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Article

Determinants of International Tourist Arrivals in Uganda: A Gravity Approach

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Abstract

Aiming to identify the key determinants of international tourist inflows and their influence on tourists flows to Uganda, this study applies the gravity model to a panel dataset of thirty-eight countries that sent tourists to Uganda between 2015 and 2023, where 2015-2019 represents the pre-COVID-19 pandemic period and 2020-2023 represents the post-COVID-19 pandemic period. The results of the analysis, which considered both economic and non-economic factors, indicate that higher GDP, shared borders, and the Sub-Saharan Africa variables have significant positive impacts on tourist flows in both periods, while GDP per capita, distance, direct flights, and visa restrictions negatively affect these inflows. The analysis also shows that Uganda attracts more tourists from neighboring and sub-Saharan African countries. These findings underscore the role of regional dynamics and highlight the importance of strengthening regional cooperation, developing targeted policies to invest in tourism infrastructure and markets for wealthier countries, improving transport connectivity, and easing of travel restrictions in enhancing Uganda's competitiveness in global tourism as well as maximizing the sector's contribution to the country's economic development.

Keywords

Tourist arrivals, Uganda, Panel data, Gravity model, Regional interactions

Introduction

Tourism remains a pivotal sector in many developing economies, serving as a key generator of foreign exchange, while also creating employment opportunities and stimulating local development

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(World Economic Forum [WEF], 2024). This is the case in Uganda (World Bank Group, 2023) where the tourism sector's contribution to the country's gross domestic product (GDP) has risen steadily over the past four years: 2.7 percent in 2020, 4.2 percent in 2021, 4.7 percent in 2022, 5.5 percent in 2023, and 6.6 percent in 2024 (Ministry of Tourism, Wildlife and Antiquities [MTWA], 2025).

The Ugandan tourism sector achieved significant growth in tourist arrivals in the pre-COVID-19 pandemic years (MTWA, 2020, p. 7; MTWA, 2023, p. 1, *Figure 3*), and although it has faced enormous challenges, including climate variability and regional security concerns (MTWA, 2020), in the post-pandemic period (MTWA, 2023; UBOS, 2022), it has still recorded low but significant increases in international tourist arrivals (*Figure 1*). According to the 2024 "Tourism Trends and Statistics Report" (MTWA, 2024), the country welcomed around 1.274 million arrivals in 2023, up over 56% from pandemic lows but still below pre-COVID levels. Globally, inbound and leisure tourism experienced losses of over USD 2.86 trillion and a revenue decline of over 50% (Jaffar et al., 2021) during the pandemic period.

In general, Uganda's tourism industry exhibits both noteworthy potential and noteworthy limitations. The fact that the majority of arrivals come from nearby nations and the diaspora highlights the importance of proximity and cultural ties. Proximity to regional markets such as Kenya, Rwanda, and Tanzania remains a key driver of inbound tourism. The Tourism Statistical Abstract 2024's claim that nearly 65% of Uganda's international tourists originate from these neighboring countries underscores the benefits of geographic and economic proximity (MTWA, 2024, p. 8). Nevertheless, studies indicate that Uganda's competitiveness is also negatively influenced by its inferiority to regional counterparts, notably Tanzania and Kenya, in terms of destination marketing and tourism infrastructure (Ayikoru, 2015; Jani & Minde, 2016). Meanwhile, the COVID-19 pandemic exposed Uganda's tourism industry's vulnerability, with over a million visitors and about 70% of tourism-related jobs lost as a result of border closures and mobility restrictions (MTWA, 2020, p. 13). These sobering numbers demonstrate how crucial it is to diversify, plan for resilience and be crisis-ready to protect the industry from future shocks.

Indeed, despite its innate assets, Uganda has not fully exploited its existing potential in the tourism sector and continues to record low levels of international tourist arrivals compared to regional competitors like Tanzania, Kenya and Rwanda (Viljoen et al., 2018). According to the World Bank Group (2023), the tourism sector's contribution to Uganda's GDP was lower (6 percent) than the contributions of the tourism sectors of Rwanda (11 percent), Tanzania (10 percent), and Kenya (8 percent) before the COVID-19 pandemic (*Figure 2*).

