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Case study

Does good governance attract tourists?☆

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ABSTRACT

No effort has been made to connect good governance and the performance of the tourism industry at the country level. We take a first step to provide empirical evidence of this positive effect. Based on a data set of 100 countries between 2002 and 2012, the impact of the Worldwide Governance Indicators (WGI) on the tourism industry is analyzed, controlling also for demographic, economic and environmental factors. Using a dynamic panel data approach, we highlight the role played by good governance in explaining differences in countries' tourism performances, measured here as inbound tourism expenditures per inhabitant. We also observe that the impact of WGI is even higher among low-openness countries.

1. Introduction

An important strand of research focuses on the role of institutions and economic freedom in explaining observed differences in economic development and performance. Essentially, the economic literature has moved from inputs and technological perspectives to a broader understanding of the prerequisites for growth (Gwartney et al., 1999). Good governance is needed to assure (Dixit, 2009) property right security, contract enforcement, and collective action. As discussed by Khan (2007), the positive impact of good governance arises mainly from two sources. First, it reduces transaction costs, allowing markets to work more efficiently. Second, good governance allows markets to "overcome entrenched market failures in allocating assets, acquiring productivity-enhancing technologies and maintaining political stability in contexts of rapid social transformation". Recently, using a US state-level/city-level cross-sectional dataset, Detotto and Mccanon (2017) show that good institutions positively affect the development of efficient publicly provided services. Thus, it seems that good governance impacts both market and non-market activities.

Starting from this premise, we seek to verify the intuition that tourists take into account factors other than price and "direct" service quality. Specifically, we seek to measure the importance of governance quality on the development of and motivation for tourism. The questions are stated as follows. Is the governance quality of an economy crucial to the attractiveness of tourism? In addition, if yes, how? To what extent can the governance level of a country and its security image influence tourism consumption?

The tourism market is known to be global and very competitive. In this context, small differences in resources and/or institutional environments are likely to have immense short-run and long-run consequences. The idea is to use the tourism industry, given its characteristics and peculiarities, as a case study in order to clearly observe governance quality effects. We might expect that a small variation across countries and periods leads to significant performance changes.

Although some links seem straightforward, no bridge exists between the literature on governance and that on tourism. Thus, this study aims to investigate the relationship between governance and the tourism industry by comparing the tourism performances of countries with different governance qualities. To this end, a dynamic panel data approach is performed using data on 100 countries over 2002–2012. Our variables of interest are the Worldwide Governance Indicators (WGI; Kaufmann et al., 2010a) collected by the World Bank. The WGI are six composite governance indicators that measure governance quality as perceived by enterprise, citizen, and expert survey respondents.

In Section 2, we describe the background underlying this study. Then, the data and empirical approach are discussed in Section 3, and Section 4 presents the results. The last section concludes.

2. Background

Kaufmann et al. (2002) define political and public sector governance as the traditions and institutions by which authority is exercised for the common good, including: (i) the process by which governments are selected, monitored, and replaced, (ii) the ability of the government

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to formulate and implement policies effectively, and (iii) the respect of citizens and the state for the institutions that govern economic and social interactions within the society. According to Duncan (2003), governance represents "the formal and informal rules that determine the behavior of a people". Key governance principles include participation, inclusion, non-discrimination, equality, the rule of law, and responsibility.

A recurrent issue in the literature is whether governance causes growth. Numerous studies demonstrate the existence of a strong positive relation between high-quality institutions on the one hand and economic performance and development on the other hand (Acemoglu et al., 2001; Gwartney et al., 2006; Hall & Jones, 1999; North, 1990, 2005; Rodrik, 2000; Rodrik et al., 2004). Differences in governance and the quality of institutions would be, for example, crucial in explaining innovation (Mokyr, 1990; North, 1990). Governance indeed has an important role since it contributes to creating a stableand predictable environment in which the private sector, households, and investors may expand. The incentive structure necessarily plays a role of social cohesion, but it also facilitates the attraction of foreign investments.[1]

Furthermore, the tourism industry has grown substantially in the last century and has become a critical factor in the economic development strategies of many countries (Lea, 1988). "With more than one billion tourists traveling to an international destination every year, tourism has become a leading economic sector, contributing 10% of global GDP and 6% of the world total exports" (WTTC, 2015). Tourism is nowadays one of the major service industries (Brau et al., 2007; Zhang et al., 2004), and it represents not only the temporary movement of consumers but also the sign of financial transfers for most countries. Due to tourism, some economies started exporting goods and services and currently perform from an economic point of view (Fayissa et al., 2008; McElroy, 2003; McElroy & De Albuquerque, 1998; Sinclair, 1998). Nevertheless, tourism development suffers a great vulnerability. Two types of problems make tourism a sensitive activity. First, the increase in domestic revenue from tourism spending is weakened by the existence of a set of leaks (Nowak et al., 2010). These leaks can be (i) internal in nature, through the imports of goods, services, and labor required for tourism's functioning; (ii) external in nature, resulting from the lack of control of small countries over the marketing of their tourism products in source countries (tourists and international transport visitors); and (iii) "invisible" in nature, mainly due to the illegal leaks of capital abroad.

