
The Impact of Political Instability on the Tourism Sector in the Middle East and North Africa

NICOLAS REEVES

International Affairs and Economics, ESIA '19, nreeves@gwu.edu

ABSTRACT

This study uses fixed effects estimation to empirically model the effect of political instability on tourism to 15 MENA countries. My model reveals that acts of political violence, such as terrorist attacks, do not negatively impact tourism to the region. However, other facets of political instability, such as weak rule of law and frequent human rights abuses in a destination country, do negatively impact tourism to MENA nations. Furthermore, results for regressions using data only from countries located in the greater Levant and Arabian Gulf subregions confirm these findings; however, models that focus on Egypt, Algeria, Tunisia, and Morocco reveal that tourism demand in these North African nations reacts negatively to political violence. This study holds important implications for MENA policymakers and development planners, who must heed the corrosive impact of political instability on tourism, which contributes greatly to the economies of this region.

INTRODUCTION

Over the last 25 years, tourism sectors in the Middle East and North Africa (MENA) have greatly increased in size, constituting over nine percent of the region's gross domestic product (GDP) in 2016. Tourism's rising economic importance across MENA stems in part from growing governmental awareness of the diverse attractions that can draw travelers to their nations. As a result, petro-economies like Qatar and the United Arab Emirates have joined more traditional tourism economies, including Jordan, Egypt, Israel, and Tunisia, in placing tourism sector growth at the center of their development strategies. Beyond bolstering GDP growth across the region, increased international visitor flows have opened MENA's cultures to the world, a benefit that is not captured by national economic figures.

Despite these successes, tourism development in MENA is challenged by frequent violence and political instability exacerbated by repressive authoritarian regimes, widespread corruption, and the destructive influence of civil wars and international invasions. Authoritarian crackdowns and increased terrorist- and regime-sponsored violence following the Arab Spring contributed to noticeable decreases in international arrivals across the region. Egypt, Syria, and other nations that slid into instability and violence during and after the uprisings of 2010-2012 were not the only countries to experience declines in tourism demand. In addition,

lower international arrivals to countries like Jordan and Lebanon, where protests remained limited and largely nonviolent during this time period, imply that the negative impacts of violence, experienced by the central players of the Arab Spring spilled into peripheral countries in the region as well.

While decreased tourism demand in individual countries during and after the Arab Spring implies a correlation between political instability and reduced visitor flows to these nations, an important question remains: to what extent do increases in political instability and violence explain fluctuations in international arrivals to the entire MENA region? This study answers this question through fixed-effects regression analysis of annual tourism and political instability data for Algeria, Bahrain, Egypt, Israel, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Turkey, the West Bank and Gaza, and Yemen from 1996 to 2015. These nations represent all MENA countries that have publicly available data for international arrivals and purchasing power parity (PPP) for the 1996-2015 time period. Furthermore all of these countries experienced significant degrees of political instability between 1996 and 2015, whether through the omnipresent threat of terrorism in Lebanon, Iraq, and Israel or the fear induced by civil conflict in Algeria and Yemen. Figure 1 illustrates these trends with respect to each of my sample countries by displaying their average ratings on the World Bank's *Political Stability and Absence of Violence and Rule of*

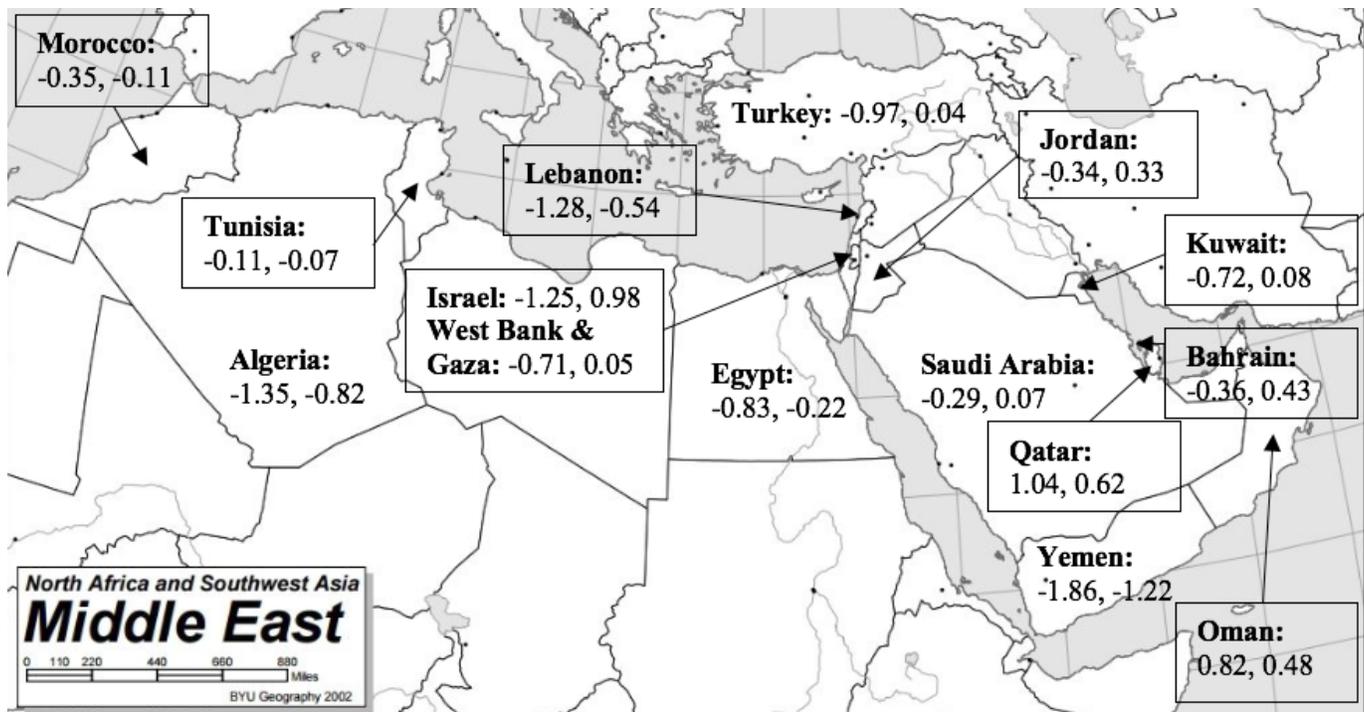


FIGURE 1. My sample countries' average ratings for the World Bank's Political Stability and the Absence of Violence and Rule of Law indicators, 1996-2015. Both indicators are measured in units of a normal distribution, with low scores indicating low political stability and rule of law.

Law scales over the time period of my study.

