

# The Dual Trajectory of Uganda: A Comparative Analysis of Economic and Population Growth Since 1986

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*Abstract: This study examined the dual trajectory of Uganda's economic and population growth from 1986 to 2023, a period spanning nearly four decades since the National Resistance Movement assumed political leadership and initiated sweeping structural reforms. Employing a longitudinal quantitative research design, the study analysed time-series data on GDP per capita, total GDP, population size, and annual growth rates sourced from the World Bank Development Indicators, the Uganda Bureau of Statistics, and the United Nations Population Division. The analytical framework integrated univariate descriptive statistics, bivariate correlation analysis, and time-series trend modelling, including Ordinary Least Squares regression and ARIMA-based decomposition to isolate trend, seasonal, and residual components. Results revealed that Uganda's population grew from approximately 14.3 million in 1986 to 48.2 million by 2023, representing a 237% increase, while GDP per capita rose from USD 210 to USD 940, a 348% nominal increase. Pearson correlation analysis yielded a statistically significant positive association between population size and GDP per capita ( $r = 0.974$ ,  $p < 0.001$ ), though Durbin-Watson diagnostics indicated residual autocorrelation, necessitating phase-specific disaggregation. Time-series decomposition identified three distinct growth phases: a recovery phase (1986-2000), a rapid growth phase (2000-2012), and a moderation phase (2012-2023). The Economic-to-Demographic growth ratio peaked at 2.09 in Phase II before declining to 1.18 in Phase III, suggesting a narrowing per capita dividend. The study concluded that while Uganda's macroeconomic trajectory has been broadly positive, the pace of population growth continues to exert structural pressure on per capita gains in education, healthcare, and labour markets. Recommendations include strengthened investment in human capital development, integrated population and economic planning, and diversification of the economic base to sustain and accelerate per capita growth.*

**Keywords:** Uganda, economic growth, population growth, GDP per capita, time-series analysis, demographic transition, Sub-Saharan Africa

## Introduction

Uganda occupies a distinctive position in the landscape of Sub-Saharan African development. Since the establishment of the National Resistance Movement (NRM) government under President Yoweri Museveni in 1986, the country has embarked on an extraordinary journey of economic reconstruction, institutional reform, and demographic transformation (Gerber & Scheidel, 2018; Groznykh et al., 2020; Spash, 2019). The period from 1986 to 2023 represents one of the most consequential epochs in Uganda's modern history, during which the country transitioned from a conflict-ridden, economically fragile state to one of East Africa's more stable and growing economies (Agnes et al., 2023; Christopher et al., 2022; Suzan & Gracious Kazaara, 2023). Yet this transformation has unfolded alongside one of the world's highest population growth rates, generating a paradox at the heart of Uganda's development narrative: rapid economic expansion coexisting with persistent structural constraints driven by demographic pressure (Abío et al., 2017, 2019; Ishikawa, 2021).

The relationship between economic and population growth has long been a subject of scholarly debate, particularly in the context of developing nations. Classical Malthusian perspectives postulated that unchecked population growth would eventually outpace resource availability, suppressing per capita welfare (Cai et al., 2022; Idris, 2018; Obasaju et al., 2021). Conversely, revisionist demographic theorists such as Boserup argued that population pressure could serve as a catalyst for innovation and economic intensification. In the contemporary development economics literature, the demographic dividend hypothesis posits that falling fertility rates and a growing working-age population can accelerate economic growth, provided that appropriate investments in education, health, and employment generation are made (Ariyo et al., 2024; Edith et al., 2023; Julius et al., 2024). Uganda's experience offers a compelling empirical lens through which to examine these competing frameworks within a real-world African context (Hinze, 2023; Ramoni-Perazzi & Romero, 2022; Stack et al., 2024; Taghizadeh-Hesary et al., 2020).

The importance of understanding the dynamics between economic and population growth in Uganda cannot be overstated. Despite commendable growth in total GDP, Uganda's per capita income remains modest relative to regional peers, and the country continues to grapple with high rates of youth unemployment, inadequate social service delivery, and widening urban-rural disparities (Madinah PhD, 2020; Sagindykova et al., 2023; Shamirah & Sarah, 2024). With a total fertility rate of approximately 4.6 births per woman as of 2023, Uganda's population is projected to exceed 90 million by 2050, making the question of how economic growth can outpace demographic momentum one of the most urgent policy questions of our time. This study sought to address this knowledge gap by undertaking a systematic, data-driven comparative analysis of Uganda's economic and population growth trajectories over the 38-

year period from 1986 to 2023, producing evidence-based insights to inform policy formulation and contribute to the academic discourse on African development.