This underperformance highlights the need to systematically examine the factors that influence international tourist arrivals in Uganda from key source markets. Previous studies, including Muhammed and Andrews (2008), have examined the determinants of tourist arrivals by controlling economic, trade, and origin-specific variables. However, research conceptualizing these and other variables in Uganda's tourism landscape using updated panel data and accounting for tourists' wealth and the wealth of their countries of origin before and after COVID-19 remains scarce. To fill this gap, this study used panel data regarding tourist arrivals from Uganda's primary source markets to analyze the effects of their economic size, distance, regional affiliation, policies, and infrastructural factors. By identifying strategic source markets and means of reducing travel barriers, enhancing connectivity, and improving destination competitiveness, its findings should provide actionable insights for policymakers seeking to revitalize Uganda's tourism sector post-COVID-19. In short, this study empirically investigated the determinants of international tourist arrivals to Uganda by applying an augmented gravity model framework and quantifying the roles of determining factors in shaping the country's inbound tourism flows with the aim of generating evidence-based insights that inform strategies for enhancing the country's

resilience and competitiveness in the global tourism market, particularly in the post-COVID recovery era. The following research questions guided the study:

> What factors determine international tourist arrivals to Uganda within a gravity model framework? More specifically, how do economic size (GDP), income levels (GDP per capita), geographical distance, regional proximity, policy requirements, transport and accessibility influence international tourist flows to Uganda?

The remainder of the study is structured as follows: Section 2 conducts a brief literature review; Section 3 explains the study's methods and data and establishes the hypotheses; Section 4 presents the empirical results; and Section 5 concludes with policy recommendations.

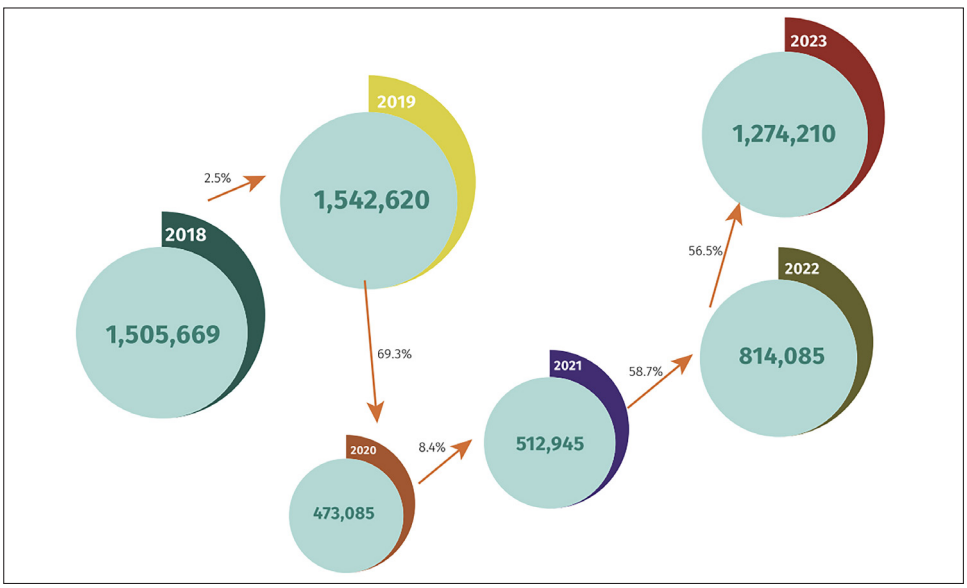

Figure 1. Annual International Tourist Arrivals in Uganda from 2018 to 2023
Source: Ministry of Tourism, Wildlife and Antiquities (MTWA) (2024: 5)