Second, the tourism sector is deeply unstable and particularly sensitive to cyclical changes in the source countries and to "global and regional economic conditions (relating to periods of growth and recession) and adverse events such as natural disasters, epidemics, political unrest and terrorism" (UNCTAD, 2013). Reasons for tourism volatility can be multiple, including seasonality, climate,[2] and also the political and/or economic image of the country (Ridderstaat et al., 2014).

At the same time, if we focus on micro-economic aspects, the tourism supply has intensified, first, with the opening of some economies (the Balkans or Cuba, for example), and second, due to the improved accessibility of remote economies (cheaper tickets with low-cost companies, for example) (Parry & McElroy, 2009; Schubert et al., 2011). From the demand point of view, tourists face both time and budget constraints. Since they are more and better informed about potential destinations and their characteristics, tourists tend to increasingly behave as optimizers and raise their expectations. Moreover, this phenomenon is clearly amplified by increasing competition, as already mentioned.

Therefore, the literature naturally highlights the factors influencing the development and stability of the tourism sector. The impacts of public policies on the tourism sector and the importance of political stability in tourism sustainability are among the most debated topics in the literature. The importance of political stability and its influence on tourism attractiveness have been especially studied in the cases of Bosnia and Herzegovina (Causevic & Lynch, 2013), Lebanon (Issa & Altinay, 2006), and Ireland (O'Brien, 2012), for example, confirming the facts that the tourism industry is fragile and instabilities (war or terrorism, for example) inevitably result in declines in tourist flows.

More generally, the reputation of a destination is a key factor in the motivation for tourism. Confidence in the local economy can be of paramount importance. Reputations might attract more investors (Fombrun & Shanley, 1990) or attract and retain qualified human resources. We can assume that "good governance image", in the sense of the ability to manage critical situations, is part of this reputation and could be fundamental to tourism performance.

From this point, we raise the question of the impact of good governance on tourism. Are the implications for tourism of governance quality significant? Our assumption is simple: a good governance image may improve tourism attractiveness for territories. As far as we know, this particular subject has not yet been developed in the literature. Thus, this study aims to investigate the relationship between governance and tourism performance.[3]

3. Data and empirical approach

This study proposes using the dynamic panel data approach, illustrated in Section 3.4, to explore the relationship between tourism revenue and (aggregate and individual) governance indicators for a sample of countries in the time span 2002–2012, also controlling for a number of demographic, economic and environmental factors. In other words, our aim is to test whether high tourism performances are associated, on average, with high quality governance countries. Furthermore, the sufficiently long time dimension allows us to study how tourism activities react to governance quality changes. Section 3.1 to Section 3.3 focus on the presentation of all the data sources used in this analysis.

3.1. Tourism

In the context of this study, the availability of reliable tourism data to define an appropriate explained variable is a major issue. Until the late 1990s, identifying appropriate data was almost impossible, but from 1995 on, the United Nations World Tourism Organization has collected data for more than 200 countries. Our analysis uses data from the Compendium of Tourism Statistics CD-ROM for the period 1995–2013. The series of interest is the level of inbound tourism expenditures per inhabitant in purchasing power parity (PPP). The choice of tourism expenditures to approximate tourism activity is original in the literature (Yilmaz et al., 2015) since it is more difficult to obtain than the commonly used tourism arrivals (Santana-Gallego et al., 2011; Tsui & Fung, 2016). We use per capita tourism expenditures to make valid peer comparisons and to avoid any population-size effects.

[1] Special attention has been devoted to corruption in the literature. Corruption is indeed a major problem of governance in developing countries. It reduces administrative performance, capacity, and efficiency, resulting in the misuse of scarce natural resources, moving public spending to less efficient activities at the expense of essential services such as education, health, and infrastructure projects (Gray & Kaufmann, 1998). This shift undermines the ability to generate income and contribute to fiscal weakness and macroeconomic difficulties (Osei et al., 2005).

[2] It is appropriate to emphasize the risk of potential instability related to the problem of global warming. The Intergovernmental Panel on Climate Change (IPCC) has assessed the rising sea levels over the period 1990–2100 in a range from 9 to 88 centimeters. Coastal impacts of this rise can clearly affect hotels and various tourist facilities. Some attractions are especially damaged, such as beaches, the marine ecosystem, etc.

