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Tourism and Economic Growth in the Democratic Republic of the Congo: An Empirical Analysis from 1995 to 2023

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Abstract

This paper examines the relationship between tourism and economic growth in the Democratic Republic of Congo (DRC) over the period 1995–2023. It highlights a significant positive impact of tourism on national economic growth. Using an ARDL modelling approach, the results reveal a bidirectional causal relationship in the Toda-Yamamoto sense between GDP per capita and tourism revenues. The test also confirms causal links between institutional variables, tourism activity, and economic growth. Therefore, the development of sustainable tourism, supported by strong institutional governance and effective regulation, appears to be a strategic

lever for stimulating economic growth and economic diversification in the DRC.

Keywords: Tourism, Economic Growth, ARDL Model, Governance.

I. Introduction

The Democratic Republic of the Congo (DRC) possesses exceptional tourism potential, recognised since colonial times as a strategic lever for economic diversification. However, despite this natural and cultural wealth, the tourism sector has failed to establish itself as a genuine driver of national economic growth. Since the creation of specialised institutions

such as the National Tourist Office of the Belgian Congo, followed by the National Tourist Office in 1986, responsible for promotion, planning and hotel development, institutional ambitions have only been translated into concrete results to a limited extent. The post-independence history of the DRC remains marked by a persistent under-exploitation of this potential, exacerbated by a notable empirical gap: very few studies have rigorously measured the actual contribution of tourism to national economic growth (Bagula Karumba, 2011).

The central problem of this research is therefore as follows: despite the existence of a legal framework, specialised bodies and a political discourse favourable to tourism, the empirical understanding of its economic impact remains limited and uncertain. This lack of information hinders the development of effective public policies and strategic investments capable of transforming this potential into a genuine driver of development. Indeed, although the DRC possesses remarkable biodiversity, a vast equatorial forest and iconic sites such as the Congo River and national parks listed as UNESCO World Heritage Sites, tourism contributes only around 1% of gross domestic product (World Bank, 2023). This disparity between natural wealth and economic performance can be explained by several structural constraints: high domestic transport costs, a lack of infrastructure, political instability and security issues.

This paper is therefore not limited to simply noting the low level of tourism development. It seeks to understand, in an empirical and quantitative manner, why this sector is not reaching its full potential. Through an econometric analysis covering the period 1995–2023, we aim to identify the nature and direction of the relationship between tourism and economic growth in the DRC. The aim is to transform a long-held, speculative intuition into a scientifically grounded finding, capable of informing public decision-makers and guiding sustainable policies. Thus, this paper aims not only to enrich the Congolese economic literature, but also to propose a strategy for the endogenous development of tourism potential as a lever for inclusive growth.

II. Literature review

Tourism is now emerging as a strategic driver of economic growth in a global context characterised by the intensification of flows of people and services. The literature draws on a variety of theoretical and empirical frameworks to analyse this complex relationship. Solow’s (1956) neoclassical model highlights the role of tourism in the accumulation of physical and human capital, whilst limiting its long-term impact due to exogenous technical progress. In contrast, endogenous growth theories (Romer, 1986; Lucas, 1988), enriched by research on

research and development and innovation, show that tourism can stimulate technical progress, increase productivity and promote the dissemination of knowledge (Albaladejo and Martínez-García, 2015).

Furthermore, the destination life cycle model (Butler, 1980) emphasises that tourism’s contribution to economic growth depends on sustainable management and regulation, particularly in the face of the risks of saturation. Empirically, the hypotheses of tourism-led growth (, ‘TLGH’) and, conversely, growth-led tourism (Growth-Led Tourism Hypothesis, ‘GLTH’, i.e. the hypothesis of tourism driven by economic growth) highlight the potential existence of a virtuous circle between tourism development and economic performance (Balaguer and Cantavella-Jordá, 2002; Oh, 2005).