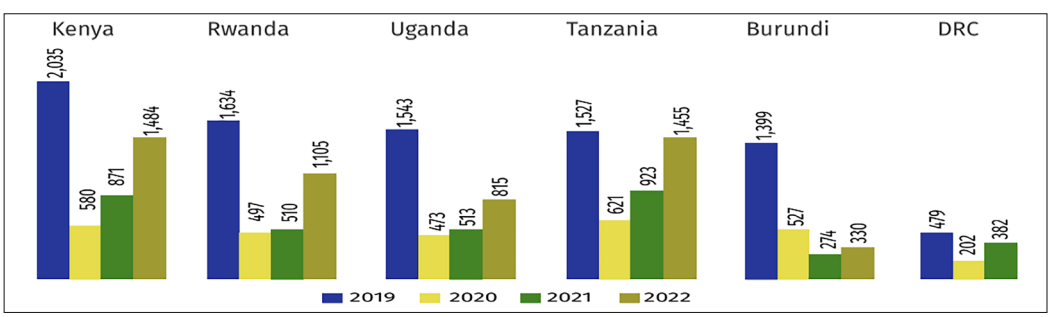

Figure 2. Annual International Tourist Arrivals in Uganda from 2018 to 2022
Source: Ministry of Tourism, Wildlife and Antiquities (MTWA) (2023)

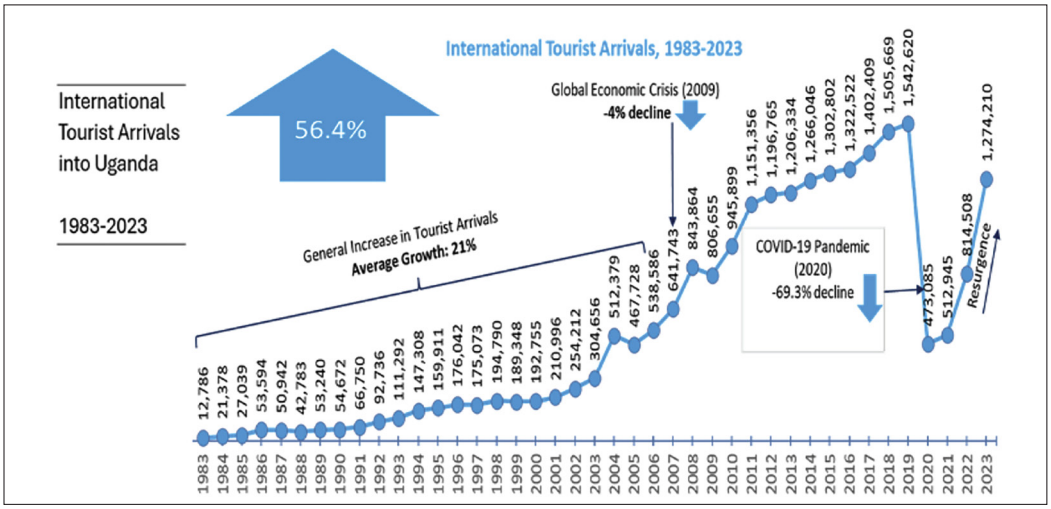

Figure 3. Trend in Tourist Arrivals in Uganda: 1983-2023
Source: Ministry of Tourism, Wildlife and Antiquities (MTWA) (2024: 5)

Literature Review

This section provides an overview of existing research examining the main factors, particularly, economic, geographical, and infrastructural factors, that influence international tourist arrivals. While some studies have applied the gravity model to empirically analyze tourism trends and patterns, others have qualitatively explored wider contextual influences.

Economic Variables: Research regarding international tourism demand has historically focused on economic factors, particularly traveler income levels and destination affordability. Frequently cited as primary drivers of international tourism, GDP and GDP per capita also serve as important proxies for purchasing power. Several gravity model-based studies (Assaf & Josiassen, 2011; Naudé & Saayman, 2005; Viljoen et al., 2018) have found a correlation between higher GDP levels in countries of origin and higher volumes of outbound tourists. In this vein, Muhammad and Andrews (2008) show that increased GDP in source countries substantially increases inbound tourism in Uganda. Meanwhile, Surugiu and Surugiu (2015) claim that the correlation between GDP per capita and tourism destination decisions remains multifaceted, arguing that rather than necessarily leading to increased tourist arrivals, higher per capita income may correlate with higher cost of living and services, potentially deterring certain tourist segments. In addition to examining conventional factors, modern variations of the gravity model incorporate per capita GDP to more effectively represent individual travel potential and spending power (Adeola et al., 2017), along with aspects related to policy and accessibility.

