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Abstract

Tourism growth is on the rise in Africa, and yet limited empirical evidence exists that explores the factors that drive this important contributor of economic growth on the continent. Previous literature focusses mainly on developed countries. This study weighs in on the recent debate on African tourism by providing evidence on the role that economic uncertainties have on tourist arrivals. Using panel data from 1996 to 2017, we find that economic uncertainties reduce tourist arrivals in Africa in comparison to other global regions, such as Europe and Latin America. Further disaggregation by African regions reveals that economic uncertainties in the north, south and west regions drive these adverse results. These regions have been the hardest hit by political instability and social unrest during the period under review, which may have acted as a deterrent to tourists.

Keywords: panel data, uncertainty, tourism, Africa

JEL Classification: C23, Z32, O55

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1 Introduction

Over the past decades, tourism has been gaining more relevance in both developed and developing countries as its contributions to economic growth become more evident. According to (Brida and Pulina, 2010), tourism can stimulate investments in new infrastructure, human capital and competition, stimulate productivity in other economic industries through direct or indirect spill-over effects, create employment opportunities and cause positive economies of scale for hotels. However, economic and political crises, such as financial crises, partisan disputes and social unrest in countries can also raise concerns about the transmission of policy uncertainties in several key sectors of the economy, including tourism.

While tourism may be already fully established in many developed countries, its potential is only starting to gain momentum in Africa. The tourism industry plays an increasingly important role in Africa, with close to 67 million tourists visiting the continent. Yet, in comparison to the rest of the world, Africa's 2018 market share of tourist arrivals at 5% remains considerably small. Furthermore, only 1% of the $1.7 trillion earnings in the tourism industry is attributed to Africa (Kimeria, 2019). Given the numerous development benefits that tourism can bring to a country, it is necessary to understand the economic, political and social dynamics that can progress or delay growth in the tourism industry.

This study relates to two strands of the literature. The first is related to the determinants affecting tourism demand (Dragouni et al., 2016; Song et al., 2012; Lim, 1997; Seetaram et al., 2016) and the second weighs in on the recent debate on African tourism by providing evidence on the role that economic uncertainties can play on tourism (Balli et al., 2018; Gozgor and Demir, 2018; Ghosh, 2019). Using a panel of 143 countries over the period 1996-2017, we make two contributions: i) we conduct a comparative analysis of Africa with other global regions to identify the regions that are most affected by economic uncertainties and, ii) we focus on a within comparative analysis to identify the regions that may be contributing to Africa's tourism challenges. We find that globally, economic uncertainty in Africa is significant in reducing the number of tourist arrivals, while the effect is positive in European and American regions. Within Africa, we find that uncertainty in the west, north and south regions significantly reduces tourist arrivals, while uncertainty in the central and east regions has positive outcomes. The findings suggest that economic uncertainty in Africa may be a deterrent to tourists which can have serious economic implications in destination countries that rely on tourism revenues.

2 Related Literature

Tourism is acknowledged as having positive effects on long-run economic growth through various channels. Tourism increases foreign exchange earnings which can subsequently be used to pay for imports used in local production processes (Brida and Pulina, 2010). Tourism facilitates the transfer of skills through business tourists seeking opportunities in the destination country. Moreover,

tourism activities can stimulate other industries, for example, increased flow of holiday tourists can incentivise local government to improve infrastructure and security to encourage more tourists. Nevertheless, such benefits to the country are threatened when economic policy uncertainties arise in the economy. According to (Vietze, 2011), not only does income per capita and openness to trade contribute positively to tourism expenditure, but people in democratic countries spend a higher share of income on travelling abroad. Similarly, (Gholipour and Tajaddini, 2014) find that uncertainty avoidance, among other cultural dimensions, affect the spending behaviour of tourists,

