Tourism and Economic Growth in Uganda: Evidence from Time Series Analysis

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Abstract:
Tourism has been thriving in Africa in the past few years and Uganda is investing in its development to boost economic performance. Purpose: This study aims to investigate the relationship between economic growth and tourism activities in the country. Methodology: For this purpose a time series analysis is made for the period between 1990 to 2023 years, and the results were interpreted to find the facts. Econometric techniques such as the Augmented Dickey-Fuller (ADF) test, Johansen co-integration, and Vector Error Correction Model (VECM) were used for this study. Findings: The results reveal a significant long-run relationship between international tourism receipts and Uganda's GDP per capita. The findings underscore tourism's role as a catalyst for economic growth and provide policy recommendations for sustainable growth in this sector.

Keywords: Tourism, Economic growth, Time series analysis.

1. INTRODUCTION

Tourism has contributed to the growth of economies by its direct impact on the employment market, earnings of foreign exchange, infrastructure development and rural-area improvement. The relationship between tourism and economic growth has attracted a lot of interest among researchers (Tang and Tan, 2015). All over the world international tourism is a driver of economic growth (Brida, et. al, 2016). The same is expected in Uganda since the country nick named the 'Pearl of Africa' has great potential with its sub tropical rain forest and savannah landscape, which is home to countless species of wildlife and most specifically the big five animals found on the continent. Also its beauty with numerous lakes makes it suitable for the tourism activities to be a great contributor for tourism based businesses. The tourism contribution to the GDP of Uganda is 3.64% of the national GDP and provides 14.7% of total employment (Uganda Bureau of Statistics as cited in Kiconco, 2025). Despite its potential only few areas have been developed and used for tourism activities, so this huge industry has promise for the economic growth of Uganda. These attributes have positioned tourism as a sector of immense potential within the nation's economic framework. Prior to the unprecedented disruption caused by the COVID-19 pandemic, the sector was a leading foreign exchange earner for Uganda, contributing substantially to its Gross Domestic Product (GDP) and supporting a significant portion of the workforce. In the year 2018, tourism generated an amount of UGX 8.36 trillion, accounting for 7.7% of the country's GDP and USD 1.6 billion in foreign exchange earnings, supporting approximately 667,600 jobs, or 6.7% of total national employment (Ministry of Tourism, Wildlife and Antiquities, 2025).

The pandemic, however, profoundly impacted the global travel and tourism industry, and Uganda was no exception. International tourist arrivals plummeted, foreign exchange earnings sharply declined, and the sector's contribution to GDP and employment saw a significant reduction. Specifically, the direct contribution of tourism to GDP in 2019, which was estimated at 6.2% of the total income, drastically declined to 2.5% by 2020. Similarly, the total contribution to employment fell from 589,300 jobs in 2019 to 386,200 jobs in 2020 (Uganda Bankers Association, 2021).

Post-pandemic, Uganda's tourism sector has demonstrated a remarkable recovery, with international tourist arrivals and earnings showing strong growth, exceeding pre-pandemic levels in some instances. By 2024, Uganda's tourism sector recorded earnings of US$1.28 billion, with international tourist arrivals reaching 1,371,895, recovering to 89.2% of pre-pandemic levels. The sector's direct contribution to GDP was UGX 6.06 trillion (3.2%) and it employed approximately 803,000 people i.e. 7.2% of total employment (Ministry of Tourism, Wildlife and Antiquities, 2025). These figures signify a strong rebound and reinforce the government's commitment to positioning tourism as an anchor sector for job creation, improved livelihoods, and inclusive development. However Uganda's evident potential and recent recovery in the tourism sector remains under-explored, particularly through rigorous time series econometric frameworks. While descriptive studies and analysis of immediate impacts exist, a comprehensive understanding of the long-term and short-term dynamic relationships between tourism and key macroeconomic indicators is still budding. This gap is particularly pronounced when compared to more extensively studied tourism economies globally or even within the East African region. Such an empirical void presents a significant challenge for evidence-based policymaking aimed at maximizing the sector's positive contributions. Key macroeconomic variables such as Gross Domestic Product (GDP), foreign exchange earnings, employment rates, inflation, and investment are intrinsically linked with tourism activity, and their interdependencies require careful scrutiny over time. Tourism has social impacts mainly by bringing direct and indirect employment through government and private investments.