Geographic variables: Geographic distance has also become an important factor as a stand-in for travel expenses, time commitment, and psychological distance. Numerous studies have found a negative correlation between tourist arrivals and distance, especially in Sub-Saharan Africa, where higher travel expenses and limited infrastructure exacerbate distance-related frictions (Muhammad & Andrews, 2008, p. 52; Naudé & Saayman, 2005; Viljoen et al., 2018). Tourism

statistics from Uganda reinforce these findings, which indicate that around 65% of international visitors originate from neighboring countries like Kenya, Rwanda, and Tanzania (MTWA, 2024, p. 8). Tourism gravity model studies, such as Muhammad & Andrews (2008) have found that geographical distance negatively impacts tourist arrivals, as travel costs tend to increase as distance increases, often resulting in longer travel hours and inconvenience, which in turn influence tourist travel destination choices.

In the model's standard form, tourist flows are negatively associated with the distance between origin and destination countries and positively associated with the sizes of the origin and destination country economies. Subsequent studies have added other factors like colonial ties, shared language, visa regulations, the availability of direct flights and regional affiliations to this framework (Adeola et al., 2017; Viljoen et al., 2018, p. 861). A well-established and managed air transportation infrastructure is crucial to attracting international visitors, especially from distant source markets. In short, countries with larger economies and greater geographic proximity are more likely to attract higher numbers of tourists (Viljoen et al., 2018).

Policy and Infrastructure Variables: Policy requirements and infrastructural quality are crucial factors in tourists' destination selection. Visa requirements make travel more difficult legally (Schalatek, 2019). Direct flights enhance convenience in terms of cost, time, and distance (Assaf & Josiassen, 2011). Regional and cultural ties in Sub-Saharan Africa facilitate arrivals from neighboring countries (Muhammad & Andrews, 2008; Viljoen et al., 2018). Pointing out that past studies have primarily focused on Sub-Saharan Africa as a whole, Naude and Saayman (2005) highlight a gap in nation-specific analysis of countries like Uganda, which largely reflect tourism-related growth and conventional gravity variables. Examining basic economic and geographical factors while recognizing the impacts of other factors, such as policy and infrastructure, on tourism is therefore crucial. Applying the gravity model to Uganda, Muhammad and Andrews (2008) attribute over 70 percent of the variation in arrivals to trade flows, GDP, distance, and shared borders; these findings align with the results of other empirical studies. Meanwhile, other research has shown that policy and infrastructure significantly impact tourism flows. For instance, visa requirements are important barriers to cross-border travel (Kartasasmita & Khoirunurrofik, 2025).

Studies have found that restrictive policies hinder impromptu or short-term travel, particularly in regional and diaspora contexts, while visa openness enhances tourism inflows (Adeola et al., 2017; Fourie & Santana-Gallego, 2013). Both Cho (2010) and Assaf and Josiassen (2011) point out that adding a direct flight dummy variable to gravity models significantly increases their explanatory power. Finally, countries sharing a land border often exhibit significantly higher bilateral tourist flows due to reduced travel costs, ease of access, and cultural proximity (Carril-Caccia et al., 2024; Çetin et al., 2022; Paniagua et al., 2022). This remains particularly relevant for regional tourism within continents.

However, Naude and Saayman (2005) mention that non-financial constraints such as security, accessibility, and policy stability typically influence traveler behavior to a greater extent in the African context. Nevertheless, in Sub-Saharan Africa, where governance, safety, and infrastructure-related issues may take precedence over contextual variables such as economic or geographical considerations.

COVID-19 Pandemic's and Global Tourism: The COVID-19 pandemic had an enormous impact in global tourism. Matiza (2023, p. 225) examined the vulnerability of global tourism to the COVID-19 pandemic, focusing on Sub-Saharan Africa. He points out that new COVID-19 variants and limited access have increased perceived risks concerning international travel to low-income

countries, citing Adinolfi et al. (2021, p. 227), who show that this hindrance further represses international tourism demand. Generating prolonged structural disruption and economic losses (Marinko et al., 2021), the pandemic's adverse impacts on the tourism industry and global travel highlight crucial factors impacting local, regional, and international tourism demand. International tourism plummeted as never before, with massive job losses and the collapse of countless small businesses, most notably in countries where tourism is a main economic sector. In India alone, international tourist arrivals decreased by more than 66 percent, severely undercutting income generation in both urban and rural areas (Deb & Nafi, 2020; Jaipuria et al., 2021). Jaffar et al. (2021) point out that, in addition to its economic impacts, the pandemic affected psychological and behavioral dynamics, leading to mental health problems and distress over infection, which increased the preference for domestic travel and social distancing in tourism. They identify resilience-building and sustainability as recovery and policy strategies that could help revamp tourism sectors. For Uganda, COVID-19 was an opportunity to develop a more resilient and competitive tourism sector by following the global trend of prioritizing natural and cultural assets through investment in digitalization, green infrastructure, and sustainable mobility.