The literature widely concurs that economic uncertainties in countries can have adverse effects on the tourism industry by discouraging tourists, thereby reducing income and investment. Using multiple and partial wavelet analysis on a sample of Organisation for Economic Co-operation and Economic Development (OECD) countries from 1997 to 2017, (Balli et al., 2018) find that the impact of global economic uncertainty on tourism flows is stronger during the peak periods of economic uncertainty such as the 9/11 attacks or the global financial crisis in 2008. The authors further observe that domestic economic uncertainty in these countries has significant negative effects on tourist inflows. Evidence from (Gozgor and Demir, 2018) for 17 countries between 1995 and 2015 shows that when people experience an increase in uncertainty-related economic policies, they are inclined to decrease their expenditures abroad. According to (Ghosh, 2019), both political and economic uncertainty adversely affected the tourism industry in France, Greece and the United States during the period 1995 to 2016. Moreover, (Tekin, 2015) finds that the tourism industry in Turkey was indirectly affected by the political instability and ensuing economic crisis in Russia in 2013. Interestingly, (Marsiglio, 2016) conducts an analysis on the implications of crowding aversion and tourism aversion in the face of uncertain tourist inflows. The author finds that when people are crowd-averse (crowd-lovers), uncertainty leads to deterioration (improvement) in economic performance of tourism destinations.

Despite the available evidence in the literature on economic uncertainties and tourism, several gaps are identified. First, most of the empirical literature focusses on developed countries with limited evidence on developing countries, especially in Africa which is experiencing increasing tourism growth. Second, the empirical analysis reviewed makes use of the economic policy uncertainty index by (Baker et al., 2016) which only covers 21 countries to date, none of which are from Africa. Third, with the increasing interest in Africa as a tourism destination, more attention needs to be drawn to understanding the potential tourism risks and uncertainties that may affect people's decisions to travel abroad, and hence impact on economic development in Africa. In this regard, we address these gaps by taking a regional perspective on tourism in Africa and assesing the effects of economic uncertainty on tourist arrivals, using a relatively new measure on world uncertainty by Ahir et al. (2018). This focus remains an underexplored theme in the African tourism context.

3 Data and Methodology

We use a panel of 143 countries over the period 1996 to 2017 to estimate the following model:

$$Y_{it} = \alpha_i + \delta_t + \beta_i uncertainty_{it-1} + \beta_i X_{it-1} + u_{it} \quad (1)$$

where Y_{it} is the number of tourist arrivals in a country from the World Development Indicators. The main explanatory variable ($uncertainty_{it}$) is the world uncertainty index developed by (Ahir et al., 2018). The index is computed by counting the frequency of the word uncertainty (or its variant) in the Economist Intelligence Unit (EIU) country reports. The EIU reports discuss major political and economic developments in each country, along with analysis and forecasts of political, policy and economic conditions. The index is normalized by total number of words and rescaled by multiplying by 1,000. A higher number means higher uncertainty. We convert the quarterly indices to annual data.

The X_{it} is a vector of control variables which includes income per capita and population obtained from the World Development Indicators. We also include a globalisation index for openness compiled by (Dreher, 2006) and updated by (Dreher et al., 2008). The globalisation index combines three key components of globalisation (political, economic and social globalisation) into a weighted index ranging from 0 to 100. The index captures international flows of goods, capital, businesses, people, technology, information and the presence of international organisations. A final control variable captures political instability in a country through conflict. The conflict variable is taken from the Major Episodes of Political Violence (MEPV) and Conflict Regions (Marshall et al., 2018) and measures the intensity of conflicts based on number of directly-related deaths. Episodes are scaled from one (low intensity) to ten (high intensity).[1] All variables are logged except the uncertainty and conflict indices.

Country and year fixed effects are captured by the α_i and β_t respectively. We use the fixed effects (FE) method that has been suggested in literature for estimating heterogeneous panels that are large in cross section and large in time series. The FE method gives more efficient estimates because it allows for unobserved country and time differences through individual specific effects, such as historical and colonial background, ethnic and religious composition, thus minimising economic and statistical endogeneity. The method pools the time series data for each group and allows the intercepts to differ across the groups. We also use robust standard errors to deal with potential presence of heteroskedasticity and serial correlation which can result in biased estimates and inferences.

To further reduce the potential bias that may come from economic endogeneity in the form of reverse causality, we estimate a model with lagged explanatory variables. The lagged terms also allow us to model a delay in the responsiveness of tourist arrivals to changes in the determinants during the period under review.

A descriptive overview of the data in Figure 1 reveals some interesting trends across the regions. Apart from the Asian financial crisis in the late 1990s and the global financial crisis in 2008, economic

[1] Tables with the variable statistics and definitions can be found in the Appendix under Tables A1 and A2.

uncertainty in Asia has been relatively on the decline and associated with that has been a steady increase in tourist arrivals. Tourism in Europe, on the other hand, seems unaffected by economic uncertainties, even with the recent Brexit deal contributing to the high uncertainty. Uncertainty in Africa has been on the rise with a sharp spike from 2010 as a result of the Arab Spring in North Africa and increasing civil unrest from terrorist organisations in West Africa. The number of tourist arrivals in Africa also seem to have taken a dip during this same period of high economic uncertainty. Similar to Europe, the economic uncertainties in the American region appear to have minimal effect on tourist arrivals.