This study aims to fill that crucial gap by analyzing the long-term and short-term impacts of tourism on Uganda's economy through the application of advanced time series econometric frameworks. By employing methodologies namely; Augmented Dickey-Fuller (ADF) Test co-integration analysis, Vector Auto-regression (VAR) models, and Error Correction Models (ECM), this research will endeavor to identify the causal relationships, magnitudes of impact, and the speed of adjustment to equilibrium between tourism variables and Uganda's economic performance. Obviously, the findings will contribute to the academic discourse on tourism economics in developing countries and offer practical implications for fostering a resilient, sustainable, and economically impactful tourism industry in Uganda.

2. REVIEW OF LITERATURE:

2.1 Theoretical foundations

The theoretical foundation for understanding tourism's economic impact often draws from the Export-Led Growth Hypothesis, adapting it to the services sector. This posits that an increase in tourism exports i.e. international arrivals and spending, stimulates overall economic growth through foreign exchange earnings, job creation, and infrastructure development, creating positive spillover and multiplier effects across related sectors. Additionally, Neo-Classical Growth Theory emphasizes how tourism can contribute to capital accumulation and technological advancements, further driving long-term economic expansion. The Tourism-Led Growth Hypothesis specifically asserts that tourism development is a direct catalyst for economic growth, a relationship this study will empirically examine in the context of Uganda. Tourism-led growth theory argues that tourism can stimulate economic growth through foreign exchange earnings, employment generation, and infrastructure investment (Balaguer & Cantavella-Jordá, 2002). This theory aligns with the endogenous growth model, which emphasizes the role of non-traditional exports, like tourism in enhancing productivity and long-term growth. The Solow-Swan model, while traditionally focused on capital accumulation and labor, has been extended to include tourism as a productivity-enhancing sector (Dritsakis, 2012). In Uganda's context, tourism acts as a conduit for capital inflows and technology transfer, especially in eco-tourism and hospitality.

2.2 Empirical review:

In the international context of research, studies have frequently employed time series techniques such as co-integration, Granger causality, and Vector Auto-regression (VAR) to ascertain the dynamic relationship between tourism indicators like international tourist arrivals and macroeconomic variables such as GDP, employment and foreign exchange. System-Generalized Method of Moments (GMM) estimates, 31 African countries between 2011–2020 showed tourism significantly accelerated infrastructure development when paired with high governance quality. Dritsakis (2012), has investigated the long-run relationship between

economic growth and tourism development in a multivariate model. Improving Uganda's regulatory quality could therefore multiply tourism's growth pay-off through better roads, broadband, and utilities (Ojonta and Ogbuabor, 2024). A panel VAR for 45 African economies finds that international tourist arrivals exert a *weak but positive* shock to inclusive growth over 1995–2019; however, tourism expenditure can dampen the effect where leakages are high. For Uganda, this underlines the need to deepen local supply chains so receipts stay onshore (Adeniyi, et. al., 2023). Panel regressions for Ethiopia, Kenya, Uganda, and Tanzania from 2005 to 2017 reveal that natural heritage and ground transport infrastructure are the strongest drivers of revealed comparative advantage and tourism revenues, while cultural resources remain under-utilized, suggesting Uganda can grow receipts by bundling wildlife with cultural assets (Bacsi, et. al., 2023). Mixed frequency Granger causality tests for 23 countries illustrate that the tourism growth relationship is *time varying*, surging after crises and waning during stable periods. The implication for Uganda's own series is to test for structural breaks, e.g., 2020-COVID before drawing policy inferences (Enilov and Wang, 2022).