[3] Candela et al. (2015) study the related question of the appropriate scale of governance between the national and local levels.

The data covers the period 1995–2013 for 201 countries. Unfortunately, this series suffers from a substantial number of missing values, typically for small countries and before 2000.

The time span 2002–2012 has been chosen in order to obtain a panel of countries as large as possible with a minimum number of missing values.[4] As reported in Table 1, our final sample includes 100 countries.[5]

Furthermore, in order to compare data over time, the original inbound expenditures series, in current US dollars, has been deflated using the GDP deflator from the World Bank Development Indicators.

3.2. Worldwide governance indicators

As noted by Kaufmann et al. (2010b) regarding the definition of the notion of governance:

> Various authors and organizations have produced a wide array of definitions.

The definition of governance presented in Section 2 has been chosen since some World Bank researchers have developed a set of governance indicators relying on this definition for several years.

These indicators are the so-called WGI, covering 212 countries and territories and ranging from around −2.5 to 2.5. The WGI measure perceived governance and are built using 340 variables obtained from more than 30 sources. Four types of sources are used:

- Surveys;
- Public sector data providers;
- Nongovernmental organizations;
- Commercial business information providers.

Six measures of governance are defined, two for each of the areas identified in the definition:

1. Voice and accountability (VA) measures citizens' ability to participate in government selection, along with freedom of expression and association and a free media;
2. Political stability and absence of violence (PV) measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means;
3. Government effectiveness (GE) measures the quality of public services, the quality of the civil service and 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 (RQ) measures 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 (RL) measures perceptions of the extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence;
6. Control of corruption (CC) measures 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.

Data has been obtained from the website *www.govindicators.org* and covers the period 1996–2014.

The construction method and the accuracy of these indicators has been questioned by several authors, such as Knack and Langbein (2010), Thomas (2010), and Desbordes and Koop (2016). Nonetheless, despite some limitations, these indicators are by far the most reliable available measures of governance and are of common use in the academic literature (Kasekende et al., 2016; Ward & Dorussen, 2015). In the context of this study, a synthetic measure of perceived governance quality is useful. This synthetic measure has been built by averaging the six individual WGI for each country and each year, and this additional variable is called GOV.

3.3. Other explanatory variables

In addition to the WGI, several other explanatory variables have been used in order to account for some important features of a given country. The variable GDP accounts for the real GDP per capita of the country (in USD PPP) while ΔGDP represents the real economic growth per capita (in USD PPP). They take into account for economic development and growth.

$DENSITY$ stands for the population density of the country, $CAPACITY$ is the ratio between tourists and residents. Both variables account for saturation of country tourist carrying capacity (Saveriades, 2000). They can be also considered as proxy of the tourism industry sustainability (Gooroochurn & Sugiyarto, 2005)

The variable $TRADE$ is used in order to control for the integration of a given country in international trade. It is defined as the openness to trade ratio, $TRADE = \frac{Exports+Imports}{GDP}$. A positive relationship is expected since more openness is associated with higher inbound tourism flows.

Furthermore, an additional variable, $PRECIPITATION$, indicating the average yearly rainfall and snow (mm), is included in order to account for the effects of adverse weather condition on tourism expenditures.

Table 1 provides descriptive statistics and sources of the variables used. All of them are log-transformed.

3.4. Econometric approach

We can expect that tourism expenditures show strong persistence over time, indicating that the level of tourism activity at time t affects the tourism level at time $t + 1$. To confirm such a hypothesis, the Wooldridge test Wooldridge (2002) is applied on the following basic ordinary least squares (OLS) model in order to check for serial correlation in the residuals:

$$EXP_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 \Delta GDP_{it} + \beta_3 DENSITY_{it} + \beta_4 CAPACITY_{it} + \beta_5 TRADE_{it} + \beta_6 PRECIPITATION_{it} + \beta_7 GOV_{it} + \epsilon_{it} \quad (1)$$

where βs are the coefficients to be estimated and ϵ_{it} represents the residual term. We find that the null hypothesis of no serial correlation is strongly rejected.[6] This finding suggests the use of the lagged dependent variable (EXP_{t-1}) to remove serial correlation in the residuals. A panel unit root test (Levin et al., 2002) is also performed to see whether there is stationarity of the dependent variable in (1), and the null hypothesis of non-stationarity is rejected.