Data, Methods, and Models

Covering the 2015 to 2023 period, this study conducts a panel data analysis of 38 origin countries, dividing the dataset into two sub-periods to capture potential shifts in the pre-pandemic, pandemic, and post-pandemic periods: Model 1 covers 2015 to 2019, and Model 2 covers 2020 to 2023. The analytical framework is based on an augmented gravity model of international tourism demand, which Jong et al. (2020) demonstrate to be effective in explaining bilateral tourist flows. Among the various analytical frameworks used to examine international tourism flows, the gravity model developed by Tinbergen (1962) has gained prominence due to its strong theoretical foundations and empirical robustness (Eilat & Einav, 2004; Muhammad & Andrews, 2008). Empirical studies demonstrate that the gravity model's theoretical base can be extended to tourism industry to explain demand and determinants of international bilateral tourist flows (Viljoen et al., 2019; Xu et al., 2018). Originating in trade theory, the gravity model posits that the flow of goods, services, or people between two countries is proportional to their economic output, which GDP often represents and inversely proportional to the geographical distance between them.

This study is based on Muhammad and Andrews' (2008) framework that applied the gravity trade model of 30 countries from 2000 to 2004 period but develops the study with larger dataset, covering more recent years (2015-2023) and with clear rationales of selection of variables. For example, GDP per capita is incorporated as a measure of economic capacity and tourists' purchasing power; the geographic distance represents the travel time and cost associated with it. Additionally, this model includes visa requirements and direct flights as institutional and infrastructural factors that will directly affect international tourists flow. Specifically, visa requirements can discourage travel, but direct flights can increase international travelers' access to a destination. Finally, including the Sub-Saharan Africa regional dummy variable enables the model to address the influence of regional, geographic and socio-cultural similarities, such as language and customs, on tourism flows between countries in Africa.

To account for unobserved heterogeneity across countries and time while assuming that individual-specific effects are uncorrelated with the regressors, the estimation is conducted using a random effects model panel regression, which is more effective for models with time-invariant variables, as it accommodates them and unobserved heterogeneity, unlike fixed effects models

as indicated by Bell and Jones (2014) and Xu et al. (2018). In addition, marginal effects are calculated to determine the magnitude and direction of influence of each variable on international tourist arrivals to Uganda. The model follows the basic gravity model in both Pooled OLS and random effects; the latter is used as a robustness check for the former. Despite its theoretical superiority, this study's use of several time-invariant variables makes employing a fixed effects model impractical.

The baseline gravity model equation is:

$$LnArr_{ijt} = \beta_0 + \beta_1 Lngdp_{it} + \beta_2 Lngdppa_{it} + \beta_3 Lndist_i + \beta_4 SSA_i + \beta_5 Visa_i + \beta_6 Dirfly_i + \beta_7 Bor_i + \varepsilon_{it}$$

where LnArr is the dependent variable, describing the log-transformed number of tourist arrivals to Uganda from each partner country. This section's data source is the Uganda Bureau of Statistics (UBOS) and the Ministry of Tourism, Wildlife and Antiquities of Uganda (MTWA). Lngdp is the log-transformed GDP of the origin country; given the presumption that a higher GDP is positively associated with increased tourist arrivals to Uganda, its expected sign is positive. Lngdppa is GDP divided by population, or per capita GDP, which serves as a proxy for individual wealth or spending power; it is log-transformed and expected to show a positive coefficient as well. Both GDP and per capita GDP are drawn from the World Bank's World Development Indicator. Lndis is collected from CEPII Geo, which is the log transformed great-circle distance between the origin country capital city and Kampala; a major element of the gravity model, its coefficient is expected to be negative. The remaining variables are dummy variables: SSA is one if the country belongs to Sub-Saharan Africa and zero otherwise; Visa is one if Uganda requires a visa for citizens of the origin country and zero otherwise; Dirfly is one if there is a direct flight connection between the origin country and Uganda and zero otherwise; and lastly, Bor is one if the country shares a border with Uganda and zero otherwise. Except Visa, which serves as an entry barrier, all other variables are expected to show positive coefficients.