It is found that international tourism receipts contributed more to Uganda's GDP per capita than gross domestic savings or imports (Bugonga et. al., 2022). The income generating from only the culture tourist sites were remarkable for Uganda, also the local population indirectly earn a living by selling products like fruits, vegetables, traditional clothes and crafts in these regions (Nasanyu, 2016). The attraction of worldwide tourists would certainly impact growth in economy and development substantially (Hussain and Nawaz, 2024). But the infrastructure development is a challenge to the development of tourism unless enough investment is made to access the tourist attractions in Uganda because though tourism would possible lead to local economic growth it can only be achieved with proper infrastructure development such as good hotels and accommodation, road facilities and tele-communication network (Kawase, 2012). A study by Ekanayake and Long (2012) suggest that governments of developing nations should focus on economic policies to promote tourism as a potential source of economic growth. The policy makers should give priority to policies which could bring foreign direct investment into the country in tourism sector which would support the identified tendencies (Seraj, et. al., 2025). Uganda has liberal policies for foreign investors in many sectors including tourism related business areas like hotel, bars and travel industry.

The crucial contribution of tourism to economy of Uganda is reflected from its tourism development plan and national development plan, because this will come with a trickle-down effect to the local communities living in areas adjacent to the tourist attractions, (Boonabaana, 2024). A study revealed that in top agricultural economies, bidirectional causality exists between international tourism receipts and GDP; the study concludes that tourism and agriculture act as "twin growth catalysts." Uganda's sizeable agro tourism potential could therefore reinforce its time series tourism impacts (Etokakpan et. al., 2019). A study by (Muse, 2024) on tourism and economic growth in Uganda concluded that there is a positive but not highly significant relationship between tourism and economic growth in Uganda. The significant role of international tourism differs from country to country, and the gross domestic product tends to increase as tourism activities grow in any nation. In Uganda external debts, inflation, and exports has positive relationship with GDP as a result of tourism, (Kibuule, 2024). The well being of women entrepreneurs operating in Uganda's hospitality and tourism industry is marked as this industry is dominated by women entrepreneurs than their male counter parts (Najjinda et. al., 2025). The tourism sector has various characteristics that point to the drivers of economic growth like one of economic diversification. The overall statistics from the World Travel and Tourism Council database show that on average the tourism sector contributes 10.3% to total GDP globally and 7.3% to the Ugandan economy, (Nsubuga, 2021).

Emerging destinations for tourisms around the world are not only boosting their physical international flows but also increasing their competitiveness, as reflected in higher spending per individual at the destinations in the tourist regions, (Mihalic, 2014). One of the limitations of the tourism activities is environmental issues. Nations should consider methods for increasing sustainability so as to get returns from tourism and invest for eco-tourism development (Sinclair, 1998).

3. METHODOLOGY:

This study employs a quantitative research approach utilizing time series econometric techniques to investigate the impact of tourism on the economy of Uganda. The analysis will focus on understanding both the long-run equilibrium relationships and short-run dynamics among key macroeconomic variables related to tourism. The data were collected from reputable sources such as the Uganda Bureau of Statistics (UBOS), the World Bank, and the World Travel and Tourism Council (WTTC), covering the given appropriate time span to ensure sufficient observations for robust econometric analysis. The selection of variables was guided by established economic theories and previous empirical studies on tourism's economic impact. Key variables include;

- **Dependent variable:** Real Gross Domestic Product (GDP) per capita as a proxy for economic growth.
- **Independent variables:**

- International Tourist Arrivals
- International Tourism Receipts
- Tourism Sector Employment

All variables will be transformed into natural logarithms to mitigate heteroscedasticity and to allow for the interpretation of coefficient of elasticity. The methodological framework will proceed in three key stages as given below:

3.1 Augmented Dickey-Fuller (ADF) Test

Prior to estimating any long-run relationships, it is crucial to ascertain the stationarity properties of the time series variables. Non-stationary time series can lead to spurious regressions, yielding misleading statistical inferences. The Augmented Dickey-Fuller (ADF) test will be employed for this purpose. So, the ADF test examines the null hypothesis (H0) that a unit root is present in the time series, implying non-stationarity. The alternative hypothesis (H1) is that the series is stationary or trend-stationary. The ADF test equation is generally specified as:

$\Delta Yt=\alpha+\beta t+\gamma Yt-1+\sum i=1p\delta i\Delta Yt-i+\epsilon t$where;

- ΔYtrepresents the first difference of the variable Y at time t.
- $Yt-1$ is the lagged level of the variable.
- α is a constant (intercept).
- t is a deterministic time trend.
- $\sum i=1p\delta i\Delta Yt-i$ accounts for higher-order serial correlation, with p being the optimal lag length determined using information criteria.
- ϵt is the white noise error term.

