6.287e+25)	(4.713e+13)	(1.966)	(0.265)
Observations	263	263	263	263	263	263	263	263	263	263	263

Standard errors in parentheses

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

**Table 6: Panel quantile regression results - Model2**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
VARIABLES	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.95
LogGDP	0.200**	0.287	1.386	9.241e+19	-1.018e+09	1.822e+15	-5.775e+19	-1.419e+07	-7.461e+07	0.832***	0.171***
	(0.082)	(0.293)	(2.357)	(4.171e+20)	(2.383e+09)	(9.421e+15)	(2.249e+20)	(61246732.757)	(2.652e+08)	(0.249)	(0.021)
Exchange rate	0.000	0.000***	0.000	-6.279e+15	105,412.377	-1.904e+11	6.750e+15	1,165.888	3,685.730	0.000	0.000
	(0.000)	(0.000)	(0.000)	(2.834e+16)	(246,247.113)	(9.846e+11)	(2.629e+16)	(5,035.918)	(13,104.975)	(0.000)	(0.000)
Inflation	-0.054***	-0.042**	-0.045**	-2.104e+18	16253033.458	-3.913e+12	1.110e+17	178,938.991	551,798.725	-0.050***	-0.038***
	(0.007)	(0.018)	(0.023)	(9.498e+18)	(37878040.754)	(2.024e+13)	(4.323e+17)	(772,100.578)	(1961141.267)	(0.012)	(0.008)
Accountability	0.647***	0.522***	0.602	3.071e+19	1.940e+08	-2.937e+14	5.195e+18	-3997954.981	-3.918e+07	-0.147	-0.340***
	(0.053)	(0.106)	(1.335)	(1.386e+20)	(4.469e+08)	(1.519e+15)	(2.023e+19)	(17259554.562)	(1.393e+08)	(0.165)	(0.022)
Constant	15.356***	13.132*	-15.178	-2.423e+21	2.610e+10	-4.733e+16	1.513e+21	3.727e+08	1.974e+09	1.273	18.620***
	(2.112)	(7.528)	(62.101)	(1.094e+22)	(6.107e+10)	(2.448e+17)	(5.892e+21)	(1.609e+09)	(7.018e+09)	(6.456)	(0.571)
Observations	263	263	263	263	263	263	263	263	263	263	263

Standard errors in parentheses

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

**Table 7: Panel quantile regression results - Model3**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
VARIABLES	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.95
LogGDP	0.494*	0.201	350.784	0.179	-41.035	9.799e+25	-2.261e+49	-3.092e+17	-7,046.110	-5.143e+12	0.145***
	(0.268)	(0.162)	(1,158.673)	(0.154)	(147.598)	(1.873e+27)	(1.437e+50)	(1.176e+18)	(18,915.265)	(1.961e+13)	(0.012)
Exchange rate	-0.007	0.000***	-0.021	0.000***	0.003	-1.098e+22	3.504e+45	4.682e+13	0.579	2.123e+08	0.000
	(0.007)	(0.000)	(0.068)	(0.000)	(0.011)	(2.100e+23)	(2.228e+46)	(1.781e+14)	(1.556)	(8.096e+08)	(0.000)
Inflation	0.009	-0.002	-9.626	0.001	1.051	-1.438e+24	1.701e+47	3.638e+15	150.703	4.406e+10	-0.021*
	(0.016)	(0.013)	(31.937)	(0.009)	(3.766)	(2.748e+25)	(1.081e+48)	(1.384e+16)	(403.689)	(1.680e+11)	(0.011)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>Government Effectiveness</b>	0.846***	0.879***	-23.933	0.853***	16.660	-3.288e+25	5.799e+48	1.091e+17	997.373	-4.880e+11	0.650***
	(0.286)	(0.124)	(81.446)	(0.134)	(56.768)	(6.284e+26)	(3.687e+49)	(4.150e+17)	(2.675.449)	(1.861e+12)	(0.189)
<b>Constant</b>	7.504	15.004***	-9.383.155	16.204***	1.068.733	-2.531e+27	5.893e+50	8.132e+18	188,899.834	1.403e+14	19.579***
	(6.747)	(4.124)	(31,061.828)	(3.875)	(3,768.596)	(4.839e+28)	(3.746e+51)	(3.093e+19)	(507,043.834)	(5.351e+14)	(0.315)
<b>Observations</b>	263	263	263	263	263	263	263	263	263	263	263