My null hypothesis for this study is that no relationship exists between political instability and tourism demand; my alternative hypothesis is that the relationship between political instability and tourism demand is significant at the 90% level. After controlling for area- and time-fixed effects, my baseline model reveals that World Bank measures for countrywide violence and political instability do not correlate with reduced tourism demand in MENA. Other measures for political instability, however, such as human rights abuses or deficiencies in the rule of law, do drive tourists away from visiting MENA countries. In fact, my model predicts that high levels of human rights abuses can reduce tourism to a MENA country by as much as 77%.

In addition to my baseline regression, I construct two additional models to measure the impact of political violence on tourism to several subregions within MENA. In the first sub-regional model, I include data from Israel, the West Bank and Gaza, Jordan, Egypt, Saudi Arabia, Kuwait, Qatar, Bahrain, Yemen, Oman, and Lebanon. Jordan, Egypt, the West Bank and Gaza, Israel, and Lebanon are

located in the greater Levant region, while Saudi Arabia, Kuwait, Qatar, Bahrain, Yemen, and Oman constitute the majority of the Arabian Gulf countries. Together, these nations represent most of the Arabic-speaking countries in the Middle East. The two regressions I perform with this sample demonstrate that, similar to the MENA region as a whole, shortcomings in the rule of law and high levels of human rights violations negatively impact tourism to countries within this sub-region. In contrast, the second sub-regional model I create, which includes data from four North African states (Algeria, Morocco, Egypt, and Tunisia) predicts a correlation between increased violence, including the occurrence of assassinations, state-sponsored purges, and revolutions, and reduced tourism demand.¹

LITERATURE REVIEW

Even though tourism constitutes a large portion of the GDP of many developing countries, few studies attempt to quantitatively examine how political instability, which occurs frequently across the developing world, affects

¹ I include data from Egypt in both subregional regressions because North Africa is a geographical region, while the Levant and the Gulf are more fluidly defined, cultural-linguistic regions. For example, some scholars hold that the Levant includes Jordan, Israel, the West Bank and Gaza, Syria, and Iraq, while others say Iraq is a Gulf country. However, academics agree that the North African countries are Egypt, Libya, Tunisia, Algeria, and Morocco. I include Egypt in my model for Levantine and Gulf countries in addition to my North Africa regression due to similarities between the societies, cultures, and dialects spoken in Egypt, Jordan, and Syria. This decision is also justified by the U.S. State Department and the National Security Council, which have a Secretary-level position for "Egypt and North Africa" and a Directorship for the Levant, Israel, and Egypt.

visitor flows to these regions. The empirical analyses that do explore this intersection between insecurity, violence, and tourism primarily identify global trends, rather than focusing on particular regions of the world. Meanwhile, MENA-specific empirical investigations of the link between adverse political developments and international visitor inflows focus primarily on terrorism.

In his study on the impacts of political instability on tourism, Neumayer (2004) uses a fixed-effects panel estimator to estimate how violence, terrorism, and other forms of domestic insecurity affect visitor inflows to countries across the world. His regression indicates that instances of political violence, including terrorist events, human rights violations, and intense armed conflict, have statistically significant, negative effects on tourism. This relationship remains significant at the 95% level when controlling for the attitudes of tourists, as well as country- and time-specific factors. Additionally, lagged variables Neumayer incorporates into his model demonstrate that these negative impacts become more pronounced over a time span of several months to a year.

Interestingly, however, Neumayer's model does not predict a significant correlation between political instability and tourism when limiting the sample to countries that rely heavily on income from international visitors. Neumayer argues that this unexpected result occurs because countries that rely heavily on international visitors typically have non-substitutable tourist destinations, such as the Great Pyramids in Egypt. As a result, tourism demand remains relatively inelastic despite the prevalence of political instability. Even though Neumayer reveals that tourism demand responds differently to violence in tourism-dependent nations versus less tourism-reliant countries, the study's global focus limits its applicability to specific regions like MENA. Neumayer himself calls for further research to examine how political instability impacts international visitor flows to individual regions of the world, highlighting the need for area studies on the intersection of politics and tourism.

Although Drakos and Kutan (2003) focus specifically on the Mediterranean region in studying how terrorism affects tourism in Greece, Israel, and Turkey, their findings align with those identified by Neumayer on a global scale. In the case of Israel and Turkey, the impact of domestic terrorism on international arrivals is negative and statistically significant at the 95% level. In Greece, this negative relationship is statistically significant at the 90% level.

Drakos et al. also estimate how a terrorist attack in one country would affect tourism to the other nations included in the study. Interestingly, their findings suggest that a minor terrorist attack, consisting of under three casualties in one of the three nations, would positively impact tourism to the other two countries, indicating an intra-regional substitution effect for these cases.

However, a major terrorist attack with three or more fatalities occurring in Israel, Greece, or Turkey drives tourists away from all three countries. Drakos et al. provide a comprehensive analysis of how tourism demand in Israel, Turkey, and Greece responds to terrorism, which represents one facet of political instability. The study's narrow case selection and focus, however, hinders its applicability beyond those countries. For instance, the model cannot demonstrate whether a major terrorist attack deters tourism to the Mediterranean region as a whole or whether this adverse effect is limited only to Greece, Turkey, and Israel.

Bassil, Saleh, and Anwar (2017) extend the study of Drakos et al. to Turkey, Lebanon, and Israel, three Mediterranean countries located in MENA. In contrast to Drakos et al., Bassil et al. differentiate between the impact of transnational and domestic terrorism on international arrivals in each country. The results of the seemingly unrelated regression (SUR) model employed in this study indicate that transnational terrorist attacks in Turkey, Israel, and Lebanon negatively affect international tourism to each country. The SUR model also predicts a negative relationship between the incidence of domestic terrorist attacks and tourism to Turkey and Israel. For Lebanon, the model predicts that domestic terrorism actually leads to an increase in international arrivals to the country. Bassil et al. rationalize this result by observing that 54% of tourists to Lebanon are Arabs and claiming that "these exogenous shocks only have a transitory effect on visitor arrivals from a number of Arab countries to Lebanon" (p. 62). A more likely explanation for this unexpected coefficient, however, is that Bassil et al. fail to control for country-specific effects that Drakos et al. and Neumayer incorporate in their models.

Bassil et al. also use the SUR model to predict spillover effects of terrorist attacks. According to the model, terrorist attacks in Lebanon correlate to an increase in tourism to Turkey, along with the inverse. This indicates that international visitors view the two countries as substitutes. Israel, meanwhile, only appears to derive an increase in international visitors from terrorist attacks in Lebanon. In the case of terrorism in Israel, the model predicts that neither Turkey nor Lebanon receives increases in visitors, indicating that Israel likely represents tourists' main destination in the region; tourists are more inclined to cancel their trip altogether due to terrorism in Israel instead of finding substitute locations in Turkey or Lebanon.