Finally, recent literature emphasises the decisive role of institutional quality and governance, which determine tourism’s ability to transform its potential into tangible and sustainable economic gains (Dritsakis, 2004). Taken together, these approaches thus provide a solid analytical framework for examining tourism as both a driver and a beneficiary of economic growth, in interaction with human capital, innovation and institutions.

III. Methodology

3.1. Selection, justification and expected signs of variables

The choice of variables is a key step, as it enables economic theory to be translated into observable empirical relationships. This selection is based both on theoretical foundations and on previous empirical work, notably the hypothesis of tourism-led economic growth developed by Balaguer and Cantavella-Jordá (2002).

Table 1: Expected signs of the variables

Variable code	Description	Expected sign
GDP _h	Gross Domestic Product per capita	Dependent variable
REC	Tourism revenue	+
NB	Number of tourist arrivals	+
GI	Governance Index	+/-
QR	Regulatory Quality	+/-

Source: Authors

3.2. Data

The data used in this study are drawn primarily from the World Bank's database (World Development Indicators, WDI) and the World Tourism Organisation (UNWTO). The time series will be transformed into logarithms in order to stabilise the variance, linearise the relationships, interpret the coefficients as elasticities and improve the statistical properties.

3.3. Unit root test

Before any estimation, it is essential to check the stationarity of the time series to avoid spurious regressions. The Augmented Dickey-Fuller (ADF) test allows us to identify the order of integration of the variables and thus determine the appropriate econometric approach for the analysis.

Table 2: Results of the unit root test for the variables

Variables	In Level		First Difference		Decision
	ADF Stat	Prob.	ADF Stat	Prob.	
LPIBh	-3.766	0.0183**			I(0)
LREC	-3.484	0.0411**			I(0)
LNB	-2.231	0.4722	-5.257	0.0001***	I(1)
LIG	-2.957	0.1446	-7.952	0.0000***	I(1)
LQR	-2.822	0.1891	-8.483	0.0000***	I(1)
*** significant at 1%; ** significant at 5%; * significant at 10%					

Source: Authors, using Stata 17 software

Table 2 presents the results of the unit root test for the variables, indicating that the variables GDP per capita (LPIBh) and tourism receipts (LREC) are stationary in level, and therefore integrated of order I(0), whilst the variables tourist arrivals (LNB), the governance index (LIG) and regulatory quality (LQR) are stationary at the first difference, and are therefore integrated of order I(1). This combination of I(0) and I(1) series justifies the use of the ARDL approach and the cointegration test based on Pesaran et al. (2001).

3.4. Specification of the ARDL model

This paper employs the Autoregressive Distributed Lag (ARDL) approach, combined with the bound cointegration test proposed by Pesaran, Shin and Smith (2001), as well as the non-sequential causality test of Toda–Yamamoto (1995). This approach is particularly suitable when the variables are integrated of different orders, I(0) and I(1), without being integrated of higher order.

The ARDL model in ECM form is written as:

$$\Delta LPIBH_t = \alpha_0 + \sum_{i=1}^p \alpha_{1i} \Delta LPIBH_{t-1} + \sum_{i=0}^{q_1} \alpha_{2i} \Delta LREC_{t-1} + \sum_{i=0}^{q_2} \alpha_{3i} \Delta LNB_{t-1} + \sum_{i=0}^{q_3} \alpha_{4i} \Delta LIG_{t-1} + \sum_{i=0}^{q_4} \alpha_{5i} \Delta LQR_{t-1} + \beta_1 LPIBH_{t-1} + \beta_2 LREC_{t-1} + \beta_3 LNB_{t-1} + \beta_4 LIG_{t-1} + \beta_5 LQR_{t-1} + \varepsilon_t \quad (1)$$

Where,

- LPIBh: dependent variable;
- LREC, LNB, LIG and LQR: independent variables;
- Δ = the differentiation operator;
- α_0 = the model constant;
- q_1, \dots, q_4 = the number of lags of the explanatory variables;
- $\alpha_1, \dots, \alpha_5$ = the coefficients of the short-run relationship;
- β_1, \dots, β_5 = the coefficients of the long-run relationship, and;
- ε_t = the random variable

The adjustment term allows us to assess the speed of return to long-run equilibrium.