Standard errors in parentheses

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

**Table 8: Panel quantile regression results - Model4**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>VARIABLES</b>	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.95
<b>LogGDP</b>	0.501***	0.390	0.964	9787207.741	-83.607	2.748e+31	-1.286e+17	-1.127e+16	-1.371e+10	0.192**	0.121***
	(0.142)	(0.325)	(0.812)	(21719247.410)	(233.027)	(2.174e+32)	(6.686e+17)	(4.798e+16)	(4.224e+10)	(0.075)	(0.017)
<b>Exchange rate</b>	-0.000	-0.001	0.000*	-850.205	0.009	-3.937e+27	1.998e+13	1.521e+12	999,221.509	0.000	0.000***
	(0.000)	(0.001)	(0.000)	(1,886.726)	(0.026)	(3.115e+28)	(1.039e+14)	(6.474e+12)	(3078494.250)	(0.000)	(0.000)
<b>Inflation</b>	-0.003	-0.013	-0.014	-3,396.821	0.447	-1.815e+29	6.955e+11	-5.212e+13	1.937e+08	-0.029***	-0.035***
	(0.013)	(0.016)	(0.011)	(7,538.035)	(1.265)	(1.436e+30)	(3.616e+12)	(2.218e+14)	(5.969e+08)	(0.010)	(0.008)
<b>Regulatory Quality</b>	0.958***	0.688***	0.890**	1806267.307	-5.302	-2.490e+30	1.014e+16	-1.333e+15	-2.490e+09	0.291	0.746***
	(0.115)	(0.235)	(0.373)	(4008366.029)	(16.683)	(1.970e+31)	(5.271e+16)	(5.674e+15)	(7.673e+09)	(0.231)	(0.142)
<b>Constant</b>	7.233**	10.262	-4.461	-2.592e+08	2,151.096	-7.105e+32	3.360e+18	2.977e+17	3.652e+11	18.145***	20.280***
	(3.632)	(8.270)	(21.307)	(5.751e+08)	(5,936.678)	(5.622e+33)	(1.747e+19)	(1.267e+18)	(1.125e+12)	(1.912)	(0.456)
<b>Observations</b>	263	263	263	263	263	263	263	263	263	263	263