The empirical approaches Neumayer, Drakos et al., and Bassil et al. take to examine the nexus between political instability and tourism demand provide a strong foundation for my study. My research builds on Neumayer's worldwide approach to measuring the impact of political instability on tourism by examining the MENA region in particular. Furthermore, my inquiry expands on the terrorism-focused lens adopted by Bassil et al. and

Drakos et al. in their studies by incorporating a broader array of domestic factors that can harm MENA countries' tourism sectors into my model. By considering the relationship between political instability as a whole and MENA tourism, my study provides additional insights into how this phenomenon impacts international visitors' willingness to travel to a region recently marred by insecurity and violence.

THEORY AND METHODOLOGY

In this study, I employ fixed effects regression analysis to empirically determine the impact of political instability on tourism to the MENA region. The fixed effects model employs both time- and area-fixed effects. As such, it measures how far the estimate for tourism demand in a country in a given year deviates from that nation's mean tourism demand over the time period examined. Because the fixed effects model focuses on this "within" variation, I use it to empirically measure the relationship between instability and international visitor flows to the MENA region without the interference of omitted variable bias stemming from differences between countries in my sample that remain constant throughout my sample period. The following equation represents a theoretical conception of the fixed effects model I use to measure tourism demand in my study:

$$y_{i,t} = \alpha_1 x_{i,t} + \beta_i A_i + \gamma_t T_t + \epsilon_{i,t} \quad (1)$$

In this model, y represents tourism demand in country i in year t while α represents the coefficient for political instability, x , in country i at time t . The variable A represents area-fixed effects, while T is the time-fixed effects variable.

According to Neumayer, demand for tourism to a particular country can be modeled as a function of a tourist's income, a tourist's personal preferences, the destination's cost relative to other nations, the fare prices related to travelling to the destination, its attractiveness to tourists, and the extent of political instability present at the destination. This demand function can be modeled as:

$$D = (I, P, C, F, A, V) \quad (2)$$

In this equation, D represents demand, I is tourist income, P is tourist preferences, C is the relative price level of a tourist destination as compared to others, F represents travel costs, A is the destination's

attractiveness, and V is the extent of political instability in the country.

While Neumayer's theory represents an instructive way to conceptualize tourism demand in the MENA region, developing a model that empirically measures this demand using publicly available data to represent the parameters of equation (1) represents a challenge. To accomplish this, it is first important to determine which aspects of equation (2) can be estimated empirically and which elements must be controlled for implicitly through time- or area-fixed effects. For the purposes of my model, I assume that I , P , and F from equation (2) are accounted for through time-fixed effects, because incomes, travel preferences, and airfare costs correspond primarily to worldwide trends like rising price levels and demand shocks, which impact tourists' willingness to travel on a global scale. As a result, it can reasonably be assumed that changes in I , P , and F over the duration of the panel impact all 15 countries in my sample evenly.²

In the case of A , the general attractiveness of a tourism destination from equation (2), I assume that most differences across my sample countries with reference to this aspect of tourism demand remain constant throughout the panel's duration. As a result, I interpret this element of tourism demand as an area-fixed effect. This assumption rests on two conditions: 1) tourist attractions contained in each country across my sample do not change across the 20-year time period of my study, and 2) efforts made on a country-specific basis to advertise these attractions do not differ from nation to nation.

It is important to note that condition 1 holds true in the case of countries whose tourist destinations consist primarily of beaches or cultural heritage sites, as is the case in Algeria, Morocco, Tunisia, Bahrain, Lebanon, Israel, the West Bank and Gaza, Saudi Arabia, Yemen, Oman, Egypt, Jordan, and Turkey. In Qatar and Kuwait, however, the quickly expanding urban landscapes of Doha and Kuwait City, the main tourist attractions of these two countries, strain this assumption. Condition 2 holds true for most countries in my sample as well, with the exception of Saudi Arabia, which has spent billions of dollars on its tourism sector in recent years as part of Crown Prince Muhammad bin Salman's Vision 2030 plan. Although these conditions do not hold true in all cases in my sample, they remain applicable to enough countries in my regression that I can reasonably control for A implicitly.

With A , I , P , and F incorporated into equation (1) as area- or time-fixed effects, the only aspects of Neumayer's

² For Neumayer (2004), P refers to a tourist's activity-specific preferences, such as going to a beach, visiting a cultural heritage site, or spending a week touring a city. Thus, a distinction arises between activity-specific and country-specific preferences for a particular tourist. In the case of country-specific preferences, these can be impacted by a variety of aspects from Neumayer's tourism model, including A , a country's general attractiveness, and V , the degree of political instability in a country. Since P only refers to activity-specific preferences, however, the assumption that changes in these across time impact all countries in my sample evenly is valid.

model that I must measure empirically are C and V. I control for C, which represents the prices at a particular tourism destination relative to those at other locations, by including every country's PPP-adjusted exchange rate for each year between 1996 and 2015 in my regression. Since it is a national measure, PPP does not account for the possibility that prices in tourism areas are typically higher than those found in other areas of a country. Regardless, PPP represents an adequate control for differing price levels across the countries in my sample. Lastly, I measure V, the extent of political instability at a tourist destination, using an array of variables that reflect the degree of violence, safety, rule of law, and human rights protection found in my sample countries.

DATA DESCRIPTIONS

I use international arrivals data from the World Bank's World Development Indicators database to represent tourism demand in my model. Neumayer (2004) observes that international arrivals data constitute the most accurate annual estimator of tourism in a country (267). This is due to the fact that other indicators, such as total yearly receipts, contain inaccuracies because of obstacles associated with gathering this type of information, particularly in countries where the practice of bookkeeping is not common. To increase the explanatory power of this variable, I take the natural logarithm of the international arrivals numbers I obtain from the World Development Indicators database, thereby reducing the distortionary impact that the range of arrivals counts across my sample countries could have on my regression results. This transformation also allows me to build a log-linear regression model. As a result, my coefficients display the percent change in tourism demand caused by a unit change in each aspect of political instability measured by my model.

The data I use to model political instability, V, come from multiple sources. I draw from the World Bank's World Governance Indicators database to obtain general estimates for political instability in my sample countries. Specifically, I employ three variables from this dataset to accomplish this: the World Bank's estimate for the degree of *Political Stability and the Absence of Violence, Rule of Law*, and *Voice and Accountability* in each country. According to Kaufmann et al. (2010), the *Political Stability and the Absence of Violence* variable measures the likelihood of political instability and violence, including terrorism, within a country in units of a standard normal distribution. *Rule of Law*, which is also estimated in terms of a standard normal distribution, measures the confidence a country's inhabitants have in the enforcement of the rules of society, as well as their trust in national institutions, such as the courts and the police force. Lastly, *Voice and Accountability* measures the degree to which a country's citizens enjoy the freedom

to select their government, to express themselves, to associate, and to access a free media. This variable is also estimated in units of a standard normal distribution.