4 Results

The results in Table 1 show the effect of uncertainty on tourism demand in the world, as well as compares Africa to other global regions by interacting the uncertainty term with the different regions. We split the sample of countries by global regions as per the World Bank's regional classifications.[2] We find that globally, economic uncertainty decreases tourist arrivals which is in line with findings from the literature (Balli et al., 2018; Ghosh, 2019), though the result is not significant. However, when we compare across the regions, we find some heterogeneity in the outcomes. While economic uncertainty produces different outcomes for Asia and the Americas, the effects are insignificant.

On the other hand, uncertainty in Europe has a significant positive correlation with number of tourist arrivals, in comparison to Africa. These findings suggest that Europe is a commonly visited region irrespective of the economic uncertainty. As of 2016, 51% of the international tourist arrivals and 36% of the international tourism receipts were recorded in Europe (Maria-Irina, 2017). The continuous flow of visitors to Europe may be driven by the European Union's integration process which allows tourists to move easily within Europe on a common visa, common currency, as well as cheaper regional flights, thus cutting down significantly on travel costs. Moreover, apart from the key big players in the European tourist industry, such as Spain, Italy, France, the United Kingdom, and Germany, [3] the small islands around Europe are also major tourist attractions (e.g. Madeira Portugal, Ibiza Spain, Santorini Greece, Corsica France, Hvar Croatia to name a few). According to (Schubert et al., 2011), small islands rank high in contributions of tourism activity in their countries. While our findings are in contradiction to previous literature that find negative effects in European countries (Gozgor and Demir, 2018; Ghosh, 2019), this outcome is most likely driven by the inclusion of countries with high tourism activity in the Europe region.

Some of the factors that attract tourists to certain destinations are natural resources, the environment and the historical and cultural heritage of the country. However, while these factors are in abundance in Africa, they appear not to be enough of an attraction to offset the adverse effects of economic uncertainty on tourism in African destinations. Our findings show that uncertainty

[2]The regional classifications can be found in the Appendix.

[3]The World Economic Forum recently released a report showing the top countries for travel and tourism in 2019. These included Spain, France, and Germany. (https://www.weforum.org/agenda/2019/09/most-travel-tourism-competitive-countries-2019/).

significantly reduces tourist arrivals in Africa. Interestingly, the coefficient for Africa is even larger when we remove the Middle East countries from the North Africa region, suggesting that the Middle East (a predominantly conflict-affected region) is not driving the results for Africa. Economic uncertainty in Africa is usually associated with some form of political instability which may explain tourists' reluctance to visit the region during these periods. While sub-Saharan Africa is identified as the region with potential in tourism growth, several socio-economic challenges hamper this growth, namely unfavourable business environments, health and hygiene, underdeveloped infrastructure, and uncompetitive pricing in flight tickets and airport charges.[4]

Given the negative results for Africa, we focus on a within comparative analysis to identify the regions that may be contributing to Africa's tourism challenges. Table 2 reports the results which also highlight the heterogeneity in Africa. We find that economic uncertainty in the west, north and south regions significantly reduces tourist arrivals, while uncertainty in the central and east regions has positive outcomes. Interestingly, given the period under review, the west, north and south regions have experienced instability in some of the countries' economies. According to (Dragouni et al., 2016), spillover effects of shocks to sentiments and mood can affect people's decisions to travel to certain countries with economic uncertainty. These shocks can be time and event dependent, for example, the Ebola virus negatively affected the tourism industry in West Africa between 2014 and 2016 (Maphanga and Henama, 2019), the Boko Haram crisis in Nigeria which spread to neighbouring countries, the Arab Spring which affected several countries in the north (Tunisia, Libya, Egypt, Morrocco and Algeria), while in the south region, the currency crisis and protests in Zimbabwe, and the political uncertainty in South Africa contributed to increased economic uncertainty and a drop in tourist arrivals. On the other hand, the east region bloc has embarked on extensive publicity campaigns to improve the image of the region with Kenya, Tanzania, Uganda and Rwanda in the forefront of tourism development.[5] The unique tourism attractions, such as the wildlife in the numerous national parks and game reserves (e.g the renowned Serengeti National Park in Tanzania) are also big drawing cards in the east region, as well as the central region.