As pointed out in the previous sections, reverse causality between governance and tourism is strongly expected. For example, good governance could increase tourism revenues since it can positively impact industry productivity and efficiency. On the other hand, tourism could affect local and/or national governance. It is well known that this industry has dramatically increased during the last 30 years and promises to continue that trajectory. As a result of this dynamic, many countries have decided to reconsider their structures and processes, including free market and individual rights reforms (Göymen, 2000).

Unfortunately, the tourism industry could directly impact the other explanatory variables studied. For example, trade flows and income *per*

[4] To handle the issue of the remaining missing values, a simple linear model has been used in order to estimate inbound expenditures as a function of a time trend and the number of arrivals in each year.

[5] The complete list of countries is available in the Appendix (Table A1).

[6] All preliminary statistical tests are available on request.

Table 1
Descriptive statistics and sources; N = 1100.

	Mean	sd	Min	Max	Description	Source
EXP	5.86	1.60	0.79	11.74	Inbound tourism expenditures per inhabitant (USD PPP)	United Nations World Tourism Organization
GDP	2.43	1.09	−0.34	4.83	Real GDP per capita (in K$ PPP)	World Bank
Δ GDP	0.03	0.04	−0.15	0.28	Growth Real GDP per	World Bank
DENSITY	4.20	1.47	0.44	10.01	Population per square kilometer	World Bank
CAPACITY	−1.47	1.90	−6.32	3.91	Tourists per inhabitant	United Nations World Tourism Organization
TRADE	4.37	0.47	3.05	6.10	(Exports + Imports)/GDP	World Bank
PRECIPITATION	4.22	0.91	0.67	5.75	Annual precipitation average (in mm)	Climate Change Knowledge Portal
GOV	−0.70	0.31	−1.50	−0.10	Worldwide Governance Indicators	World Bank
VA	−0.74	0.41	−2.07	−0.14	Voice and accountability	World Bank
PS	−0.77	0.44	−3.81	−0.18	Political stability and absence of violence	World Bank
GE	−0.67	0.34	−1.72	−0.04	Government effectiveness	World Bank
RQ	−0.67	0.35	−1.87	−0.10	Regulatory quality	World Bank
RL	−0.72	0.37	−1.81	−0.10	Rule of law	World Bank
CC	−0.72	0.36	−1.55	0.01	Control of corruption	World Bank

All variables are expressed in log-level terms, except for ΔGDP.

capita both benefit from tourism development (Balaguer & Cantavella-Jorda, 2002; Kulendran & Wilson, 2000) since the latter feeds the development process, encourages investments, and positively affects the internalization and competitiveness of firms. Through the economic channel, we might expect that tourism could affect population size by increasing it in areas where resources are plentiful.

The presence of the lagged dependent variable (EXP_{t-1}) and the lack of strict exogeneity between tourism output and the explanatory variables do not allow the use of the ordinary least squares (OLS) method to estimate model (1) (Roodman, 2009). In order to take into account these issues, the generalized method of moments (GMM) is proposed, which yields a consistent estimator of the coefficients using the lagged value of the dependent and explanatory variables as instruments. In this analysis, the robust two-stage system GMM estimator is implemented, which performs better than the linear first-differenced GMM in small samples (Blundell & Bond, 1998). As noted by several authors (Arellano & Bond, 1991; Blundell & Bond, 1998; Roodman, 2009), the dynamic panel estimator is designed for situations with few time periods T and many individuals I, as in this case. Thus, our approach accounts for endogenous covariates, fixed individual effects, and heteroskedasticity and autocorrelation within individuals but not across them.

Furthermore, the system GMM approach allows us to deal with variables affected by measurement error problems (Griliches & Hausman, 1986), which makes this approach preferable to alternative methods. In other words, the measurement error does not modify the assumptions and the properties of the GMM approach, which can still provide consistent parameter estimates in panel data models with lagged variables and unobserved time-invariant individual-specific effects (Fajnzylber et al., 2002). This feature perfectly fits our needs since the variable of interest (GOV) is affected by this type of problem.

Since lags are used as instruments, they can proliferate as T increases. This issue is not trivial. First, the number of instruments compromises the matrix inversion calculation. Second, the Hansen test 1982 and Sargan test 1958 for joint validity of the instruments[7] are biased in the case of a large collection of instruments. Unfortunately, although consistency still holds, raising the instrument count induces an asymptotic bias in the two-step estimate of the parameters (Roodman, 2009; Windmeijer, 2005). A minimally arbitrary rule of thumb is to set the number of instruments less than the number of individual units in the panel (Baum, 2006, pp. 235). A way to reduce the instrument count is to replace the instruments with their principal components (Bai & Ng, 2010; Kapetanios & Marcellino, 2010; Mehrhoff, 2009). The aforementioned procedure and the GMM panel model are performed by using the "xtabond2" command in STATA13 (Roodman, 2009).