In addition to the general estimates for political instability derived from the World Governance Indicators database, I incorporate measures for more specific elements of this phenomenon. To accomplish this, I develop variables for domestic conflict from the Arthur Banks Cross-National Time Series (CNTS) Database. The CNTS dataset contains yearly counts for a number of facets of domestic political instability. I use these numerical representations to create yearly variables for *Assassinations*, *General Strikes*, *Major Government Crises*, *Purges*, *Riots*, *Revolutions*, and *Demonstrations* for each sample country between 1996 and 2015. Banks and Wilson (2018) develop counts for each of these variables for countries around the world by tracking *New York Times* reporting on these events. The level of event-related specificity contained by the CNTS variables enables me to go beyond general characterizations of political instability in my analysis. However, Banks and Wilson's use of only one news source to obtain these counts means that these variables do not cover all of the instances of instability and violence occurring in a MENA country over the course of a given year. For this reason, I use the outcomes of regressions using CNTS data primarily to compare their results with the predictions made by the models that use data from the World Governance Indicators database, which is more reliable.

Since acts of political violence are defined differently across academia, the political realm, and the media, it is important to point out how CNTS defines each of these phenomena. Banks and Wilson (2018) reveal that an assassination constitutes any politically motivated murder or attempted murder of a high-ranking government official. *General Strikes* involve over 999 industrial or service workers and aim to influence national government policies. *Major Government Crises* represent any rapidly unfolding event, excluding a revolution, that threatens to bring about the downfall of a country's regime. *Purges* are defined by Banks and Wilson (2018) as the systematic jailing or execution of political opponents within the regime or the opposition, while *Riots* represent violent demonstrations involving physical force and featuring more than 99 citizens. *Revolutions* constitute any illegal attempt, successful or unsuccessful, to forcibly institute a change in the top government elite or to gain independence from a country. *Demonstrations* represent any peaceful public gathering of at least 99 people aimed at protesting government policies or authority.

Beyond the event-related data pertaining to political violence that my CNTS variables portray, I use Purdue University's Political Terror Scales (PTS) dataset to obtain specific information pertaining to the humanitarian elements of political instability. According to Gibney et al. (2018), PTS synthesizes the information contained in

	Mean	Standard Deviation	Minimum	Maximum	Number of Observations
<i>In (Arrivals)</i>	14.46	1.53	10.40	17.50	294
<i>Political Stability and the Absence of Violence</i>	-0.57	0.91	-2.68	1.22	255
<i>Rule of Law</i>	0.01	0.59	-1.53	1.28	255
<i>Voice and Accountability</i>	-0.73	0.55	-1.91	0.77	255
<i>Assassinations</i>	0.14	0.51	0	4	287
<i>Strikes</i>	0.11	0.45	0	5	287
<i>Government Crises</i>	0.13	0.40	0	3	287
<i>Purges</i>	0.10	0.42	0	4	287
<i>Riots</i>	1.11	3.69	0	27	287
<i>Revolutions</i>	0.13	0.37	0	3	287
<i>Demonstrations</i>	1.91	5.69	0	55	287
<i>Terrorism Fatalities</i>	83.45	328.55	0	4266	280
<i>Human Rights Abuses</i>	2.84	1.02	1	5	300
<i>Purchasing Power Parity</i>	1.41	3.62	0.13	15.25	296

TABLE 1. | *Descriptive Statistics*

the U.S. State Department's annual human rights report to rank each country in the world on a scale of "1" to "5." Levels "1" and "2" represent societies where people are not or are rarely imprisoned for their views and torture is rare. Rankings "3," "4," and "5" correspond to countries where extensive political imprisonment, murders, and brutality are common. For countries ranked as "3," these practices are limited to a minority of the population, while levels "4" and "5" designate countries where such human rights violations impact most and all of the society, respectively. Since the U.S. State Department's human rights reports are thorough and rely on the synthesis of information gathered from classified documents, news articles, and human intelligence, these data represent reliable measures of human rights violations in my sample countries.

In order to measure the degree to which countries in my sample are impacted by terrorism, I obtain data pertaining to terrorism-related fatalities from the National Consortium for the Study of Terrorism and Responses to Terrorism (START) program. START tabulates information related to terrorist attacks from a diverse array of both American and international news outlets. Moreover, START ensures that the reporting on these events is accurate by stipulating that the details of each attack included in the database are confirmed by a second news outlet. Using START data from 1996 to 2015

for each country in my sample, I create a variable for *Terrorism Fatalities* by calculating the sum of the death tolls for each terrorist attack that occurred in a country in a given year. As opposed to a variable that simply displays yearly counts for terrorist incidents, *Terrorism Fatalities* offers a deeper representation of the extent to which this phenomenon affects a nation. For instance, Metrojet Flight 9268 from Sharm El Sheikh, Egypt to Saint Petersburg, Russia crashed over Northern Egypt after a bomb aboard the airplane exploded on 31 October 2015, killing all 224 people on board. In a terrorism counts variable, this tragedy would count as a single attack, thus carrying the same weight as a terrorism incident where only a few fatalities occurred, considerably misrepresenting the degree to which the event impacted the country.

Lastly, I obtain data for *Purchasing Power Parity* – the indicator I use to control for differences in prices at various tourist destinations across the MENA region – from the World Bank's World Development Indicators database. Unfortunately, using PPP, instead of the nominal exchange rate, to control for differences in price levels across countries from 1996 to 2015 prevents me from including data from Syria in my model. This is because the World Bank does not report PPP data for Syria in its World Development Indicators database. Although Syria is important to analyze due the country's