Regression Results

This study uses a gravity model to assess how economic, geographic, and institutional factors influence international tourist arrivals in Uganda. *Table 1* shows the results of the pooled OLS analyses examining the determinants of tourist arrivals in Uganda. Based on available data, 38 countries, including the United States and countries from Sub-Saharan Africa, Europe, the Middle East, and the Caribbean, are considered. This study focuses on the 2015 to 2023 period, which it divides into pre- and post-COVID-19 sub-periods, t_1 (2015-2019) and t_2 (2020-2023), to examine any significant changes in tourist arrivals between the pre-and post-pandemic periods. The third column in *Table 1* displays the complete results, including all variables.

Table 1 presents the basic gravity model using the main independent variables (GDP, GDP per capita and distance). *Table 2* presents an extended model that adds dummy variables such as regional determinants (SSA), visa requirements, direct flights, and border proximity. The expanded model specification allows the analysis to examine how institutional, regional and accessibility determine international tourist arrivals to Uganda, beyond the main gravity variables.

The regression results show that the GDP (Lngdp) of the countries of origin had a consistent positive and significant effect on tourist arrivals across all models. However, the finding for per Capita GDP (lngdppa) does not align with the gravity model prediction. Its significant, negative effect on tourist arrivals in all model specifications suggests that higher-income countries may send fewer tourists. The relatively higher number of tourists from neighboring African

Table 1. Regression Results

Variables	t_1	t_2	All
Lngdp	0.677*** (0.0935)	0.469** (0.233)	0.682*** (0.0856)
Lngdp per capita	-0.410*** (0.109)	-0.667*** (0.223)	-0.615*** (0.152)
Lndistance	-1.616*** (0.288)	-0.845 (0.718)	-1.081*** (0.275)
Sub-Saharan Africa			1.210** (0.516)
Visa			-0.225 (0.733)
Direct flight			-2.240*** (0.571)
Border			1.948*** (0.638)
Constant	6.466*** (1.439)	8.276** (3.407)	4.553* (2.441)
Observations	240	240	234

Note: Results are from Pooled OLS models. Robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Models include economic, geographic, infrastructural and policy variables using panel data from 38 countries from 2015 to 2023.

Table 2. Robustness Check

Variables	t_1	t_2
Lngdp	0.363 (0.225)	1.295*** (0.208)
Lngdp per capita	-0.681** (0.347)	-0.353 (0.327)
Lndistance	-0.521 (0.538)	-2.283*** (0.564)
Sub-Saharan Africa	1.558 (1.272)	2.400** (1.046)
Visa requirements	1.364 (1.189)	-1.061 (1.232)
Direct flight	-2.608** (1.232)	-1.885** (0.830)
Bordering	3.146*** (1.090)	0.256 (1.238)
Constant	8.559 (6.402)	-5.261 (5.036)
Observations	117	117

Note: All models are estimated using Random Effects GLS. Robust standard errors are shown in parentheses. Statistical significance is indicated as follows: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The dependent variable was the log of tourist arrivals to Uganda. Results are based on panel data for 38 countries for the 2015 to 2023 period.

countries, whose income levels are relatively lower, may suggest cross-border benefits such as travel affordability, infrastructure for ease of access, including options for road transportation, convenient visa conditions in the East African Community Bloc and cultural proximity, hence explaining the unexpected result. Indeed, the significantly negative coefficients of distance across all models and the significantly positive coefficients for the SSA (1.210^{**}) and border dummies (1.498^{***}) confirm this conjecture. Exponentiating the SSA's coefficient indicates that Sub-Saharan African countries triple the number of tourists' arrivals in Uganda compared to other countries ($e^{1.210} \approx 3.35$). Meanwhile, a negative coefficient (-0.225) for the Visa dummy suggests that visa restrictions may discourage tourist inflows and influence their destination choices. Finally, the effect of direct flights on tourist arrivals was negative and highly significant (-2.240^{***}). This is self-explanatory given that tourists who visit Uganda the most are rather long-haul, such as the U.K., the U.S., India, while the direct flights are relatively regional. Overall, these results underscore the multifaceted nature of international tourism in Uganda, which is influenced by economic, geographic, infrastructural, and policy factors.