4. Results

Consider, first, a comparison of the countries according to tourism revenue and the aggregate WGI measure, as described in Section 3.2, in the time span 2002–2012. Fig. 1 illustrates such comparison. Those countries that are lowest in the distribution of the WGI measure also experience the lowest level of tourism production. Increases in the governance index correspond to higher average levels of aggregate tourism output. Thus, this result suggests that there is a positive correlation between the two. Table 2 shows the cross correlation table of tourism revenue, the synthetic index (GOV), and the six WGI indicators. Again, a positive correlation between tourism and governance seems to be confirmed. A formal econometric investigation, though, controlling for GDP per capita, GDP growth, density, tourism capacity, trade and precipitation, is needed to verify this relationship.

[7] In both cases, failure to reject the null hypothesis gives support to the model. When the errors are (suspected to be) non-spherical, the Sargan test is inconsistent. In our analysis, since robust standard errors are estimated, the Hansen test has to be preferred.

Table 2
Correlation matrix.

	EXP	GOV	VA	PS	GE	RQ	RL	CC
EXP	1.00							
GOV	0.50	1.00						
VA	0.36	0.80	1.00					
PS	0.14	0.70	0.43	1.00				
GE	0.61	0.94	0.71	0.55	1.00			
RQ	0.53	0.89	0.76	0.47	0.86	1.00		
RL	0.50	0.96	0.69	0.62	0.92	0.86	1.00	
CC	0.47	0.94	0.67	0.61	0.91	0.77	0.92	1.00

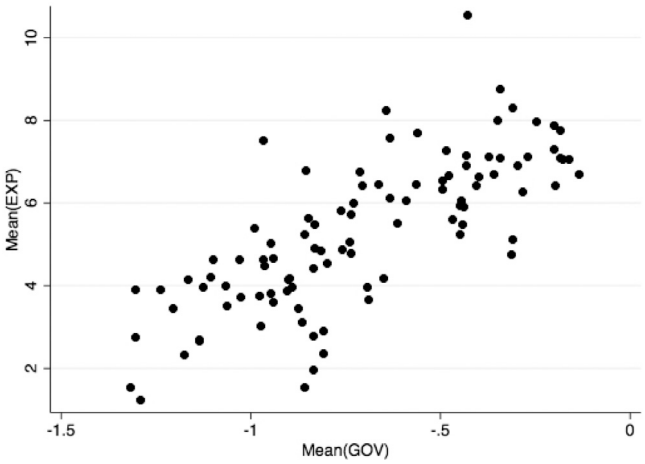

Fig. 1. Average country GOV and EXP.

4.1. The synthetic index: GOV

All models are estimated using a robust two-stage system GMM approach. The results are shown in Table 3. The Hansen test gives support to the model. In addition, the Arellano and Bond (1991) test indicates that the residuals are not serially correlated. Furthermore, the Kaiser–Meyer–Olkin measure is above 0.89, which is generally considered to be extremely positive (see Kaiser, 1974).

All columns include year dummies, except for the second one. The results illustrate that countries with higher levels of good governance also tend to be those countries with more tourism revenues. Using (I), a 1% increase in *GOV* corresponds with a 0.706% increase in tourism output per capita. Thus, the results are not only statistically but also economically significant. The results presented are rather robust; the included year controls can be dropped without affecting the main result. We highlight that this coefficient represents only the short-run impact of the observed variable. If the long-run equilibrium is assumed, the long-run elasticity may be obtained by dividing the estimated coefficient by $(1-\beta)^{-1}$, where β is the coefficient of the lagged dependent variable. Following this reasoning, although the time span is too short to compute meaningful long-term effects, the long-run impact of governance on tourism activity is about 3.944%.

The coefficient on the lagged response variable (EXP_{t-1}) is highly significant and ranges between 0.821 and 0.881, indicating strong persistence in its series. The coefficients on the remaining variables are in line with expectations. Looking at (I), $TRADE$ is significant and positively correlated with the tourism industry, and, hence, an increase

Table 3
Dynamic panel-data estimation, two-step system GMM
(dependent variable = *EXP*; $N = 1000$).