	Abbreviation	Description
<i>In (Arrivals)</i>	<i>InA</i>	The natural logarithm of the annual count of international arrivals to a country, as measured by the World Bank.
<i>Political Stability and Absence of Violence</i>	<i>WBP</i>	The likelihood of political instability and violence, including terrorism, within a country. Measured in units of a standard normal distribution.
<i>Rule of Law</i>	<i>WBR</i>	The confidence a country's inhabitants have in the enforcement of the rules of society, as well as their trust in national institutions. Measured in units of a standard normal distribution.
<i>Voice and Accountability</i>	<i>WBV</i>	The degree to which a country's citizens enjoy the freedom to select their government, express themselves, associate, and access free media. Measured in units of a standard normal distribution.
<i>Assassinations</i>	<i>ABA</i>	Politically-motivated murders of a high-level government officials.
<i>Strikes</i>	<i>ABS</i>	Strikes involving over 999 industrial service workers that aims to influence government policies.
<i>Government Crises</i>	<i>ABG</i>	Any rapidly unfolding events, excluding revolutions, that threaten to bring the downfall of a country's regime.
<i>Purges</i>	<i>ABP</i>	The systematic jailing or execution of political opponents.
<i>Riots</i>	<i>ABX</i>	Violent demonstrations that feature more than 99 citizens.
<i>Revolutions</i>	<i>ABR</i>	Successful or unsuccessful, illegal attempts to institute a change in the top government elite or gain independence from another country.
<i>Demonstrations</i>	<i>ABD</i>	Peaceful public gatherings of at least 99 people aimed at protesting government policies or authority.
<i>Terrorism Fatalities</i>	<i>TF</i>	The number of deaths from terrorist attacks in a country.
<i>Human Rights Abuses</i>	<i>HRA</i>	Each country is rated on a scale of "1" to "5" using information from the State Department's annual human rights report.
<i>Purchasing Power Parity</i>	<i>PPP</i>	The number of units of a country's currency required to buy the same amount of goods and services in the domestic market as a U.S. dollar would buy in the United States.

TABLE 2. | *Variable descriptions*

ongoing civil war, I believe that the superiority of PPP to the nominal exchange rate in measuring price level differences between countries justifies this exclusion. The table below displays summary statistics for each of the variables I use in my fixed effects regression model.

As the number of observations for the *In (Arrivals)* variable in Table 1 reveals, my panel is nearly balanced. The only countries included in my study that do not have arrivals data for every year between 1996 and 2015 are Kuwait (18 observations) and Saudi Arabia (16 observations). In addition, *Political Stability and the Absence of Violence*, *Rule of Law*, and *Voice and Accountability* each only have 255 observations (17 per country) because the World Bank

did not estimate values for these variables in 1997, 1999, and 2001. Similarly, the CNTS variables included in my model contain only 287 observations, because Banks and Wilson (2018) did not include political instability data for the West Bank and Gaza until 2009. *Terrorism Fatalities* contains only 280 observations because no terrorism data exist for Oman, whose government claims that no terrorist attacks occur within the country's borders. Since Oman's neighbors are Yemen and Saudi Arabia, two countries that suffer from high amounts of terrorism, I doubt the veracity of this claim and thus exclude Oman from this variable instead of inputting zeros for its yearly terrorism-related death toll.

The mean scores of -0.57, 0.01, and -0.73 for *Political Stability and the Absence of Violence*, *Rule of Law*, and *Voice and Accountability*, respectively, indicate that MENA countries rank between 0.5 and 0.75 standard deviations below the world average for safety and freedom of expression, while the region is consistent with the world average for the provision of the *Rule of Law*. In addition, MENA's mean human rights ranking of 2.84 demonstrates the prevalence of human rights violations across the region as a whole. Furthermore, MENA countries experience a high average of terrorism-related deaths per year (83.45 fatalities). The maximum number of *Terrorism Fatalities* for the countries in my sample occurred in Algeria in 1997, a year during which this nation was embroiled in a bloody civil war.

RESULTS

My empirical investigation of the impact of political instability on tourism to the MENA region consists of 10 fixed-effects regressions that incorporate different combinations of political instability variables included in my dataset. In the first five regression models, I examine the impact of political instability on my entire sample of MENA countries. Regressions 6, 7, and 8 include Egypt and countries located in the Levant and the Arabian Gulf regions. In the last two regressions, I limit the sample size to countries located in North Africa (Morocco, Algeria, Tunisia, and Egypt). The 10 regression models are outlined in detail below.

Regression Descriptions

I start with five fixed effects models that measure the relationship between political instability and tourism in all 15 sample countries over the 20-year time period examined in my study. The first three of these regressions use World Bank data on *Political Stability and the Absence of Violence*, *Rule of Law*, and *Voice and Accountability* to model political instability, while the last two regressions employ CNTS data on *Assassinations*, *Strikes*, *Government Crises*, *Purges*, *Riots*, *Revolutions*, and *Demonstrations* to represent this phenomenon. In regression 2, I substitute *Human Rights Abuses* for *Voice and Accountability* to measure how the human rights situation in a country impacts its tourism inflows. I remove *Voice and Accountability* when adding the *Human Rights Abuses* variable to avoid counting certain aspects of political instability twice. Regression 3 differs from regression 1 in that I replace *Political Stability and the Absence of Violence* with the *Terrorism Fatalities* variable. Regression 4 consists of all of the CNTS variables, while regression 5 uses the same variables as regression 4 with the addition of *Terrorism Fatalities*. I include *Purchasing Power Parity* as a control variable in all five regressions. The regressions are outlined below:

$$\ln A_{i,t} = WBP_{i,t} + WBR_{i,t} + WBV_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (1)$$

$$\ln A_{i,t} = WBP_{i,t} + WBR_{i,t} + HRA_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (2)$$

$$\ln A_{i,t} = WBR_{i,t} + WBV_{i,t} + TF_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (3)$$

$$\ln A_{i,t} = ABA_{i,t} + ABS_{i,t} + ABG_{i,t} + ABP_{i,t} + ABX_{i,t} + ABR_{i,t} + ABD_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (4)$$

$$\ln A_{i,t} = ABA_{i,t} + ABS_{i,t} + ABG_{i,t} + ABP_{i,t} + ABX_{i,t} + ABR_{i,t} + ABD_{i,t} + TF_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (5)$$

For the three regressions that pertain solely to Egypt and sample countries located in the Levant and the Gulf, I first construct a model that includes the three World Governance Indicators variables as explanatory variables and *Purchasing Power Parity* (PPP) as a control variable (regression 6). In regression 7, I replace *Voice and Accountability* with the *Human Rights Abuses* variable, keeping the other explanatory variables and the constant as they are in the first regression. For regression 8, I remove *Political Stability and the Absence of Violence* and add the *Terrorism Fatalities* variable, keeping the rest of the explanatory variables and the constant as they are in regression 7. I do not use CNTS data to model political instability in my analysis of Egypt and the Levant and Gulf countries because none of these variables' coefficients were significant in the five regressions that examined the MENA region as a whole. The three regressions for the Arabic-speaking Middle East are listed below:

$$\ln A_{i,t} = WBP_{i,t} + WBR_{i,t} + WBV_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (6)$$

$$\ln A_{i,t} = WBP_{i,t} + WBR_{i,t} + HRA_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (7)$$

$$\ln A_{i,t} = WBR_{i,t} + HRA_{i,t} + TF_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (8)$$