Table 3 presents the average ratios of actual to predicted tourist arrivals from all countries of origin, based on *Table 2*. Countries Qatar (0.74), Singapore (0.77), Saudi Arabia (0.77), and the Russian Federation (0.79) underperformed, with fewer tourists visiting Uganda than predicted by

Table 3. Average Ratio Between Actual and Predicted Tourist Arrivals

Country	Ratio_mean	Country	Ratio_mean
Qatar	0.7363921	Switzerland	1.0044
Singapore	0.7655926	Germany	1.005752
Saudi Arabia	0.7692885	South Sudan	1.009662
Russian Federation	0.7981334	Nigeria	1.048527
Israel	0.8360866	Rwanda	1.054252
Finland	0.8363954	Belgium	1.056887
Japan	0.865486	Sweden	1.08669
Congo, Dem. Rep.	0.89305	Australia	1.095236
Ethiopia	0.8960579	Norway	1.096537
Somalia	0.9127783	Ireland	1.103557
China	0.9244838	Kenya	1.109141
Italy	0.924619	United Arab Emirates	1.109365
Austria	0.9286633	Denmark	1.109555
Tanzania	0.9345013	South Africa	1.111828
Egypt, Arab Rep.	0.9409329	Netherlands	1.121118
Turkiye	0.9412116	Burundi	1.14008
France	0.9565138	Canada	1.153347
		United States	1.169267
		United Kingdom	1.1694
		India	1.21958

Note: Based on the Author's calculation: A ratio_mean below 1 indicates that actual tourist arrivals are below predicted values. A ratio_mean equivalent to 1 indicates that the actual tourist arrivals match the predicted values. A ratio_mean above 1 indicates that actual arrivals exceeded predictions.

the model. This could have been due to language/cultural barriers, a lack of targeted marketing, and/or tourism preferences, suggesting potential untapped markets that warrant consideration. By contrast, the United Kingdom (1.17), the United States (1.17), Canada (1.15), India (1.22), and the United Arab Emirates (1.11) sent more tourists than the model predicted, indicating that factors such as marketing, trade tourism, and diaspora ties exerted significant impacts. Meanwhile, countries like Switzerland (1.00), Germany (1.00), Nigeria (1.05), and Rwanda (1.05) represent source markets with significant potential where increased targeted marketing efforts and tourism products could generate substantial benefits. SSA countries such as Burundi (1.14), Kenya (1.11) and South Sudan (1.04) generally exceeded predictions, reinforcing the notion that regional proximity, land-based travel options, and cultural ties fuel tourist flows. Wealthy nations such as Japan, Finland and France marginally underperformed, aligning with the model's findings that GDP per capita is negatively associated with actual tourist visits, probably due to tourism destination options and preferences. Finally, although countries such as Qatar, the Democratic Republic of Congo, Somalia, Tanzania, Egypt, and Turkey have direct flights to Entebbe airport, they underperformed, highlighting the need for targeted marketing in these source markets. Overall, the ratio analysis underscores the need for more nuanced, country-specific tourism strategies to both consolidate high-performing markets and unlock the potential of average and underperforming areas. The distinction between *Tables 1* and *Tables 3* is that *Table 1* identifies the determinants of international tourism flows, while *Table 3* assesses the gravity model's prediction of the actual international tourist arrivals in Uganda.

Conclusions and Recommendations

This study's regression results generally aligned with the gravity model predictions, showing that GDP and distance exert positive and negative effects, respectively, on tourist flows to Uganda. However, the analysis revealed a significantly negative correlation between GDP per capita and tourism, indicating that Uganda's tourism ministry and agencies need to adjust strategies to attract tourists from higher-income countries. Ideally, this effect should become positive or at least insignificant.