An important implication of these findings is that economic uncertainty in a country can have spillover effects regionally and for the continent as a whole. On the one hand,(Maphanga and Henama, 2019) show that the emergence of the Ebola virus in West Africa was associated with the entire continent and decreased the competitiveness of Africa as a tourist destination during that period. Moreover, the uncertainty surrounding the Brexit deal has raised concern about tourism flows to the United Kingdom (Balli et al., 2018). On the other hand, (Tekin, 2015) provides evidence that the political tension between the European Union and Russia had positive spillover effects on tourism in Turkey. The author finds that more than 4 million Russians visited Turkey in 2013.

The results for the control variables in both Tables indicate consistent significant findings. Income per capita, globalisation and population increase tourist arrivals, while conflict negatively affects tourism. Development in the tourism industry is associated with national income expansion

[4] http://www.tourismupdate.co.za/article/195697/Poor-regional-prioritisation-of-tourism-affects-growth/37.
[5] https://www.nomadafricamag.com/tourism-in-east-africa-a-tool-for-development/.

(Ghosh, 2019; Gozgor and Demir, 2018; Vietze, 2011). Richer countries can invest more in their tourism industry e.g. improving infrastructure. Globalisation has benefited the tourism industry through increased foreign direct investment flows, workforce migration and technological diffusion from business investments (Vietze, 2011; Brida and Pulina, 2010). Tourism demand is also driven by population growth, particularly of old people who have more leisure time (Brida and Pulina, 2010). Conflict is a deterrent to tourists as it signals poor quality of institutions (i.e. legitimacy of government is undermined), security concerns, destruction of infrastructure, inflationary prices and negative exchange rates.

As a robustness check, we use international tourist receipts at current US$ as the dependent, and find that the results remain relatively consistent. Results are available in the Appendix.

5 Conclusion

While previous literature points predominantly to adverse effects in the tourism industry arising from uncertainty, similar analysis is surprisingly lacking for developing regions, specifically Africa. We address this gap by examining the effects of economic uncertainty on tourist arrivals with a focus on Africa. The findings show that uncertainty in Africa reduces tourist arrivals in comparison to other global regions, such as Europe. Further decomposition by African regions reveals that the mitigating effects of economic uncertainty on tourist arrivals is driven by the north, south and west regions. These regions have been troubled by political events that created uncertainty in the economies. In pursuing this research we hope that the results will bring awareness to some of the factors that can promote or harm the tourism industry in Africa.

In our case, the evidence suggests that policy recommendations should be carefully considered given the characteristics of the region, such as the political or social issues driving the economic uncertainty. Given the spillover effects of tourism, governments from neighbouring countries should work together to promote tourism within their regions. For example, a common visa that allows tourists to travel regionally without having to obtain multiple visas (such as, the Schengen visa); a common currency in the region to avoid incurring additional costs of exchanging currency in different countries within the same region; lower prices on regional flights, improve transport infrastructure for better access regionally (airports, roads, border control). Evidence suggests that small economies are fast growing when they specialise in tourism activity (Brau et al., 2007).

References

Ahir, H., N. Bloom, and D. Furceri (2018): "The World Uncertainty Index," *Stanford mimeo*.

Baker, S., N. Bloom, and S. Davis (2016): "Measuring Economic Policy Uncertainty," *The Quarterly Journal of Economics*, 131, 1593–1636.

Balli, F., S. J. H. Shahzad, and G. S. Uddin (2018): "A tale of two shocks: What do we learn from the impacts of economic policy uncertainties on tourism?" *Tourism Management*, 68, 470 – 475.

Brau, R., A. Lanza, and F. Pigliaru (2007): "How Fast are Small Tourism Countries Growing? Evidence from the Data for 1980–2003," *Tourism Economics*, 13, 603–613.

Brida, J. and M. Pulina (2010): "A literature review on the tourism-led-growth hypothesis," Tech. rep.

Dragouni, M., G. Filis, K. Gavriilidis, and D. Santamaria (2016): "Sentiment, mood and outbound tourism demand," *Annals of Tourism Research*, 60, 80 – 96.