	1	2	3	4	5
Constant	11.47 ***	11.47 ***	11.14 ***	11.55 ***	11.52 ***
Stability and Absence of Violence	-0.52 ***	-0.61 ***			
Rule of Law	0.76 ***	0.73 ***	0.20		
Voice and Accountability	-0.39 ***		-0.48 ***		
Assassinations				0.43	0.08
Strikes				0.02	0.01
Government Crises				-0.01	-0.01
Purges				0.10	0.10
Riots				0.02	0.02
Revolutions				0.04	0.05
Demonstrations				0.00	0.00
Level of Human Rights Abuses					
2		-0.17			
3		-0.26 *			
4		-0.24			
5		-0.77 ***			
Terrorism-Related Deaths			-0.00		-0.00
Purchasing Power Parity	1.75 ***	2.06 ***	2.09 ***	2.04 ***	1.99 ***
Number of Observations	249	249	232	277	257
R² (Within)	0.45	0.46	0.36	0.37	0.36

TABLE 3. | Regressions 1-5
Notes: * $p < 0.1$. ** $p < 0.05$. *** $p < 0.01$

I use CNTS data to model political instability for the two regressions that study the four North African countries included in my sample because the CNTS variables contain more observations for these nations. This consideration is particularly important for these two regressions due to the limited sample of countries for the North Africa-specific analysis. As such, the first North Africa regression employs *Assassinations*, *Strikes*, *Government Crises*, *Purges*, *Riots*, *Revolutions*, and *Demonstrations* as explanatory variables, with PPP serving as a control variable. In the second regression, I include *Terrorism Fatalities* in addition to the explanatory variables and the control used in the first North Africa model. These two regressions are represented mathematically as follows:

$$\ln A_{i,t} = ABA_{i,t} + ABS_{i,t} + ABG_{i,t} + ABP_{i,t} + ABX_{i,t} + ABR_{i,t} + ABD_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (9)$$

$$\ln A_{i,t} = ABA_{i,t} + ABS_{i,t} + ABG_{i,t} + ABP_{i,t} + ABX_{i,t} + ABR_{i,t} + ABD_{i,t} + TF_{i,t} + PPP_{i,t} + \epsilon_{i,t} \quad (10)$$

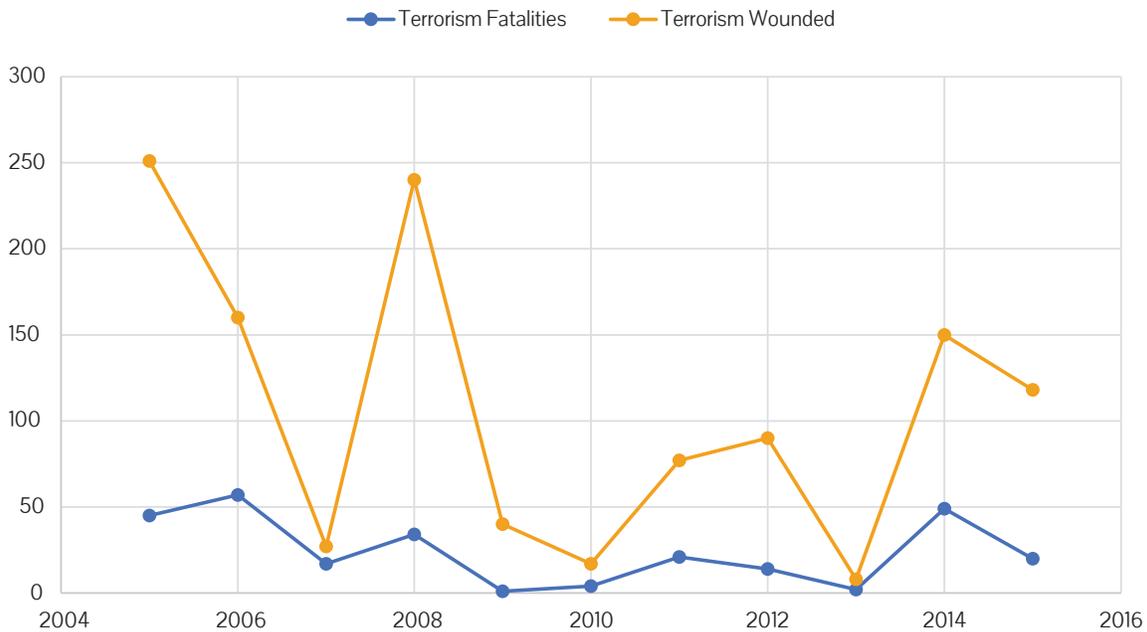


FIGURE 2. | Displays the number of terrorism fatalities and the number of people wounded from terrorist attacks in Israel between 2005 and 2015

Discussion of MENA-wide Regression Results

As Table 3 demonstrates, tourists to the MENA region prefer destinations where they feel assured that they are protected by the *Rule of Law*. The model demonstrates this through the positive, statistically significant coefficient associated with the *Rule of Law* variable. Although the size of the *Rule of Law* coefficient cannot be interpreted because this variable does not change in predictable increments, it nonetheless reveals that tourism demand expands with improvements in a destination country's rule of law. This result makes intuitive sense; guaranteed protection under the law allows tourists to trust law enforcement to ensure their safety and well-being, rather than worrying about bribing a corrupt police officer or judge to receive remuneration for stolen belongings.

Regression 1 predicts that political instability and violence do not deter potential visitors from traveling to MENA, as demonstrated by the negative, statistically significant coefficient for the *Political Stability and the Absence of Violence* variable. The model also indicates that a lack of freedom of expression and government accountability in a MENA destination country does not deter tourists from traveling there. It is possible that the statistically significant, negative coefficient for *Voice and Accountability* can be explained because a lack of freedom of expression and a free press primarily impacts citizens and long-term residents of a country. Tourists, on the other hand, typically do not stay in a host country long enough to experience the negative impacts of these limitations on personal freedoms.

In the case of the negative coefficient associated with the *Political Stability and Absence of Violence* variable,

MENA tourists being more conditioned to the constant threat of instability than visitors to other regions may explain this coefficient. As Figure 1 demonstrates, the mean score between 1996 and 2015 for most MENA countries with respect to this indicator was at least 0.5 standard deviations below the world average, with Yemen's average rating falling 1.86 standard deviations below that of the world. Furthermore, the World Tourism Organization (2018) reveals that approximately 35% of visitors to MENA countries come from the region itself; this could explain why political violence does not dissuade tourist travel to the region. Considering that political violence consistently occurs in most MENA countries, it stands to reason that over 30% of tourists to MENA nations are accustomed to this phenomenon, because they regularly experience it in their home societies (World Governance Indicators, 2018).