The fact that the Sub-Saharan Africa (SSA) dummy was significantly positive indicates that most tourists in Uganda come from within the SSA region. Although the visa requirement reduced tourist arrivals, it shows no significant statistical effect of having a strong and measurable visa policy, suggesting that current visa requirements may not be a key determinant

Table 4. Data Sources

Variable	Source
Tourist Arrivals	Uganda Bureau of Statistics, Uganda Tourism Board, Ministry of Tourism, Wildlife and Antiquities, Uganda,
GDP, GDP per capita	The World Bank (WDI)
Distance	CEPII Geo (Manual Calculation)
Sub-Saharan Africa	World Bank
Visa Requirement	Uganda Immigration / Ministry of Internal Affairs / IATA visa guides
Direct Flight	flightconnections.com
Bordering Country	Manual coding (Democratic Republic of Congo (DRC), Kenya, Rwanda, South Sudan, Tanzania)

of international tourist flows to the country. Indeed, this finding suggests that a regional tourism policy would be particularly effective, given the strong tourist flow from SSA into Uganda. The coefficient estimates for SSA indicate that tourists from SSA are approximately 3.35 times more likely to visit Uganda than tourists from other regions. Moreover, while many tourists from the Sub-Saharan Africa region visit Uganda, a significant proportion do not come from neighboring countries that share borders with Uganda.

Meanwhile, the availability of direct flights did not contribute significantly to tourist arrivals, likely because many tourists to Uganda are transit passengers who use major regional hubs. This supposition aligns with the empirical findings of Muhammad and Andrews (2008), Cho (2010) and Asaaf and Josiassen (2011) that direct flights are crucial in Uganda's tourism growth. Large or wealthy countries with direct flights to Uganda, such as Qatar, Saudi Arabia and India warrant particular attention, as these markets offer substantial growth potential. Increasing the number of direct flights from higher-income countries, particularly from Europe, would enhance accessibility and appeal. To increase direct connectivity and control over air routes, Uganda should consider following the Ethiopian model in developing its national airline industry. As Viljoen et al. (2018) pointed out, direct flights can attract more international tourists by alleviating the negative effect of distance on tourist arrivals, and a shorter travel distance has boosted inflows from source markets in the East African Region as well as promoting tourism. Additionally, contrary to Fourie and Santana-Gallego's (2013) assertion that loosened Ugandan visa requirements would attract more tourists from within and beyond the region, this study has not found statistical evidence to support the claim.

The highly significant and positive effect of shared borders on tourist arrivals underscores this variable as a major determinant of tourism flows, suggesting efforts to leverage and strengthen ties with neighboring countries, explore regional tourism potential, promote overland entry routes into Uganda, and pursue joint marketing initiatives through the East African Community (EAC). Establishing a tourism coalition with neighboring countries such as Kenya, Tanzania and Rwanda, each of which offers major tourist attractions, would facilitate cross-border packages or passes that encourage tourists to plan and extend their trips to Uganda, hence enhancing Uganda's tourism attraction potential.

Uganda should prioritize strategies that attract tourists from wealthy countries, particularly in Europe, by expanding direct flight options. It should also focus on attracting tourists from countries like Saudi Arabia and India, both of which already have direct flight connections. Finally, although SSA is a strong source market, tourism promotion efforts should focus on attracting tourists from non-bordering SSA countries with established tourism industries.

The incorporation of sustainability, health, and resilience into tourism modeling is crucial for the tourism sector's long-term outlook. This study recommends that future studies consider these factors to establish context-specific recommendations for the Ugandan government to prioritize the mitigation of public health risks to avoid pandemic and environmental shocks and implement sustainability parameters to follow the growing global emphasis on innovation in natural and cultural heritage and investment in digitalization, green infrastructure, and sustainable mobility. It should be also be relevant to include political variables, such as diplomatic relations between Uganda and the countries that has or had conflicts with. In the case of the Democratic Republic of Congo, for example, Congolese citizens may be reluctant to visit Uganda due to past or ongoing conflicts between the two countries. Investing these political dynamics should be an excellent research topic.

Overall, this study underscores the need for context-specific and targeted policy interventions that promote regional integration, enhanced accessibility, connectivity and travel expediency. Investing in innovative infrastructure development, target marketing, and promoting bilateral relations could significantly enhance Uganda's competitiveness in the global tourism market.

To determine demand-driven inbound trends and patterns, this study recommends that future research examine micro-level tourist motivations in choosing destinations, along with emerging factors such as gender concerns, tourism digitalization, and climate change.

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Conflicting Interests

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