Dreher, A. (2006): "Does globalization affect growth? Evidence from a new index of globalization," *Applied Economics*, 38, 1091–1110.

Dreher, A., N. Gaston, and P. Martens (2008): *Measuring Globalisation: Gauging its Consequences*, New York, Springer.

Gholipour, H. F. and R. Tajaddini (2014): "Cultural dimensions and outbound tourism," *Annals of Tourism Research*, 49, 203 – 205.

Ghosh, S. (2019): "Uncertainty, economic growth its impact on tourism, some country experiences," *Asia Pacific Journal of Tourism Research*, 24, 83–107.

Gozgor, G. and E. Demir (2018): "The Effects of Economic Policy Uncertainty on Outbound Travel Expenditures," .

Kimeria, C. (2019): "Africa's tourism industry is now the second fastest growing in the world," *Quartz Africa*.

Lim, C. (1997): "Review of international tourism demand models," *Annals of Tourism Research*, 24, 835 – 849.

Maphanga, P. and U. Henama (2019): "The Tourism Impact of Ebola in Africa: Lessons on Crisis Management," *African Journal of Hospitality, Tourism and Leisure*, 8, 1–13.

Maria-Irina, A. (2017): "Tourism industry in the new Europe: trends, policies and challenges," *Proceedings of the International Conference on Business Excellence*, 11.

Marshall, M. G., T. R. Gurr, and K. Jaggers (2018): "Polity IV Project: Political Regime Characteristics and Transitions, 1800-2017," *Center for Systemic Peace*.

Marsiglio, S. (2016): "Uncertainty, crowding aversion and tourism aversion in tourism destinations," *Tourism Economics*, 22, 111–123.

Schubert, S. F., J. G. Brida, and W. A. Risso (2011): "The impacts of international tourism demand on economic growth of small economies dependent on tourism," *Tourism Management*, 32, 377–385.

Seetaram, N., P. Forsyth, and L. Dwyer (2016): "Measuring price elasticities of demand for outbound tourism using competitiveness indices," *Annals of Tourism Research*, 56, 65 – 79.

Song, H., L. Dwyer, G. Li, and Z. Cao (2012): "Tourism economics research: A review and assessment," *Annals of Tourism Research*, 39, 1653–1682.

Tekin, E. (2015): "The Impacts of Political and Economic Uncertainties on the Tourism Industry in Turkey," *Mediterranean Journal of Social Sciences*, 6.

Vietze, C. (2011): "What's Pushing International Tourism Expenditures?" *Tourism Economics*, 17, 237–260.