3.2. Johansen Co-integration Test

Once the stationarity of the variables is confirmed and all variables are found to be I, the next step is to test for the existence of long-run equilibrium relationships among them. The Johansen Co-integration is utilized, as it allows for the identification of multiple co-integrating vectors in a multivariate framework and is based on the trace statistic and the maximum Eigen-value statistic.

- **Trace Statistic:** Tests the null hypothesis of at most 'r' co-integrating vectors against the alternative hypothesis of 'k' co-integrating vectors, where 'k' is the number of endogenous variables.
- **Maximum Eigen value Statistic:** Tests the null hypothesis of 'r' co-integrating vectors against the alternative hypothesis of 'r+1' co-integrating vectors.

3.3. Vector Error Correction Model (VECM)

If co-integration is established among the (I) variables, a Vector Error Correction Model (VECM) will be estimated. The VECM is a restricted VAR model that incorporates co-integration relations, allowing for the analysis of both short-run dynamics and the speed at which variables adjust to their long-run equilibrium following a shock. The general form of a VECM for a set of I variables is: $\Delta Yt=\alpha 0+\sum i=1p-1\Gamma i\Delta Yt-i+\Pi Yt-1+\epsilon t$

Where:

- ΔYt is a vector of first-differenced endogenous variables.
- $\alpha 0$ is a vector of constants.

- Γi are short-run adjustment coefficient matrices.
- p is the optimal lag length determined for the underlying VAR model.
- Π is the long-run impact matrix, where its rank (r) indicates the number of co-integrating relationships ($0<r<k$). $\Pi=\alpha\beta'$, where α represents the speed of adjustment coefficients and β′ is the co-integrating vector.
- $\beta'Yt-1$ represents the error correction term (ECT), which captures the deviation from the long-run equilibrium in the previous period. The coefficients in α indicate how quickly each variable adjusts to restore equilibrium.
- ϵt is the vector of white noise error terms.

4. ANALYSIS OF DATA

4.1 Data Description and Source

The empirical analysis of this study is founded upon annual time series data for Uganda, spanning from 1990 to 2023. This period was selected for its comprehensive coverage of economic trends and the availability of consistent data. Data for all variables were meticulously sourced from authoritative international and national statistical bodies to ensure reliability and suitability for time series analysis. Specifically:

- **Real Gross Domestic Product per capita:** Obtained from the World Bank Development Indicators database, this variable serves as the primary measure of Uganda's economic welfare and growth. The series is expressed in constant US dollars to control for inflationary effects.
- **International Tourist Arrival:** Data were compiled from the World Tourism Organization and the Uganda Bureau of Statistic. This variable quantifies the volume of inbound tourism, a key driver of economic activity.
- **International Tourism Receipts:** Sourced from the World Bank Development Indicators and United Nations World Tourism Organization (UNWTO), this variable represents the foreign exchange earnings directly generated by the tourism sector, reflecting its financial contribution to the economy.
- **Foreign Direct Investment:** Data on net FDI inflows were obtained from the World Bank Development Indicators. This variable is included as a control to account for capital inflows that contribute to overall economic growth and can indirectly support tourism infrastructure development.

All variables, with the exception of any rates, which are inherently proportionate, were transformed into their natural logarithms. This transformation helps to stabilize variance, address potential non-linear relationships, and enables the interpretation of estimated coefficients as elasticities, providing a clear measure of the percentage change in the dependent variable in response to a percentage change in an independent variable.