3.5. Determining optimal lags

The selection of lags is based on the Akaike Information Criterion (AIC), the Bayesian Schwarz Information Criterion (SBIC) and the Hannan-Quinn Information Criterion (HQIC). The principle is that the lower the value of the criterion, the better the model (Gujarati and Porter, 2009).

Table 3: Determination of optimal lags

Variable lags	AIC	HQIC	SBIC
LPIBH (2)	-4.39151	-4.35094	-4.24524
LREC (1)	3.84081	3.86786	3.93832
LNB (1)	1.06882	1.09586	1.16553
LQI (2)	-3.02088	-2.97334	-2.86765
LQR (1)	-1.09867	-1.07262	-1.0005

Source: Authors, using Stata 17 software

Table 3 presents the results of the determination of optimal lags: an optimal lag of order 2 for GDP per capita, 1 for tourism receipts, 1 for tourist arrivals, 2 for the governance index and 1 for regulatory quality.

IV. Results

4.1. Bound cointegration test

The test by Pesaran et al. (2001) allows us to verify the existence of a long-run relationship between tourism and economic growth in the Democratic Republic of the Congo (DRC).

- If the value of the Fisher statistic is greater than the upper bound, there is cointegration between the variables under consideration;
- If the value of the Fisher statistic is below the lower bound, there is no cointegration;
- If the value of the Fisher statistic lies between the two limits, no conclusion can be drawn.

Table 4: Results of the bounds-based cointegration test

Test statistic	Value	K
F-statistic	6.021	4
T-statistic	-2.586	
Boundaries	Lower bound	Upper limit
Critical value at 5%	-4.68	5.06

Source: Authors, using Stata 17 software

Table 4 presents the results of the bounds test for cointegration. The calculated F-statistic (6.021) exceeds the upper critical bound at the 5% threshold, confirming the existence of a long-run equilibrium relationship between tourism, institutional quality and economic growth in the DRC.

4.2. Estimation of the short- and long-run ARDL model

4.2.1. Long-run relationship

Table 5: Estimation results for the long-run relationship

	Variab les	Coef f.	Standard Deviation	t- Stat.	Pro b	95%	Interv al
ADJ							
	LPIBh						
	LPIBh(- 1)	- 0.14 2	0.547	-2.59	0.08 *	-0.315	0.033
Long- term							
	LREC	0.02 2	0.118	1.83	0.17	-0.160	0.591
	LNB	- 0.48 2	0.478	-1.01	0.39	-2.003	1.038
	LIG	- 3.14 0	4.831	-0.65	0.56	- 18,51 3	12,233
	LQR	3.65 7	1,596	2.29	0.11	-1,422	8,736

	Constant	3.486	1.105	3.15	0.05*	-0.031	7.002
R ² = 0.9902; Observ. = 25; adjusted R ² = 0.9217; Root MS = 0.0110							
*** significant at 1%; ** significant at 5%; * significant at 10%							

Source: Authors, using Stata 17 software

Table 5 presents the estimates of an error correction model linking GDP per capita (LPIBh) to tourism receipts (LREC), the number of tourist arrivals (LNB), the governance index (LIG) and regulatory quality (LQR) across a sample of 25, observations. The overall quality of the fit is high, with a coefficient of determination of R² = 0.9902 and an adjusted R² of 0.92170, indicating that over 92% of the variation in GDP per capita is explained by the model. The low value of the Root MS (0.0110) also confirms the high precision of the estimates.

The coefficient of the error correction term, captured by LPIBh(-1), is negative (-0.142) and significant at the 10% level. This result confirms the existence of a mechanism of return to long-term equilibrium between GDP per capita and its determinants. In concrete terms, nearly 14.2% of the imbalance observed over one period is corrected in the following period, reflecting an effective but relatively slow rate of adjustment following a shock. In the long run, the results show that tourism receipts have a positive effect on GDP per capita (0.0220), although this impact is not statistically robust. A 1% increase in tourism revenue thus increases GDP per capita by 0.022%, suggesting that tourism contributes to economic growth, albeit to a limited extent, probably due to the sector's low integration into the national economy.