	I	II	III	IV	V	VI
EXP_{t-1}	0.821***	0.849***	0.962***	0.881***	0.864***	0.878***
	(0.076)	(0.093)	(0.054)	(0.083)	(0.087)	(0.050)
GDP	0.146	0.056		0.039	0.206**	0.133**
	(0.096)	(0.078)		(0.103)	(0.080)	(0.063)
Δ GDP	−0.758*	−0.055	−0.571	0.013	−0.327	0.233
	(0.045)	(0.318)		(0.559)	(0.627)	(0.436)
DENSITY	−0.009	0.003		−0.005	−0.002	0.031
	(0.019)	(0.020)		(0.015)	(0.016)	(0.019)
CAPACITY	−0.051**	−0.036	−0.036	−0.042**	−0.039	−0.038**
	(0.023)	(0.024)	(0.023)	(0.020)	(0.071)	(0.019)
TRADE	0.499***	0.209	0.240*	0.366**	0.364**	−0.141
	(0.135)	(0.137)	(0.138)	(0.180)	(0.160)	(0.218)
PRECIPITATION	0.009	0.006		0.012	0.026	0.015
	(0.023)	(0.031)		(0.024)	(0.017)	(0.024)
GOV	0.706**	0.746*	0.500*	0.459	0.102	2.814**
	(0.215)	(0.412)	(0.260)	(0.497)	(0.263)	(1.130)
$GOV \times GDP$				−0.113		
				(0.155)		
$GOV \times CAPACITY$					0.007	
					(0.072)	
$GOV \times TRADE$						−0.543**
						(0.270)
Constant	−1.057**	0.283	−0.561	−0.769	−1.278*	1.129
	(0.505)	(0.649)	(0.608)	(0.609)	(0.697)	(0.728)
Year controls	Yes	No	Yes	Yes	Yes	Yes
# instruments	42	42	38	53	45	48
$AR(2)^1$ *test*	−0.85	−1.06	−0.81	−0.79	−0.82	−0.89
Hansen test[2]	32.22	57.74**	30.78	53.37	48.92*	33.79
KMO measure[3]	0.960	0.960	0.947	0.947	0.939	0.896

Robust standard errors reported in parentheses. *** 1%; ** 5%; * 10% level of significance. (1) Arellano-Bond (1991) test for zero second-order autocorrelation in first-differenced errors. (2) Hansen test of over-identifying restrictions. (3) Kaiser–Meyer–Olkin measure of sampling adequacy.

Table 4
Dynamic panel-data estimation, two-step system GMM (dependent variable = *EXP*; $N = 1000$).

	I	II	III	IV	V	VI	VII
EXP_{t-1}	0.928***	0.922***	0.985***	0.891***	0.935***	0.861***	0.951***
	(0.080)	(0.054)	(0.042)	(0.061)	(0.058)	(0.088)	(0.058)
VA	0.137	0.814**					
	(0.115)	(0.592)					
VA^2		0.399**					
		(0.182)					
PS			0.003				
			(0.062)				
GE				0.329			
				(0.257)			
RQ					0.149		
					(0.130)		
RL						0.433*	
						(0.237)	
CC							0.408
							(0.343)
Year controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# instruments	44	50	44	42	42	43	42
$AR(2)_1$ *test*	−0.79	−0.75	−0.79	−0.71	−0.81	−0.84	−0.87
$Hansen\ test_2$	43.20	45.20	54.26**	39.86	40.74	37.21	48.22*
$KMO\ measure_3$	0.956	0.936	0.958	0.958	0.957	0.959	0.960

Robust standard errors reported in parentheses. Other explanatory variables: GDP, Δ GDP, DENSITY, CAPACITY, TRADE and PRECIPITATION. Control variables: year dummies. *** 1%; ** 5%; * 10% level of significance. (1) Arellano and Bond (1991) test for zero second-order autocorrelation in first-differenced errors. (2) Hansen test of over-identifying restrictions. (3) Kaiser–Meyer–Olkin measure of sampling adequacy.

by 1% in this variable raises tourism revenue per capita by 0.499%. Then, δGDP is significant but only at 10% level: a 1% increase will lead to a reduction in tourism output per capita by 0.758%. As expected, $CAPACITY$, i.e., a proxy of tourism congestion, is negative and highly significant; a 1% increase in this measure leads to a 0.051% decrease in tourism income. Finally, GDP, $DENSITY$ and $PRECIPITATION$ give mixed results but not significant in any specification (except for GDP).

In the third, fourth and fifth columns, three interaction terms are added in order to test the hypothesis that the relationship between good governance and tourism production is different in high and low-income (trade openness or tourism congested) country contexts. Interestingly, only the interaction term between GOV and $TRADE$ is significant. GOV still plays a role, but its impact is affected by country openness. In the lower-openness quartile, a 1% increase in GOV leads to a 0.620% increase in tourism production, whereas repeating the same exercise for the higher-openness quartile gives a result of 0.248%. According to these findings, the elasticity of GOV is about two times higher among low-openness countries than among high-openness ones. A rationale of this findings is that good governance is relatively more important for low openness countries as a way to reduce their competitivity gap. As the country is more open to trade, the impact of good governance tends to be less decisive. For the interactions between good governance and GDP and between governance and tourism capacity, no significant effects are reported; the impact of GOV on tourism seems not to be affected by income level and tourism congestion.