6 Figures and Tables

Figure 1: Uncertainty and tourist arrivals

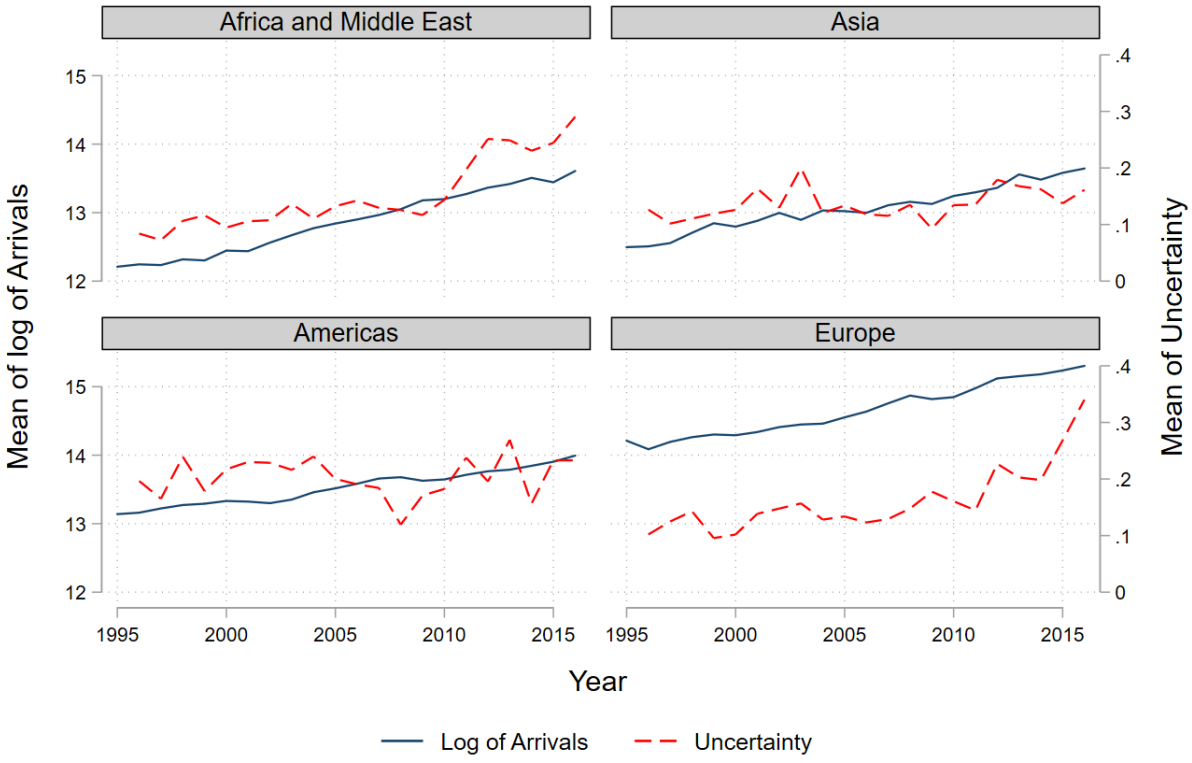

Figure 1 shows the trends of tourist arrivals in relation to uncertainty across the different global regions. Regions are defined according to the World Bank classifications.

Table 1: Tourist Arrivals: Global Comparisons

	World	Europe	Asia	Africa x M. East	Africa	Americas
Uncertainty$_{t-1}$	-0.097	-0.247***	-0.081	0.105	0.129	-0.125
	(0.063)	(0.056)	(0.069)	(0.083)	(0.081)	(0.078)
ln(RGDPpc)$_{t-1}$	0.790***	0.798***	0.789***	0.786***	0.788***	0.786***
	(0.093)	(0.093)	(0.093)	(0.093)	(0.093)	(0.093)
ln(Globalisation)$_{t-1}$	1.859***	1.885***	1.864***	1.894***	1.900***	1.867***
	(0.183)	(0.183)	(0.184)	(0.183)	(0.182)	(0.183)
ln(Population)$_{t-1}$	0.570***	0.644***	0.567***	0.639***	0.654***	0.568***
	(0.110)	(0.108)	(0.111)	(0.108)	(0.109)	(0.111)
Conflict$_{t-1}$	-0.026**	-0.026**	-0.027**	-0.024*	-0.024*	-0.026**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
(Europe x uncertain)$_{t-1}$		0.563***				
		(0.168)				
(Asia x uncertain)$_{t-1}$			-0.144			
			(0.137)			
(Africa and M. East x uncertain)$_{t-1}$				-0.497***		
				(0.116)		
(Africa x uncertain)$_{t-1}$					-0.612***	
					(0.118)	
(Americas x uncertain)$_{t-1}$						0.131
						(0.097)
Constant	-9.300***	-10.703***	-9.268***	-10.555***	-10.847***	-9.275***
	(1.832)	(1.810)	(1.834)	(1.794)	(1.816)	(1.832)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	0.957	0.957	0.957	0.957	0.958	0.957
Obs	2689	2689	2689	2689	2689	2689

Coefficients reported. Robust Standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$. Notes: We ran various robustness regressions with smaller sub-regions and excluding some countries from regions. Examples include regressions with only Central and South America combined (and separated) without North America and Caribbean Islands. Additionally, we excluded Austrialia, China, Hong Kong, Japan, Korea, New Zealand, and Singapore from Asia. Overall conclusion of results remains consistent. Results are available on request.