Conversely, the number of tourist arrivals has a negative (-0.482) and non-significant coefficient, indicating that an influx of visitors does not automatically translate into an improvement in living standards when local absorption and value-added capacities are insufficient. The governance index also has a negative (-3.140) and non-significant effect on GDP per capita, suggesting that institutional reforms are not yet producing tangible economic benefits.

By contrast, regulatory quality appears to be a key determinant of economic growth: its coefficient is positive (3.6573) and relatively close to standard significance thresholds, indicating that a 1% improvement in regulatory quality results in an increase of approximately 3.657% in GDP per capita. This result highlights the key role of an effective regulatory framework in transforming tourism and institutional activity into tangible and sustainable economic gains. Finally, the positive and significant constant (3.4863) captures the effect

of unobserved structural factors such as infrastructure, human capital or the macroeconomic environment.

Ultimately, these results confirm the existence of a long-term relationship between GDP per capita, tourism and the quality of institutions, whilst showing that economic growth depends not only on tourist numbers, but above all on the regulatory and institutional capacity to capitalise on tourism activity. Tourism thus becomes a true driver of development—ly—only when it operates within a framework of governance and regulation capable of maximising its economic benefits.

4.2.2. Short-term relationship

Table 6: Results of the short-term dynamics estimation

Variables	Coefficients	Standard deviation	t-stat.	Probability	95 %	Interval
LPIBh						
LPIBh(-1)	-0.050	0.429	-0.120	0.914	-1.42	1.32
LPIBh(-2)	0.299	0.395	0.750	0.504	-0.96	1.56
LPIBh(-3)	0.906	0.260	3.430	0.040**	0.08	1.73
LREC						
LREC(-1)	-0.405	0.015	-2.71	0.073*	-0.09	0.01
LREC(-2)	-0.310	0.140	-2.22	0.113	-0.08	0.01
LREC(-3)	-0.116	0.006	-1.9	0.154	-0.03	0.01
LNB						
LNB(-1)	0.150	0.034	0.44	0.691	0.93	0.12
LNB(-2)	0.008	0.037	0.21	0.849	-0.11	0.13
LNB(-3)	-0.460	0.028	-1.62	0.205	-0.14	0.70
LIG						
LIG(-1)	0.191	0.403	0.47	0.668	-1.09	1.47
LIG(-2)	-0.655	0.233	-2.81	0.067*	-1.40	0.09
LIG(-3)	-0.899	0.213	-4.22	0.024**	-1.58	-0.22
LIG(-4)	-0.800	0.230	-3.49	0.040**	-1.53	-0.07

LQR						
LQR(-1)	-0.375	0.094	-3.97	0.029**	-0.67	-0.07
LQR(-2)	-0.270	0.107	-2.53	0.085*	-0.61	0.69
LQR(-3)	-0.139	0.069	-2.03	0.136	-0.36	0.79
Constant	3.486	1.105	3.15	0.051*	-0.03	7.00
*** significant at 1%; ** significant at 5%; * significant at 10%						

Source: Authors, using Stata 17 software

Table 6 presents the dynamic estimates of GDP per capita (LPIBh) as a function of its own lags as well as those of tourism receipts (LREC), the number of tourist arrivals (LNB), the governance index (LIG) and regulatory quality (LQR). This specification allows for the analysis of short-term effects and the time-series transmission of shocks within the system.

The lags in GDP per capita reveal a marked inertia. Whilst the first two lags are not significant, the third lag LPIBh(-3) has a positive and significant effect at the 5% level, with a coefficient of 0.906. This means that a past improvement in the standard of living () continues to positively influence current economic growth after three periods, reflecting the temporal persistence of the growth process. Tourism receipts mainly show negative effects in the short term. The first lag LREC(-1) is negative and significant at the 10% level, indicating that a recent rise in tourism receipts tends to temporarily reduce GDP per capita.