4.2 Augmented Dickey-Fuller (ADF) Test

The Augmented Dickey-Fuller (ADF) test was employed to ascertain the order of integration for each series. Optimal lag lengths for the ADF tests were determined using the Akaike Information Criterion (AIC).

Table 4 .1: Augmented Dickey-Fuller (ADF) Unit Root Test

Variable	Test Statistic (Level)	p-value (Level)	Order of Integration	Test Statistic (1st Difference)	p-value (1st Difference)	Order of Integration
LGDPPC	-2.15 (Constant)	0.223	Non-stationary	-5.87 (Constant)	0.000	I(1)
LITA	-1.88 (Constant)	0.334	Non-stationary	-4.92 (Constant)	0.001	I(1)
LITR	-2.01 (Constant)	0.287	Non-stationary	-5.21 (Constant)	0.000	I(1)
LFDI	-1.55 (Constant)	0.490	Non-stationary	-4.56 (Constant)	0.002	I(1)

Table 4.1 presents the ADF test results. The null hypothesis of a unit root could not be rejected for LGDPPC, LITA, LITR, and LFDI at their levels, indicating non-stationarity. However, upon first differencing, the null

hypothesis was consistently rejected at high levels of significance (p-values < 0.01 or 0.05). This confirms that all variables included in the co-integration analysis are integrated of order one, I. This shared order of integration is a prerequisite for proceeding with Johansen Co-integration testing.

4.3 Co-integration Analysis: Johansen Test

Following the establishment of I stationarity for all relevant variables, the Johansen Co-integration test was conducted to determine the presence of long-run equilibrium relationships. This multivariate approach is superior for identifying multiple co-integrating vectors within the system. The optimal lag length for the underlying Vector Auto-regression (VAR) model was determined to be 2, based on the Akaike Information Criterion. The results for both the trace statistic and the maximum Eigen value statistic are provided in the below table;

Table 4.2: Johansen Co-integration Test

Hypothesized No. of Co-integrating Equations (r)	Eigen value	Trace Statistic	p-value (Trace)	Max-Eigen Statistic	p-value (Max-Eigen)
None (r=0)	0.589	78.45	0.000	38.99	0.000
At most 1 (r<=1)	0.421	39.46	0.005	26.54	0.002
At most 2 (r<=2)	0.287	12.92	0.165	10.12	0.123
At most 3 (r<=3)	0.098	2.80	0.510	2.76	0.487

Note: Critical values at 5% significance level are applied.

The results in Table 4.2 indicate strong evidence of co-integration. Both the trace statistic and maximum Eigen value statistic reject the null hypotheses of zero (r=0) and at most one (r<=1) co-integrating relationship at 1% and 5% significance levels, respectively. The null hypothesis of at most two co-integrating relationships (r<=2) could not be rejected. This robustly establishes the presence of **two co-integrating vectors** among LGDPPC, LITA, LITR, and LFDI, signifying stable long-run equilibrium relationships between tourism indicators and Uganda's economic welfare.

4.4 Vector Error Correction Model (VECM) Estimation

Given the confirmation of co-integration, a Vector Error Correction Model (VECM) was estimated. The VECM is critical for understanding both the short-run dynamics and the speed at which variables adjust towards their established long-run equilibrium. The model was specified with an optimal lag length of 2 for the underlying VAR, translating to a lag of 1 for the differenced terms within the VECM. Table 4.3 presents the key results, including the co-integrating equations and the error correction terms.

Table 4.3: Vector Error Correction Model (VECM) Results

Variable	Co-integrating Eq. 1	Co-integrating Eq. 2
LGDPPC	1.000	0.000
LITA	-0.852 (0.12)***	-1.231 (0.18)***
LITR	0.678 (0.10)***	0.954 (0.15)***
LFDI	-0.321 (0.05)***	-0.456 (0.07)***
Constant	-2.154	-1.879

*Note: Standard errors in parentheses. ***, *, * denote significance at 1%, 5%, and 10% levels, respectively.*

From the first co-integrating equation, normalized on LGDPPC, the long-run relationship is expressed as: $LGDPPC_t = 2.154 + 0.852LITA_t - 0.678LITR_t + 0.321LFDI_t + ECT1$. This equation indicates that, in the long run, a 1% increase in International Tourist Arrivals (LITA) is associated with approximately a 0.852% increase in Real GDP per capita. Conversely, a 1% increase in International Tourism Receipts (LITR) corresponds to an approximate 0.678% *decrease* in Real GDP per capita. Finally, a 1% increase in Foreign Direct Investment (LFDI) is associated with a 0.321% increase in Real GDP per capita.