Standard errors in parentheses

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

**Table 9: Panel quantile regression results - Model5**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>VARIABLES</b>	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.95
<b>LogGDP</b>	0.247***	1.405**	7.155e+25	2.254e+10	-1.975e+17	-8.107e+11	-1.627e+09	-1.354e+10	-8.318e+09	0.155***	0.155***
	(0.053)	(0.546)	(3.544e+26)	(9.456e+10)	(1.181e+18)	(5.243e+12)	(5.709e+09)	(4.696e+10)	(3.672e+10)	(0.018)	(0.007)
<b>Exchange rate</b>	-0.000	0.000**	-3.431e+21	-2246816.506	1.620e+13	67126357.550	224,589.048	1787059.090	549,706.682	0.000***	0.000**
	(0.000)	(0.000)	(1.699e+22)	(9425952.338)	(9.687e+13)	(4.341e+08)	(788,058.504)	(619118.501)	(2426977.371)	(0.000)	(0.000)
<b>Inflation</b>	-0.002	0.004	-2.325e+24	-1.529e+08	3.011e+15	1.120e+10	16646806.321	44955699.649	2.049e+08	-0.032***	-0.018**
	(0.007)	(0.010)	(1.151e+25)	(6.413e+08)	(1.800e+16)	(7.244e+10)	(58411826.404)	(1.559e+08)	(9.044e+08)	(0.006)	(0.009)
<b>Rule of Law</b>	0.868***	1.495***	1.019e+25	1.955e+09	4.401e+16	1.769e+11	3.826e+08	-8.001e+08	-6.451e+08	0.626***	0.654***
	(0.039)	(0.213)	(5.047e+25)	(8.201e+09)	(2.631e+17)	(1.144e+12)	(1.342e+09)	(2.776e+09)	(2.848e+09)	(0.074)	(0.085)
<b>Constant</b>	13.737***	-16.407	-1.906e+27	-5.952e+11	5.031e+18	2.096e+13	4.237e+10	3.572e+11	2.224e+11	19.055***	19.271***
	(1.291)	(14.643)	(9.442e+27)	(2.497e+12)	(3.015e+19)	(1.355e+14)	(1.487e+11)	(1.239e+12)	(9.817e+11)	(0.444)	(0.203)
<b>Observations</b>	263	263	263	263	263	263	263	263	263	263	263

Standard errors in parentheses

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

**Table 10: Panel quantile regression results - Model6**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>VARIABLES</b>	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.95
<b>LogGDP</b>	0.322***	0.177*	112.515	0.309*	-8.337e+13	-2.784e+43	-4.256e+19	-6.824e+17	-3.004e+09	-0.315	0.202***
	(0.040)	(0.100)	(349.618)	(0.179)	(5.374e+14)	(2.770e+44)	(1.812e+20)	(2.735e+18)	(1.168e+10)	(1.433)	(0.017)
<b>Exchange rate</b>	0.000	-0.001	-0.007	0.000***	7.005e+09	2.549e+39	6.049e+15	8.505e+13	217,178,542	0.000	0.000
	(0.000)	(0.001)	(0.021)	(0.000)	(4.516e+10)	(2.537e+40)	(2.575e+16)	(3.409e+14)	(844,713,591)	(0.000)	(0.000)
<b>Inflation</b>	-0.069***	-0.031**	-1.596	-0.023***	1.067e+12	2.508e+40	-1.186e+17	-1.499e+15	39376415.497	-0.040**	-0.007
	(0.003)	(0.014)	(4.899)	(0.006)	(6.876e+12)	(2.495e+41)	(5.049e+17)	(6.007e+15)	(1.531e+08)	(0.017)	(0.010)
<b>Control of Corruption</b>	0.602***	0.579***	47.663	0.662***	-1.399e+13	-5.396e+42	-5.112e+18	-2.083e+17	-1.144e+09	-0.090	0.070
	(0.038)	(0.170)	(146.301)	(0.127)	(9.016e+13)	(5.370e+43)	(2.176e+19)	(8.347e+17)	(4.449e+09)	(0.813)	(0.077)
<b>Constant</b>	12.054***	15.826***	-2,986.386	13.017***	2.109e+15	7.183e+44	1.115e+21	1.803e+19	8.025e+10	31.963	18.097***
	(1.025)	(2.511)	(9,347.611)	(4.457)	(1.368e+16)	(7.148e+45)	(4.746e+21)	(7.228e+19)	(3.121e+11)	(38.801)	(0.410)
<b>Observations</b>	263	263	263	263	263	263	263	263	263	263	263

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

The empirical results show that the impact of various factors, particularly quality governance, on tourism demand is heterogeneous. Concerning quality governance in general, the results show that the response of tourism demand to quality governance is heterogeneous across different quantiles, where it has a significant positive effect on tourism for most quantiles when controlling other factors. More specifically, at the lower quantiles, such as the 5<sup>th</sup>, 10<sup>th</sup>, and 20<sup>th</sup> quantiles, which correspond to the countries in the MENA region with lower quality of governance, the estimated coefficients are 0.84, 1.53, and 1.07, and it is significant at the 1% level. In contrast, at the higher quantiles, such as the 90<sup>th</sup> and 95<sup>th</sup> quantiles, which correspond to the countries with a higher quality of governance, the coefficients of this variable are 0.285 and 0.091, which pass the significance test at the 10% and 1% level, respectively. By comparing the coefficient of the quality of governance in the lower quantiles and higher quantiles, it is revealed that countries with low tourism demand will have a greater response to increasing the quality of government.