This result may reflect adjustment costs, income leakage effects or a tourism structure that is poorly integrated into the local economy. Subsequent lags retain a negative sign but are not statistically robust, suggesting that the adverse impact is mainly short-term. With regard to tourist arrivals, the coefficients are generally insignificant, regardless of the lag period. This indicates that, in the short term, an increase in the number of tourists does not have a direct and systematic effect on GDP per capita. This result confirms that visitor numbers, taken in isolation, are not sufficient to stimulate growth without effective mechanisms for economic value creation. The effects of governance appear more pronounced and negative in the short term. The second, third and fourth lags of the governance index are significant at the 10% and 5% thresholds respectively, with coefficients of (0.655; -0.899 and -0.800).

These results indicate that institutional changes initially have restrictive effects on GDP per capita, likely due to transition costs, administrative rigidities or delays in adoption by economic actors. Regulatory quality also exerts a significant negative effect in the short term. The first LQR lag (-1) is negative and significant at the 5% level, whilst the second lag is significant at the 10% level. This suggests that regulatory reforms may initially dampen economic activity before producing positive long-term effects, due to the adjustments required by firms and investors. Finally, the constant term is positive and significant at the 10% level, capturing the influence of unobserved structural factors such as infrastructure, human capital and the general macroeconomic environment.

Generally speaking, these results highlight short-term dynamics characterised by strong inertia in GDP per capita and by the sometimes-constraining effects of tourism and institutional quality in the short term. They suggest that shocks related to tourism, governance and regulation do not have immediate positive effects on living standards, but require a period of adjustment before translating into tangible and sustainable economic gains, which reinforces the importance of an economic policy vision oriented towards the medium and long term.

4.3. The Toda–Yamamoto Causality Test

The Toda–Yamamoto method (1995) allows causality to be tested independently of the order of integration and the cointegration of the series.

Table 7: Results of Toda–Yamamoto causality between the variables

Variables	LPIBh	LREC	LNB	LIG	LQR
LPIBh		5.15 (0.076)*	8.0919 (0.017)**	1.1417 (0.486)	7.1434 (0.028)**
LREC	6.8323 (0.027)**		1.7324 (0.979)	3.1027 (0.1118)	0.02855 (0.348)
LNB	7.2389 (0.027)**	0.04168 (0.0909)*		4.2663 (0.118)	20.601 (0.008)**
LIG	2.0502 (0.359)	15.095 (0.001)***	2.4373 (0.296)		0.79837 (0.671)
LQR	8.0743	1.1784	1.8304	8.2828	

	(0.018)**	(0.555)	(0.4000)	(0.016)**	
*** significant at 1%; ** significant at 5%; * significant at 10%					

Source: Authors, using Stata 17 software

Table 7 presents the results of Toda-Yamamoto causality tests between GDP per capita (LPIBh), tourism receipts (LREC), the number of tourist arrivals (LNB), the governance index (LIG) and regulatory quality (LQR). The statistics reported correspond to Wald tests, with the associated probabilities in brackets, enabling the direction and significance of the causal relationships between the variables to be identified.

The results first show a significant causal relationship from tourism revenue to GDP per capita. The statistic associated with **LREC→LPIBh** is significant at the 5% level, meaning that tourism revenue helps to explain variations in living standards. This result empirically supports the Tourism-Led Growth Hypothesis (TLGH), according to which tourism acts as a driver of economic growth. The number of tourist arrivals also exerts a significant causal effect on GDP per capita (**LNB→LPIBh**, significant at 5%), indicating that the dynamics of tourist flows influence per capita income. However, the reverse causality is also present (**LPIBh→LNB**, significant at 5%), highlighting a bidirectional relationship: an improvement in living standards attracts more tourists, whilst tourism activity in turn contributes to economic performance.