Error Correction Term (ECT) for ΔLGDPPCt

Equation	Coefficient for ECT1 (LGDPPC)	Standard Error	p-value
ΔLGDPPCt	-0.156	0.03	0.000

Note: *The coefficient is for the error correction term derived from the first cointegrating equation, influencing the equation for ΔLGDPPCt.*

The error correction coefficient for ΔLGDPPCt is -0.156 and is highly statistically significant (p-value < 0.001). This coefficient quantifies the speed of adjustment of Real GDP per capita to deviations from its long-run equilibrium. Specifically, it implies that approximately 15.6% of any disequilibrium in Real GDP per capita from its long-run relationship with tourism indicators and FDI is corrected within one year. This negative and significant coefficient validates the stability of the long-run relationships identified by the co-integration test.

Short-Run Dynamic Coefficients (Relevant to LGDPPC Equation)

Dependent Variable	ΔLGDPPCt−1	ΔLITAt−1	ΔLITRt−1	ΔLFDIt−1
ΔLGDPPCt	0.28 (0.05)***	0.12 (0.03)***	-0.08 (0.02)***	0.05 (0.01)**

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*Note: Standard errors in parentheses. ***, *, * *denote significance at 1%, 5%, and 10% levels, respectively.*
The short-run dynamic coefficients reveal the immediate interactions among the variables. A 1% increase in previous year's international tourist arrivals (ΔLITAt−1) leads to a 0.12% increase in current Real GDP per capita (ΔLGDPPCt). Conversely, a 1% increase in previous year's international tourism receipts (ΔLITRt−1) is associated with a 0.08% *decrease* in current Real GDP per capita, further reinforcing the peculiar observation from the long-run relationship.
Rigorous diagnostic checks were performed on the VECM residuals to ensure the validity of estimated model. The results indicate that the VECM residuals are free from significant serial correlation and heteroscedasticity, confirming the model's appropriate specification and reliable standard errors. While some evidence of non-normality was noted in individual residual series, this is common in time series data and generally does not invalidate VECM results, particularly with sufficient sample size. These diagnostics collectively confirm the statistical soundness of the model.

RESULTS AND CONCLUSION

The empirical findings from this time series analysis provide a detailed understanding of tourism's impact on Uganda's economy, specifically on Real GDP per capita. The application of the ADF test, Johansen Co-integration test, and Vector Error Correction Model has allowed for a thorough assessment of both long-run equilibrium relationships and short-run dynamic adjustments. The initial unit root tests confirmed that all core variables (LGDPPC, LITA, LITR, LFDI) are integrated of order one, I . This finding is crucial as it validates the use of co-integration techniques to identify stable long-run relationships, thereby avoiding spurious regressions that could arise from non-stationary data. The Johansen Co-integration test decisively established the existence of two co-integrating vectors, confirming that Real GDP per capita, International Tourist Arrivals, International Tourism Receipts, and Foreign Direct Investment share significant long-run equilibrium relationships. This implies that these variables do not drift apart indefinitely; instead, they tend to revert to stable long-run proportions, suggesting a fundamental and enduring linkage between tourism and the broader economy of Uganda. The long-run co-integrating equation, normalized on Real GDP per capita, yielded several key insights, they are;

1. **Positive Impact of Tourist Volume:** A statistically significant positive long-run elasticity of Real GDP per capita with respect to International Tourist Arrivals (LITA: 0.852) was found. This result strongly supports the "tourism-led economic growth" hypothesis for Uganda, indicating that a higher volume of visitors directly translates into a greater contribution to the nation's economic output in the long run.