Furthermore, the empirical results in Table 5-9 indicate that the coefficients of quality of governance in each model are positive and significant at the 5<sup>th</sup> and 10<sup>th</sup> quantiles. This reveals that political stability, accountability, government effectiveness, regulatory quality, rule of law, and fighting corruption have a greater positive effect on tourism demand in the MENA countries with lower tourism demand than in those with higher tourism demand. That is, it was found that the impact of governance varies under different tourism demand distributions, specifically, at the 5<sup>th</sup>, 10<sup>th</sup>, and 20<sup>th</sup> low quantiles, which correspond to the lower tourism demand countries. In contrast, at the 80<sup>th</sup>, 90<sup>th</sup>, and 95<sup>th</sup> high quantiles, which correspond to the higher tourism demand in MENA countries, the results reveal a lower response.

It can be noticed from all these results of the present study that among all economic factors in the tourism demand model, income (GDP) and inflation remain the most influential factor for tourism demand in the MENA region countries. More specifically, the GDP and inflation factors are statistically significant at the 5% level or better in the MENA countries which correspond to the higher tourism demand. Moreover, the signs of the estimated coefficients of GDP and inflation for the countries which correspond lower tourism demand are consistent with growth theories and the previous literature, which implies the important role of GDP and inflation as determinants of tourism in the MENA region. These results are consistent with the findings of (Dwyer et al. 2002; Chao et al. 2013; H. Li et al. 2017; Martins et al. 2017). When examining the

exchange rate, it was found to be statistically significant as an explanatory variable with a positive relationship to tourism demand. The exchange rate maintained a positive impact on the demand for tourism in the MENA region countries. Our results are consistent with many studies that highlighted the importance of exchange rates, not only for tourism but also for macro stability, arguing that instability at the macro-level will indirectly harm tourism activities. Finally, in light of the influence of governance on tourism demand in MENA countries, political stability was an intriguing variable to assess. Surprisingly, political stability was found to be insignificant in determining tourism demand in the MENA region.

## 5. Conclusion and Policy implications

This paper investigates the impact of institutional quality on tourism demand in the MENA region countries using a non-Parametric approach. Our results suggest that one of the main factors in determining the magnitude of tourism demand and international tourist arrivals in the MENA region is the quality of governance in the institutions. Particularly, we found that tourism demand (international tourists) is very concerned with the level of political stability, corruption, government effectiveness, regulatory quality, and rule of law in their choice of a tourism destination.

Numerous policy recommendations can be derived from the results of this research. The legislators and policymakers should focus on two main issues: the quality of governance in institutions and control of the stability of prices in MENA countries. Policymakers in the MENA region should pay special attention to several dimensions of institutional quality; these should include efforts to institutionalise integrity and anti-corruption control in institutions through the passing and enforcement of laws, accountability frameworks for public officials and building capabilities and raising the awareness of public officials in areas of integrity and fighting corruption. All these actions will eventually provide a more secure, trusted, and better environment for tourists as well as for the people in the society.

Besides, policymakers in the MENA region should pay special attention to ensuring the stability of domestic prices which are used as a proxy for macroeconomic stability. Since the price of tourism is based on the cost of living at a tourist destination, an increase in this cost will decrease the attractiveness of tourism destinations. Therefore, to improve the competitiveness of tourism in the MENA region we must make sure that domestic prices are stable, where a stable price of tourism increases the tourist arrivals or flow to the tourism destinations.

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