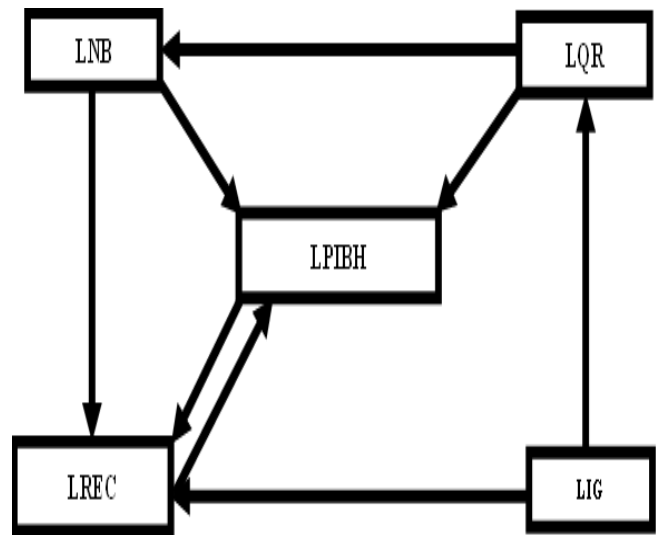
With regard to governance, the results reveal a strong causal relationship running from tourism revenue to the governance index (**LREC→LIG**, significant at the 1% level). This suggests that the expansion of the tourism sector can lead to institutional adjustments and reforms aimed at improving public management. Conversely, the direct causality from governance to GDP per capita does not appear statistically significant, indicating that institutional improvements do not immediately translate into measurable economic gains. Regulatory quality has a close relationship with GDP per capita. The causality **LQR→LPIBh** is significant at the 5% level, showing that the regulatory framework is a major determinant of living standards. Furthermore, the reverse causality **LPIBh→LQR** is also significant, suggesting a dynamic interaction: a more efficient economy promotes improvements in the regulatory framework, which in turn supports economic growth.

Furthermore, the results indicate a very strong causal relationship between the number of tourist arrivals and regulatory quality (**LNB→LQR**, significant at 1%). This link reflects the fact that tourism pressure encourages the

authorities to strengthen standards, infrastructure and regulatory mechanisms in order to manage the activity.

Overall, the analysis highlights a system of dynamic interactions between tourism, institutional quality and economic growth. Per capita GDP is not only influenced by tourism revenue and flows, but also has feedback relationships with regulatory quality. These results confirm that tourism is not merely an isolated sector, but a key driver of economic and institutional transformation. Economic growth derived from tourism thus depends less on visitor numbers than on the capacity of the regulatory and institutional framework to convert tourism activity into sustainable economic development.

Figure 1: Diagram of the causal relationships between variables



Source: Authors, using data from Table 7.

The results in this figure confirm the existence of dynamic interactions between tourism, governance and economic performance.

4.4. Robustness tests

To validate our estimated model, we present some key tests, such as those mentioned in the table below.

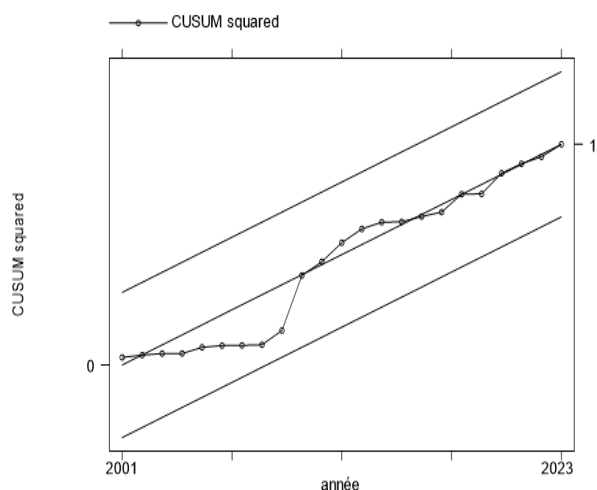
Table 8: Results of the model’s robustness tests