As a robustness check, another formulation of the synthetic index is proposed. The Appendix provides the main findings, in which $GOV\,PC$ stands for the first principal component among the six WGI measures. It explains approximately 83.8% of their variance. As one can easily see, our results are largely unchanged (see Table A1).

4.2. The six dimensions of governance

As previously mentioned, our measure of good governance is comprised of measurements in six main areas: Voice and accountability (VA), Political stability and absence of violence (PV), Government effectiveness (GE), Regulatory quality (RQ), Rule of law (RL), and Control of corruption (CC). The six measures can be used to replace our synthetic index in order to identify which dimensions of good governance are correlated with tourism industry productivity. Table 4 presents the result.

Again, the diagnostic statistics give support to the models (AR(2) test; Hansen test; KMO measure). Thus, the relationship is positive for all six indicators, but it is stronger for "Voice and accountability" and "Rule of law" than for the rest of measurements.

For the first index (VA), "Voice and accountability" represents perceptions of the extent to which citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. The second, "Rule of law" (RL), measures 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. Our results are consistent with a recent work by that find that higher level of legal system quality and a better protection of property rights promote inbound tourism (Gozgor et al., 2019). These findings also confirm the empirical results of Brunetti et al. (1998), who find that low "credibility of rules" is associated with lower rates of investment and economic growth. A rationale for this result is that the more a state is able to guarantee (1) the freedom of expression and association, and (2) contract enforcement and property rights, the more revenue the local industry, namely the tourism industry, can produce. Together, the two aspects give further empirical evidence of the importance of the state in creating and offering incentives to invest and do business in these regions.

5. Robustness checks

Although the GMM dynamic panel data approach is a suitable technique when dealing with endogenous variables, an alternative technique is here proposed. Employing an instrumental variables (IV) approach is never an easy task since (valid) exogenous instruments are required. We follow the recent paper by Nikolaev and Salahodjaev (2017) in order to identify the instruments for our variable of interest, the synthetic index GOV. The selected instruments are the following: Individualism (Hofstede & Minkov, 2010), Ethnic fractionalization (Alesina et al., 2003) and Legal origins dummies (JuriGlobe, 2019). Since these variables are not available at annual intervals, we perform

Table 5
Period average estimation
(dependent variable = *EXP*; $N = 61$).

	OLS (I)	IV (II)	IV (III)
GDP	0.088	−0.064	0.114
	(0.184)	(0.205)	(0.176)
Δ GDP	0.067	0.348	0.263
	(4.744)	(0.509)	(0.547)
DENSITY	0.052	0.035	0.013
	(0.075)	(0.073)	(0.067)
CAPACITY	0.323***	0.254***	0.271***
	(0.085)	(0.096)	(0.097)
TRADE	0.790***	0.707***	0.788***
	(0.195)	(0.198)	(0.187)
PRECIPITATION	−0.314**	−0.433***	−0.268**
	(0.132)	(0.150)	(0.128)
GOV	0.917**	2.122**	1.775*
	(0.434)	(0.934)	(0.953)
LATITUDE	−0.176	−0.274*	−0.086
	(0.147)	(0.156)	(0.125)
Continental dummies	Yes	Yes	No
$Test^{t}$	20.18***	259.35***	247.00***
R^2	0.837	0.804	0.800

Standard errors reported in parentheses. Control variables: Continental dummies. *** 1%; ** 5%; * 10% level of significance. Instrumental variables: Individualism (Hofstede et al. 2010), Ethnic fractionalization (Alesina et al., 2003) and Legal origins dummies (JuriGlobe, 2019). *t* F-test for OLS estimates and Wald test for IV models.

Table 6
Period average estimation; IV coefficients
(dependent variable = *EXP*; $N = 61$).

	I	II	III	IV	V	VI
VA	3.170*					
	(1.700)					
PS		1.539**				
		(0.698)				
GE			2.051**			
			(0.863)			
RQ				2.239**		
				(1.040)		
RL					1.547**	
					(0.682)	
CC						1.243
						(0.872)
Wald test	129.95***	264.87***	212.19***	216.54***	279.70***	274.65***
R^2	0.607	0.760	0.809	0.765	0.819	0.817

Standard errors reported in parentheses. Other explanatory variables: GDP, *Δ* GDP, DENSITY, CAPACITY, TRADE, PRECIPITATION and Continental dummies. *** 1%; ** 5%; * 10% level of significance. Instrumental variables: Individualism (Hofstede et al. 2010), Ethnic fractionalization (Alesina et al., 2003) and Legal origins dummies (JuriGlobe, 2019).