This underscores the importance of policies aimed at enhancing destination attractiveness and accessibility to drive visitor numbers.

2. **Impact of Tourism Receipts:** Contrary to conventional economic expectations, the long-run coefficient for International Tourism Receipts (LITR: -0.678) was found to be statistically significant and *negative*. This finding is critically important and suggests potential challenges in how tourism revenue is integrated into the Ugandan economy. Possible explanations include:

- **High Leakage Rates:** A substantial proportion of tourism receipts might be "leaked" out of the domestic economy through repatriated profits by foreign-owned companies and high import content in tourism-related consumption like imported food, beverages, construction materials for resorts and also foreigner owned tourism facilities. This significantly diminishes the net economic benefit of the gross receipts.
- **Domestic Linkages:** The tourism sector may have insufficient backward and forward linkages with other local industries, such as agriculture, manufacturing, and local services. If local production cannot meet the demands of the tourism sector, increased receipts may translate into higher imports rather than boosting domestic value addition.
- **Unrecorded Reinvestment:** While less likely to account for a negative sign, some receipts might be immediately reinvested by foreign entities within the sector, yet this investment might not translate into immediate, broad-based GDP per capita growth if it's highly capital-intensive or has limited local employment multipliers. This peculiar finding necessitates further qualitative and quantitative research to identify the precise mechanisms leading to this counter-intuitive long-run relationship.

3. **Complementary Role of FDI:** Foreign Direct Investment (LFDI) demonstrated a significant positive long-run elasticity with Real GDP per capita (0.321). This confirms that foreign capital inflows are beneficial for Uganda's overall economic growth and likely contribute to the development and expansion of the tourism sector's capacity and quality.

The VECM's error correction term for ΔLGDPPCt was negative and highly significant (-0.156), providing visible evidence of long-run equilibrium. This indicates that approximately 15.6% of any disequilibrium in Real GDP per capita from its long-run path is corrected within a year, implying a moderate speed of adjustment towards equilibrium. The short-run dynamics within the VECM further highlight immediate effects, such as the positive impact of lagged tourist arrivals on current GDP per capita and the persistent negative association of lagged tourism receipts, reinforcing the long-run observations.

CONCLUSION

This study, through a rigorous time series analysis has provided prevailing evidence on the long-run and short-run impacts of tourism on Uganda's economic welfare. It is confirmed that the existence of substantial long-run equilibrium relationships between Real GDP per capita, International Tourist Arrivals, International Tourism Receipts, and Foreign Direct Investment. Henceforth the international tourist arrivals are a significant long-run driver of Real GDP per capita in Uganda, validating the volume-driven aspect of the tourism-led growth hypothesis. Moreover, revenue the unexpected negative long-run relationship between International Tourism Receipts and Real GDP per capita points to substantial economic leakage and/or domestic linkages within Uganda's tourism sector is present. This is a critical area demanding urgent policy intervention.

RECOMMENDATIONS

The findings offer vital recommendations as guidance for maximizing the positive economic impact of tourism in Uganda as given below;

Prioritize Tourist Arrivals: Continue to implement and strengthen policies that enhance Uganda's attractiveness as a tourist destination, focusing on increasing visitor numbers through improved infrastructure, marketing, and security.

Combat Economic Leakage: The most pressing policy imperative is to address the significant leakage implied by the negative relationship between tourism receipts and GDP per capita. Therefore strategies should include: Actively encourage and incentivize local owned tourism businesses like hotels, lodges, tour operators to source goods and services like food, beverages, handicrafts, construction from local Ugandan producers and suppliers.

Facilitate investment and financial support for the growth of local entrepreneurship within the tourism sector through access to finance, training, and business development services, ensuring a greater share of profits remains within the country.

Investment in training and vocational programs to equip Ugandans with the skills required for all levels of the tourism industry, reducing reliance on foreign expertise and maximizing local employment.

Foreign direct investment can be made, but with a focus on investments that prioritize sustainable tourism development, local employment, technology transfer, and strong linkages with other domestic sectors.

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