Table 2: Tourist Arrivals: Within Africa Comparisons

	Africa	Central	East	West	South	North
Uncertainty$_{t-1}$	-0.347***	-0.472***	-0.477***	-0.219**	-0.230*	-0.296***
	(0.104)	(0.106)	(0.111)	(0.110)	(0.136)	(0.111)
ln(RGDPpc)$_{t-1}$	0.566***	0.615***	0.552***	0.567***	0.568***	0.568***
	(0.171)	(0.170)	(0.168)	(0.171)	(0.170)	(0.171)
ln(Globalisation)$_{t-1}$	0.923***	0.706**	0.944***	0.916***	0.918***	0.889***
	(0.315)	(0.307)	(0.311)	(0.312)	(0.313)	(0.314)
ln(Population)$_{t-1}$	0.694**	0.724**	0.583*	0.871***	0.594*	0.613**
	(0.298)	(0.299)	(0.300)	(0.301)	(0.305)	(0.302)
Conflict$_{t-1}$	-0.060***	-0.059***	-0.060***	-0.056***	-0.061***	-0.062***
	(0.016)	(0.015)	(0.015)	(0.016)	(0.016)	(0.016)
C. Africa x uncertain		1.659***				
		(0.601)				
E. Africa x uncertain			1.005***			
			(0.273)			
W. Africa x uncertain				-0.428*		
				(0.225)		
S. Africa x uncertain					-0.305*	
					(0.163)	
N. Africa x uncertain						-0.446**
						(0.173)
Constant	-5.873	-5.895	-4.063	-8.750*	-4.255	-4.441
	(5.053)	(5.075)	(5.059)	(5.076)	(5.121)	(5.132)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	0.947	0.948	0.948	0.947	0.947	0.947
Obs	771	771	771	771	771	771

Coefficients reported. Robust Standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

7 Appendix

Tables A1 and A2 report the variable definitions and variable statistics. In Tables A3 and A4, we report findings using tourist receipts as the dependent. The results and overall conclusion remain relatively consistent with the main findings in the paper. Table A5 shows the regional breakdowns according to the World Bank regional classifications.

Table A1: List of Variables and Definitions

Variable	Description	Source
Arrivals	International tourism, number of arrivals	World Development Indicators
Uncertainty	World Uncertainty Index	(Ahir et al., 2018)
RGDPpc	Income per capita at 2010 US$ constant prices	World Development Indicators
Globalisation	KOF index of globalisation ranging from 0 (no globalisation) to 100 (highly globalised)	(Dreher, 2006), (Dreher et al., 2008)
Population	Total population	World Development Indicators
Conflict	Interstate and intrastate conflicts	Major Episodes of Political Violence and Conflict Regions 2017

Table A2: Descriptive Statistics

	Obs	Mean	Std.Dev.	Min.	Max.
Arrivals	4390	4417208.20	10272868.30	700.00	86861000.00
Uncertainty	3360	0.17	0.15	0.00	1.34
RGDPpc	9272	11923.88	18875.59	132.30	195879.64
Globalisation	8650	49.68	16.71	14.26	91.31
Population	12695	24151843.15	1.01e+08	3893.00	1.39e+09
Conflict	8500	0.75	1.79	0.00	14.00

Sources: (Ahir et al., 2018), (Dreher et al., 2008), World Development Indicators, Center for Systemic Peace.

Table A3: Tourist Receipts: Global Comparisons

	World	Europe	Asia	AfricaxM. East	Africa	Americas
Uncertainty$_{t-1}$	-0.184***	-0.350***	-0.171**	0.084	0.109	-0.241***
	(0.068)	(0.078)	(0.074)	(0.068)	(0.072)	(0.083)
ln(RGDPpc)$_{t-1}$	1.257***	1.272***	1.257***	1.256***	1.259***	1.250***
	(0.101)	(0.102)	(0.101)	(0.102)	(0.101)	(0.102)
ln(Globalisation)$_{t-1}$	0.997***	1.018***	1.000***	1.040***	1.049***	1.015***
	(0.212)	(0.212)	(0.213)	(0.212)	(0.210)	(0.213)
ln(Population)$_{t-1}$	1.583***	1.665***	1.582***	1.660***	1.667***	1.578***
	(0.128)	(0.126)	(0.128)	(0.125)	(0.126)	(0.128)
Conflict$_{t-1}$	-0.009	-0.008	-0.009	-0.006	-0.006	-0.009
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
(Europe x uncertain)$_{t-1}$		0.651***				
		(0.137)				
(Asia x uncertain)$_{t-1}$			-0.110			
			(0.177)			
(Africa and Middle East x uncertain)$_{t-1}$				-0.648***		
				(0.138)		
(Africa x uncertain)$_{t-1}$					-0.780***	
					(0.143)	
(Americas x uncertain)$_{t-1}$						0.270**
						(0.109)
Constant	-19.839***	-21.402***	-19.831***	-21.279***	-21.460***	-19.771***
	(2.249)	(2.238)	(2.251)	(2.214)	(2.222)	(2.251)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	0.962	0.962	0.962	0.962	0.962	0.962
Obs	2748	2748	2748	2748	2748	2748