Test statistic value	Test description	Associated probability
4.11	Normality of errors	0.1283
2.074	Autocorrelation of errors	-
1.830	Heteroscedasticity	0.1764

Source: Authors, using Stata 17 software

The results in Table 8 confirm the statistical validity of the estimated model. The normality test for the residuals yields a probability of 0.1283, which is higher than the 5% threshold, indicating that the errors follow a normal distribution. Furthermore, the Durbin-Watson statistic ($d = 2.074$) is very close to 2, indicating the absence of autocorrelation in the residuals. Finally, the heteroscedasticity test yields a probability of 0.1764, also above 5%, suggesting that the errors have constant variance. Taken together, these diagnostics attest to the robustness and econometric reliability of the model.

Figure 2: Test of model parameter stability (CUSUM-squared test)



Source: Authors, using Stata 17 software

The CUSUM plot of the squares shows that the cumulative trajectory of the residuals remains entirely within the critical bands at the 5% threshold throughout the period 2001–2023. This pattern indicates the absence of any significant structural break in the estimated model. In other words, the model’s coefficients are broadly stable over time. Although a slight

inflection appears around the mid-period, this remains within the confidence limits, which does not call into question the overall stability of the parameters. Thus, the model exhibits good dynamic robustness and its estimates can be considered reliable for economic analysis.

V. Discussion of results

The empirical results obtained in this paper confirm the existence of a dynamic relationship between tourism and economic growth in the Democratic Republic of the Congo (DRC). The bidirectional causality between GDP per capita and tourism receipts simultaneously validates both the hypothesis of tourism-led economic growth (TLGH) and that of growth-led tourism (GLTH). However, the negative long-term effect of the number of tourist arrivals suggests that an increase in tourist flows does not automatically translate into the creation of national value. This can be explained by weak local integration, the importation of services, revenue leakage, and the predominance of poorly structured tourism.

Furthermore, the positive impact of regulatory quality confirms the central role of institutions in transforming tourism potential into economic growth. Without an effective institutional framework, the benefits of tourism remain limited. These findings are consistent with those of Balaguer and Cantavella-Jordá (2002), Dritsakis (2004) and Seetanah (2011), who show that tourism contributes to economic growth when supported by effective governance.

VI. Economic policy implications

The findings of this research suggest several strategic directions for public policymakers in the Democratic Republic of the Congo (DRC).

- **Firstly**, there is a need to shift from a focus on increasing tourist arrivals to one of maximising local value added. This involves developing national tourism value chains (accommodation, transport, crafts, catering, cultural services) in order to reduce revenue leakage abroad.
- **Secondly**, improving the quality of regulation must be a priority. A stable, transparent and predictable institutional framework encourages private investment, the formalisation of tourism activities and the sector’s competitiveness. Simplifying administration, providing legal certainty for investments and combating corruption are essential levers.

- **Thirdly**, the government must strengthen tourism and related infrastructure (transport, energy, telecommunications, security). Without functional infrastructure, tourist flows cannot be transformed into sustainable economic performance.
- **Fourthly**, it is important to promote inclusive tourism geared towards local employment and human capital development. Developing professional skills in hospitality, management, conservation and regional marketing helps to increase tourism's impact on household incomes.

Finally, the tourism strategy must be integrated into a broader vision of economic diversification, so that tourism acts as a complement to other productive sectors rather than as an isolated sector.

VII. Limitations and avenues for future research

Like any empirical study, this research has certain limitations. Firstly, the analysis is based on aggregated national data which do not capture regional disparities in tourism within the Democratic Republic of the Congo (DRC). Secondly, certain important factors such as security, environmental quality or tourism innovation have not been explicitly incorporated into the model.

Future research could explore regional or provincial models, incorporate environmental sustainability indicators, or employ non-linear approaches (NARDL, threshold models, ARDL panel) to analyse the asymmetries and heterogeneities in the tourism-economic growth relationship. An extension to the analysis of sustainable tourism would also enrich the policy and scientific scope of the findings.