Even for tourists who are not citizens of MENA countries, it is probable that they do not deem the regular threat of instability and violence as a limiting factor when planning a trip to the region. This can be seen with tourism to Israel, which has increased steadily, despite the persistent threat of terrorist attacks from Hamas (Figure 2, Figure 3). It is important to note here that even the U.S. State Department, an important source of advice for travelers, encourages tourists to continue visiting Israel despite this ongoing threat, simply suggesting that visitors stay away from certain areas of the country, such as the Occupied Golan Heights or Israeli settlements in the Occupied West Bank.

In addition to providing confirmation for the trends exhibited by regression 1, regression 2 demonstrates

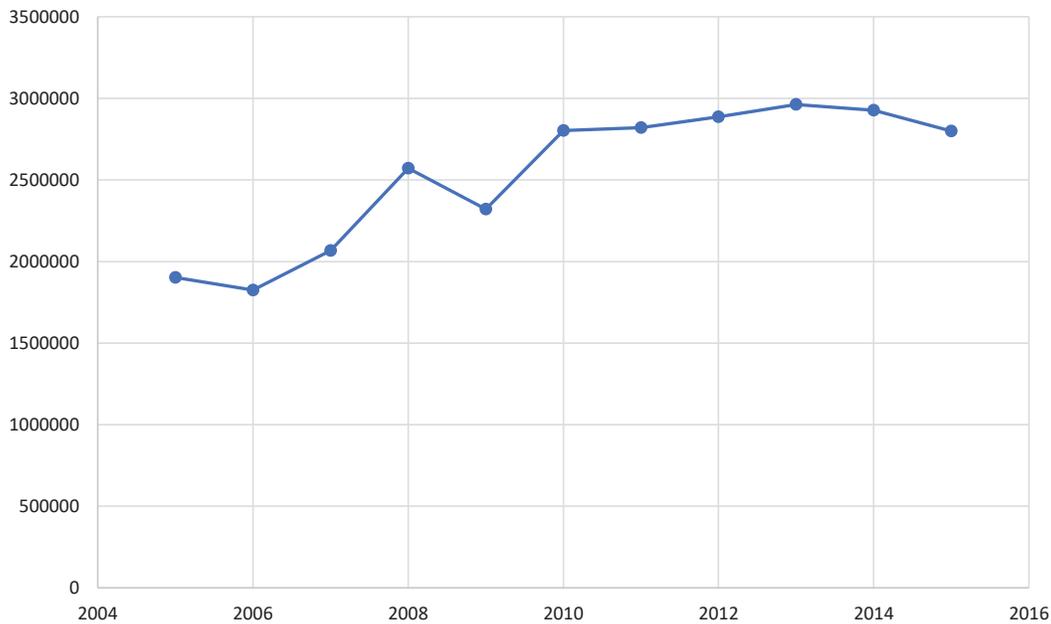


FIGURE 3. | *International arrivals to Israel (2005-2015)*

that tourists prefer to travel to MENA countries where they will not encounter, or fall victim to, human rights abuses. Regression 2 predicts that tourism demand to a country decreases by 26% if its *Human Rights Abuse* score increases from “2” to “3” on the five-point scale. If the abuse rating increases from “4” to “5,” my model predicts a 77% drop in international arrivals to the country.

While *Human Rights Abuses* are significantly correlated to decreases in tourism demand, regression 3 shows that *Terrorism Fatalities* do not significantly influence international arrivals numbers. This finding goes against those of both Drakos and Kutan (2003) and Bassil et al. (2017), who find that terrorism does negatively impact tourism to some of the MENA countries in my sample, including Israel, Lebanon, and Turkey. A likely explanation for this contradiction is that my study involves a more diverse sample of countries than those included in the research of Drakos et al. and Bassil et al, who analyze the impact of terrorism on Eastern Mediterranean nations, which face a terror threat disproportionate to other areas of MENA.³

The CNTS variables employed in regressions 4 and 5, meanwhile, provide no significant insights into the relationship between specific aspects of political instability and tourism demand. Even for *Revolutions*, *Government Crises*, and *Riots*, events that I expect would reduce visitor numbers, given the region-wide decreases in international arrivals that occurred after the Arab Spring, regressions 4 and 5 predict that no statistically

significant relationship exists between these facets of political violence and tourism demand. Insufficient data gathering techniques employed by Banks and Wilson (2018) in constructing the variables used in these two regressions may explain this difference.

Discussion of Regression Results Pertaining to Egypt, the Levant, and the Arabian Gulf Region

Table 4 displays the results of regressions 6, 7, and 8, all of which measure the nexus between political instability and tourism demand for Egypt, the Levant, and the Gulf. The signs and statistical significance of the coefficients for *Stability and the Absence of Violence*, *Rule of Law*, and *Voice and Accountability* in regression 6 are identical to those of regression 1. For this sub-region, this result reveals that these variables elicit trends in tourism demand similar to MENA-wide patterns. Furthermore, regression 7 reveals that tourists to countries in the greater Levant and Gulf regions also respond negatively to human rights abuses. In this case, an increase in a country’s score from “2” to “3” corresponds to a 52% drop in tourism demand, while an increase from “3” to “4” elicits a 39% decrease in international arrivals, and the transition from “4” to “5” elicits an 89% drop in demand. Similar to regression 3, regression 8 also does not predict a statistically significant decrease in tourism demand as a result of a terrorist attack- related fatality.

³ Over the last 20 years, the Eastern Mediterranean has been crippled by the presence of terrorist groups such as the Islamic State in Iraq and the Levant (ISIL), Al-Qaeda, Hizballah, Hamas, and many others. Of these four groups, two of them are chiefly active in countries studied by Drakos et al. and Bassil et al.: Hizballah (Lebanon) and Hamas (Israel).