Table 7
Summary results
(dependent variable = *EXP*).

	GMM (I)	IV (II)
GOV	0.706**	2.122**
VA	0.814**	3.170*
VA^2	0.399**	
PS	0.003	1.539**
GE	0.329	2.051**
RQ	0.149	2.239**
RL	0.433*	1.547**
CC	0.408	1.243

*** 1%; ** 5%; * 10% level of significance. For Column (I), Control variables: EXP_{t-1}, GDP, *Δ* GDP, DENSITY, CAPACITY, TRADE, PRECIPITATION and year dummies. For Column (II), Control variables: GDP, *Δ* GDP, DENSITY, CAPACITY, TRADE, PRECIPITATION and Continental dummies; Instrumental variables: Individualism (Hofstede et al. 2010), Ethnic fractionalization (Alesina et al. 2003) and Legal origins dummies (JuriGlobe, 2019).

a cross-sectional IV analysis. To do so, our panel data-set is collapsed and the period average is calculated for all dependent and independent variables employed in Eq. (1). We also include two time-invariant regressors, namely country latitude and Continental dummies. These variables could control for some environmental factors or geographical proximity to mature travel markets.

Table 5 shows the results. The first Column gives the OLS estimates. Looking at IV estimates, that is Columns (II) and (III), Good governance seems to confirm a significant and positive effect on tourism industry performance. The coefficient ranges between 2.122 and 1.775. This value has the same order of magnitude of the estimated long-run effect in the GMM dynamic panel approach. It is comforting to see that we obtain similar results using different econometric approaches because it means that our findings are consistent across several specifications.

As in the previous section, we perform analysis using the sub-indicators: Voice and accountability (VA), Political stability and absence of violence (PV), Government effectiveness (GE), Regulatory quality (RQ), Rule of law (RL), and Control of corruption (CC). Table 6 provides the main results. Interestingly, in all equations the variable under study is positive and significant, except for CC (Column VI).

However, when interpreting these results, one should be aware of some caveats. First, the sample size is relatively small (n=61) compared to the dynamic panel data approach. Then, we recall the fact that the analysis is performed by means of the period average of all dependent and independent variables, removing temporal variability.

6. Conclusion

The aim of this study was to assess the role of governance quality in the generation of tourism revenue. The idea that good governance enhances growth performance has largely been established.

Data on inbound tourism expenditures for 100 countries between 2002 and 2012 were analyzed within a dynamic panel data[8] framework. Table 7 Table summarizes the main results of the study. Our findings show that higher perceived governance quality, in a broad sense, has a positive and significant impact on tourism revenue. More interestingly, however, these results stress the fact that the ability of government to formulate and implement policies effectively has a significant and positive impact on tourism.

In other words, government effectiveness and regulatory quality have a significant impact on the ability of a country to generate tourism revenue. These findings confirm two important intuitions. First, the quality of public goods and services is an important attractiveness factor, as emphasized by some theoretical works in the tourism literature (Gómez et al., 2008). Second, the perceived capability of a government to implement a regulatory framework that promotes private sector activity has a positive impact on tourism inbound expenditures.

The ability of a country to produce the services that tourists expect is emphasized. This ability comes from the effectiveness of institutions, which is essential to obtain meaningful economic results, especially in the tourism sector.

It is interesting to notice that these conclusions are consistent with the results established in the corruption-tourism literature. Indeed, it has been shown that corruption is problematic for a country's ability to compete in the tourism industry (Das & DiRienzo, 2010; Lau & Hazari, 2011; Yap & Saha, 2013). This type of crime can affect a country's image or "brand" as well as its economic and business environment (Das & DiRienzo, 2010). Furthermore, bribery, fraud, and extortion

[8] For a review of panel data analysis in tourism, the reader could refer to Seetaram and Petit, 2012.

prevent countries from achieving adequate tourist facilities since they impose higher costs on all economic agents. Corruption can therefore be considered as a manifestation, or a symptom, of a certain inability of government to implement a reliable regulation system allowing the development and efficiency of public services.

Although some studies have underlined the links between tourism and some governance aspects (corruption, for instance, but also political stability, violence, or terrorism), as far as we know no study has addressed the issue of measuring the impact of global governance quality on tourism. Our conclusions stress the fact that the performance and stability of the tourism sector seem not to be dissociated from the issue of improving countries' governance.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary material related to this article can be found online at https://doi.org/10.1016/j.tourman.2020.104155.

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