Conclusion

The aim of this paper was to analyse the dynamic relationship between tourism and economic growth in the Democratic Republic of the Congo (DRC) using an ARDL econometric framework combined with the cointegration tests of Pesaran et al. (2001) and the causality tests of Toda-Yamamoto (1995). By utilising tourism revenue, tourist arrivals and institutional indicators, the analysis provides a better understanding of the transmission mechanisms between tourism activity and national economic performance.

The empirical results confirm the existence of a long-run relationship between tourism, institutions and GDP per capita. The significant negative error correction term indicates a process of adjustment towards equilibrium, reflecting the Congolese economic system's capacity to gradually absorb

shocks. The bidirectional causality between tourism receipts and growth simultaneously validates the hypotheses of Tourism-Led Growth (TLGH) and Growth-Led Tourism (GLTH).

However, the negative long-term impact of the number of tourist arrivals shows that a quantitative increase in tourist flows does not automatically guarantee the creation of national value. This result highlights the presence of revenue leakage, weak local integration of tourism value chains and insufficient structuring of the tourism supply. Conversely, regulatory quality appears to be a determining factor in transforming tourism potential into actual growth.

Thus, tourism's contribution to economic growth in the Democratic Republic of the Congo (DRC) depends less on visitor numbers than on the institutional capacity to organise, regulate and integrate the sector into the national economy. Tourism is therefore not an automatic driver of development, but a conditional lever, heavily dependent on economic governance.

Bibliographical References

- [1] Albaladejo, I. and Martínez-García, M.-P., (2015), Economic growth and natural resources, AERNA Newsletter, 3(July 2015).
- [2] Bagula Karumba, (2011), On the opportunity for tourism development in North Kivu: the case of the city of Goma, undergraduate thesis, Institut supérieur de tourisme ISTou, Goma, DRC.
- [3] Balaguer, J., and Cantavella-Jordá, M. (2002), Tourism as a long-run economic growth factor: The Spanish case. London: Siege Editorial.
- [4] World Bank. (2023), Annual Report on Global Development Indicators. Washington, DC.
- [5] Butler, R. W., (1980), The concept of a Tourism Area Cycle of Evolution: Implications for management of resources, *The Canadian Geographer / Le Géographe canadien*, 24(1): 5-12.
- [6] Dritsakis, N. (2004), Tourism development and economic growth in seven Mediterranean countries: A panel data approach. *Tourism Economics*.
- [7] Dritsakis, N. (2012). Tourism and economic growth in the world: A panel data approach. *Scientific Review*.

- [8] Gujarati, D. N. and Porter, D. C., Basic Econometrics, 5th ed., McGraw-Hill/Irwin, 2009.
- [9] Lucas, R. E. Jr., On the Mechanics of Economic Development, *Journal of Monetary Economics*, 22(3), 3–42, 1988.
- [10] Narayan, P. K. (2004). Tourism and economic growth in Australia: Some new evidence. *Economic Modelling*, 21(6), 1003–1010.
- [11] Oh, C. O. (2005). The contribution of tourism development to economic growth in the Korean economy. *Tourism Management*, 26(1), 39–44.
- [12] World Tourism Organisation (UNWTO). (2008). *Tourism Statistics Report*. Madrid.
- [13] World Tourism Organisation (UNWTO). (2023). *Handbook on Sustainable Tourism Governance*. Madrid.
- [14] Pesaran, M. H., Shin, Y., and Smith, R. J., Bounds testing approaches to the analysis of level relationships, *Journal of Applied Econometrics*, 16(3), 289–326, 2001.
- [15] Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy*, 94(5), 1002–1037.
- [16] Seetanah, B. (2011). Assessing the dynamic economic impact of tourism: A panel data analysis. *Annals of Tourism Research*, 38(1), 291–308.
- [17] Sequeira, T. N., and Campos, C. (2007). The tourism-led growth hypothesis: The case of Portugal and Spain revisited. *Tourism Economics*, 13(2), 205–220.