	6	7	8
Constant	10.81 ***	10.37 ***	9.47 ***
Political Stability and Absence of Violence	-0.51 ***	-0.74 ***	
Rule of Law	0.814 ***	1.01 ***	0.312
Voice and Accountability	-0.80 ***		
Level of Human Rights Abuses (State Department Assessment)			
2		-0.15	0.04
3		-0.52 ***	-0.23
4		-0.39 *	0.19
5		-0.89 ***	-0.03
Terrorism-Related Deaths			-0.00
Purchasing Power Parity	1.33 ***	2.01 ***	2.43 ***
Number of Observations	181	181	164
R ² (Within)	0.50	0.51	0.39

TABLE 4. | Regressions 6-8: Egypt, the Levant, and the Gulf
Notes: * $p < 0.1$. ** $p < 0.05$. *** $p < 0.01$

	9	10
Constant	14.42 ***	14.44 ***
Assassinations	-0.17 *	-0.13
Strikes	0.30 **	0.28 **
Government Crises	0.60 **	0.57 **
Purges	-0.77 ***	-0.75 **
Riots	-0.01	-0.01
Revolutions	-0.28 **	-0.25 *
Demonstrations	0.05 ***	0.04 ***
Terrorism-Related Deaths		-0.00
Purchasing Power Parity	2.46 ***	2.41 ***
Number of Observations	80	80
R ² (Within)	0.41	0.42

TABLE 5. | Regressions 9-10: North Africa
Notes: * $p < 0.1$. ** $p < 0.05$. *** $p < 0.01$

Discussion of the North Africa Regressions

The two regressions I perform using CNTS data for Egypt, Algeria, Tunisia, and Morocco reveal interesting insights into the differences between how North African and Middle Eastern tourism demand responds to events of political instability. Regression 9 predicts that violent events like *Assassinations*, *Purges*, and *Revolutions* all negatively impact demand for tourism to these four countries. Specifically, the model reveals that a *Purge* decreases tourism by 77%, while *Assassinations* and *Revolutions* reduce international arrivals by 17 and 28%, respectively. Interestingly, North Africa's geographical proximity to Europe may account for this negative correlation between political instability and tourism flows. Since Egypt, Algeria, Tunisia, and Morocco can be reached by plane from many European capitals in four hours or less, Europeans constitute a larger portion of the arrivals portfolios of these nations in comparison to those of Middle Eastern countries.⁴ In fact, the World Tourism Organization (2018) reveals that tourists from Europe constituted 41% of international arrivals to Tunisia, Morocco, Egypt, and Algeria between 2013 and 2015, compared to just 26 percent in the Middle East. Since Western European tourists come from societies that are considered to be both safe and stable (World Governance Indicators, 2018), it makes sense that their willingness to travel to North Africa is highly dependent on the political situation in this region. Regardless, it should be emphasized that the coefficients for regressions 9 and 10 should not be scrutinized too heavily, due to the small number of observations included in the models (80) and the insufficient data gathering techniques employed by Banks and Wilson (2018), which prohibit the interpretation of these results as causal effects.

CONCLUSION

My results reveal that the null hypothesis, which states that no statistically significant relationship exists between political instability and tourism demand in the MENA region, can be partially rejected. The five MENA-wide regressions I perform demonstrate that the violent aspect of political instability, as represented by the *Political Stability and the Absence of Violence* variable, does not deter international visitors from traveling to MENA countries. This result contradicts the findings of Neumayer's (2004) study of global tourism trends, illustrating the importance of narrowing this seminal study's scope to only the MENA region. Despite these differences, several of my other findings align with those of Neumayer's study. For instance, my model predicts that

aspects of political instability pertaining to the integrity of host country institutions, such as the strength of the rule of law and protection from human rights abuses, do play an important role in deterring tourists from visiting the region.

The predictions from my sub-regional regressions, meanwhile, illustrate the differences in tourists' reactions to political instability in different areas of MENA, highlighting the importance of not viewing MENA as a monolith. In the case of Egypt, the Levant, and the Gulf, the regressions using data from these countries reveal that tourist behavior with reference to political stability, rule of law, and human rights indicators matches the trends predicted by regressions that use data from all MENA countries. In contrast, the models that measure the relationship between instability and demand for tourism to North Africa reveal that international visitor flows to Egypt, Morocco, Tunisia, and Algeria are negatively impacted by violent political acts like assassinations, purges, and revolutions. Despite the correlation between violence and tourism demand in the North African context that these results indicate, it is important to point out that the limited number of observations contained in the two North Africa regressions makes it impossible to infer a causal relationship.

If nothing else, this result highlights the need for further research that examines the relationship between political instability and tourism trends in North Africa. Such analyses would enable policymakers and business leaders residing in North African countries to better understand how to construct policies and advertising campaigns that present their nations as ideal destinations for visitors whose preferences match the attractions offered within their borders. Furthermore, expanded North Africa-specific research on the relationship between tourism and political instability would either confirm or deny the results I obtain in my analysis of limited observations from CNTS data, which constitutes the main caveat of this study.

Beyond my call for more research pertaining to tourism trends in North Africa, I believe it would be instructive to conduct a follow-up study about the relationship between political instability and tourism demand in MENA five or ten years in the future. Such an analysis would enable researchers, policymakers, and development planners alike to obtain an idea of the regional tourism landscape after tourism and instability data related to the Arab Spring become more widely available. While my paper makes progress in this regard, limitations in data availability forced me to limit my study to yearly data from 1996 to 2015. As a result, my dataset does not fully capture the complete effects of the Arab

⁴ In addition to their geographic proximity, the countries of North Africa have long been tied to Europe through the bonds of imperialism and colonialism. Algeria was annexed by France between 1848 and 1962, while Morocco and Tunisia were longtime protectorates of the French Empire. Egypt, meanwhile, was considered a British protectorate from 1882 to 1922. For information about North African countries' tumultuous relationship with their former colonizers, see Versteegh (2014).

Spring on tourism to the MENA region. Instead, it pertains primarily to pre-Arab Spring international arrivals and political instability estimates.

Although this information is valuable, future research is needed to determine whether the current economic hardships experienced by tourism sectors across MENA constitute only a short-term downturn, or a larger, negative shift in tourists' attitudes towards the region as a whole. Until these data become available, however, my study contains important insights that political leaders in MENA countries can use to mold their tourism policies, adapting to the importance potential visitors place on the rule of law, violence, and human rights abuses when deciding whether or not to visit this turbulent region of the world.

About the Author

Nicolas Reeves is a senior in the Elliott School of International Affairs majoring in international affairs with a regional concentration in the Middle East. In addition, he is studying for a Bachelor of Arts in economics and minoring in Arabic. Reeves became interested in the nexus between Middle Eastern and North African economies' increasing reliance on tourism and the region's frequent struggles with political instability and violence during his junior year abroad in Jordan as a 2017-2018 Boren Scholar. Beyond his interest in the impact of political instability on economic growth factors in MENA, Reeves also employed his Arabic skills to conduct fieldwork in Jordan to research the effect of class and tribal affiliation on interpretations of state-led tourism development in Petra, the Hashemite Kingdom's tourism capital.

Mentor Details

This article was prepared with mentorship from Professor Chao Wei.

Chao Wei received her PhD in Economics from Stanford University in 2001. She worked at the University of North Carolina at Chapel Hill for two years before joining the George Washington University in 2003. Her research interests focus on the intersection of macroeconomics and financial economics, with an emphasis on the asset pricing implications of production economies with and without nominal rigidities. She teaches undergraduate and graduate courses in Money and banking, and Macroeconomic Theory.

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