Coefficients reported. Robust Standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table A4: Tourist Receipts: Within Africa Comparisons

	Africa	Central	East	West	South	North
Uncertainty$_{t-1}$	-0.408***	-0.449***	-0.553***	-0.358**	-0.265	-0.304**
	(0.142)	(0.149)	(0.152)	(0.142)	(0.178)	(0.153)
ln(RGDPpc)$_{t-1}$	1.586***	1.601***	1.555***	1.588***	1.589***	1.587***
	(0.184)	(0.185)	(0.181)	(0.184)	(0.184)	(0.183)
ln(Globalisation)$_{t-1}$	-0.250	-0.302	-0.271	-0.248	-0.266	-0.315
	(0.441)	(0.452)	(0.439)	(0.441)	(0.441)	(0.443)
ln(Population)$_{t-1}$	2.684***	2.688***	2.636***	2.697***	2.648***	2.638***
	(0.157)	(0.157)	(0.156)	(0.158)	(0.155)	(0.154)
Conflict$_{t-1}$	0.025	0.024	0.026	0.026	0.024	0.021
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
C. Africa x uncertain		0.573*				
		(0.330)				
E. Africa x uncertain			1.284***			
			(0.482)			
W. Africa x uncertain				-0.187		
				(0.325)		
S. Africa x uncertain					-0.419*	
					(0.251)	
N. Africa x uncertain						-1.010***
						(0.289)
Constant	-35.020***	-34.996***	-33.936***	-35.256***	-34.401***	-34.037***
	(3.430)	(3.441)	(3.351)	(3.453)	(3.411)	(3.388)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	0.926	0.926	0.927	0.926	0.927	0.927
Obs	1015	1015	1015	1015	1015	1015

Coefficients reported. Robust Standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$.

Table A5: Country List

Asia	Europe	Americas	Africa
Australia	Albania	**N. America**	**W. Africa**
Bangladesh	Armenia	Canada	Benin
Cambodia	Austria	United States	Burkina Faso
China	Azerbaijan	**L. America**	Cote d'Ivoire
India	Belarus	*Argentina*	Gambia, The
Indonesia	Belgium	*Bolivia*	Ghana
Japan	Bosnia and Herzegovina	*Brazil*	Guinea
Korea, Rep.	Bulgaria	*Chile*	Guinea-Bissau
Lao PDR	Croatia	*Colombia*	Mali
Malaysia	Czech Republic	Costa Rica	Niger
Mongolia	Denmark	Dominican Republic	Nigeria
Myanmar	Finland	*Ecuador*	Senegal
Nepal	France	El Salvador	Sierra Leone
New Zealand	Georgia	Guatemala	Togo
Pakistan	Germany	Haiti	**N. Africa**
Papua New Guinea	Greece	Honduras	Algeria
Philippines	Hungary	Jamaica	Egypt, Arab Rep.
Singapore	Ireland	Mexico	Libya
Sri Lanka	Italy	Nicaragua	Mauritania
Thailand	Kazakhstan	Panama	Morocco
Vietnam	Kyrgyz Republic	*Paraguay*	Tunisia
	Latvia	*Peru*	**C. Africa**
	Lithuania	*Uruguay*	Burundi
	Macedonia, FYR	*Venezuela, RB*	Cameroon
	Moldova		Central African Republic
	Netherlands		Chad
	Norway		Congo, Rep.
	Poland		Gabon
	Portugal		**E. Africa**
	Russian Federation		Eritrea
	Slovak Republic		Ethiopia
	Slovenia		Kenya
	Spain		Rwanda
	Sweden		Sudan
	Switzerland		Tanzania
	Tajikistan		Uganda
	Turkey		**S. Africa**
	Turkmenistan		Angola
	Ukraine		Botswana
	United Kingdom		Lesotho
	Uzbekistan		Madagascar
			Malawi
			Mozambique
			Namibia
			South Africa
			Zambia
			Zimbabwe
			Middle East
			Iran, Islamic Rep.
			Iraq
			Israel
			Jordan
			Kuwait
			Lebanon
			Oman
			Qatar
			Saudi Arabia
			United Arab Emirates
			Yemen, Rep.

Each columns represents a major continent category specified by the World Bank. The bold underlined are subcategories. The names in italics are countries located in South America.