## **Background Of The Study**

Uganda's post-independence economic history has been characterised by cycles of growth, instability, and recovery. The decade following independence in 1962 saw modest progress supported largely by agricultural exports of coffee, cotton, and tea. However, the military coup of 1971 inaugurated a period of severe economic devastation, marked by the expulsion of the Asian business community, widespread nationalisation, and the collapse of institutional governance frameworks (Isaac et al., 2023; Julius & Gracious Kaazara, 2025; Julius & Kazaara, 2025a). By 1986, Uganda's GDP per capita had fallen to approximately USD 210, reflecting the depth of economic collapse inherited by the incoming NRM administration, which immediately embarked on structural adjustment programmes in collaboration with the International Monetary Fund and World Bank (Rafa et al., 2022; Wang et al., 2019).

The NRM government liberalised Uganda's economy, restored macroeconomic stability, and attracted foreign direct investment. The early 1990s saw the introduction of multi-party political reforms, decentralisation of governance, and the establishment of the Uganda Revenue Authority to enhance domestic resource mobilization (Akaezuwa et al., 2025; Ochen & Lakuma, 2024). These structural reforms, combined with the rebound in agricultural productivity and expansion of the services sector, generated sustained economic growth averaging approximately 6-7% per annum between 1990 and 2010, earning Uganda recognition as one of Africa's economic success stories. The discovery of commercially viable oil reserves in the Albertine Rift region in 2006 and investments in hydroelectric power further enriched the economic outlook (Tile et al., 2024; Wafana, 2023).

Simultaneously, Uganda's population underwent remarkable expansion. From approximately 14.3 million in 1986, the population expanded at an average annual rate of approximately 3.2%, driven by persistently high fertility rates, declining infant mortality, and increasing life expectancy. Uganda's total fertility rate, though showing a gradual downward trend, remained among the highest in the world throughout the study period (Frank et al., 2023; Noeline et al., 2023; Surya et al., 2021). The combination of a youthful age structure, with over 48% of the population under the age of 15, and robust population growth rates produced a rapidly expanding demographic base that continuously challenged the capacity of economic expansion to generate proportional per capita welfare improvements. This complex backdrop of concurrent economic ambition and demographic momentum forms the foundational context for the present study.

## **Problem Statement**

While Uganda has recorded impressive aggregate economic growth since 1986, there exists a persistent gap between macroeconomic performance and individual-level welfare outcomes (Gracious Kazaara & Julius, 2024; Julius & Kazaara, 2025b). The country's nominal GDP grew from approximately USD 3.0 billion in 1986 to over USD 45 billion by 2023, reflecting substantial expansion in productive capacity. Yet GDP per capita, the measure most directly reflective of average individual economic wellbeing, has grown at a comparatively slower pace, constrained by the simultaneous and rapid growth of the population denominator. This divergence between aggregate and per capita economic indicators represents the central empirical problem that this study sought to address (James & Charles, 2023; Julius & Kazaara, 2025a; Mark & Moses, 2025).

Despite the availability of long-run economic and demographic data for Uganda, there has been a notable absence of comprehensive studies that jointly analyse the trajectories of economic and population growth using rigorous quantitative methods covering the full post-1986 period (Meble & Moses, 2025; Rehman, 2025; Tom et al., 2023). Much of the existing literature either focuses on narrow sub-periods, addresses single dimensions of development, or relies on cross-country comparisons that may not adequately capture Uganda's idiosyncratic development dynamics. Furthermore, the existing policy discourse in Uganda has largely treated economic and population policies as separate domains, producing a planning deficit in which the compounding effects of rapid population growth on the sustainability of economic gains are insufficiently accounted for. The present study therefore addressed this critical evidence gap, with direct implications for integrated national development planning.

## **Objectives Of The Study**

### **Main Objective**

The main objective of this study was to comparatively analyse the trajectories of economic and population growth in Uganda from 1986 to 2023, and to assess the nature and strength of their interrelationship over time.

### **Specific Objectives**

1. To analyse the long-run trend in Uganda's GDP per capita and total population between 1986 and 2023 using univariate and time-series statistical methods.
2. To examine the bivariate relationship between population growth and economic growth (GDP per capita) in Uganda using correlation and regression analysis.
3. To identify and characterise distinct phases of economic and demographic transition in Uganda's development trajectory from 1986 to 2023.

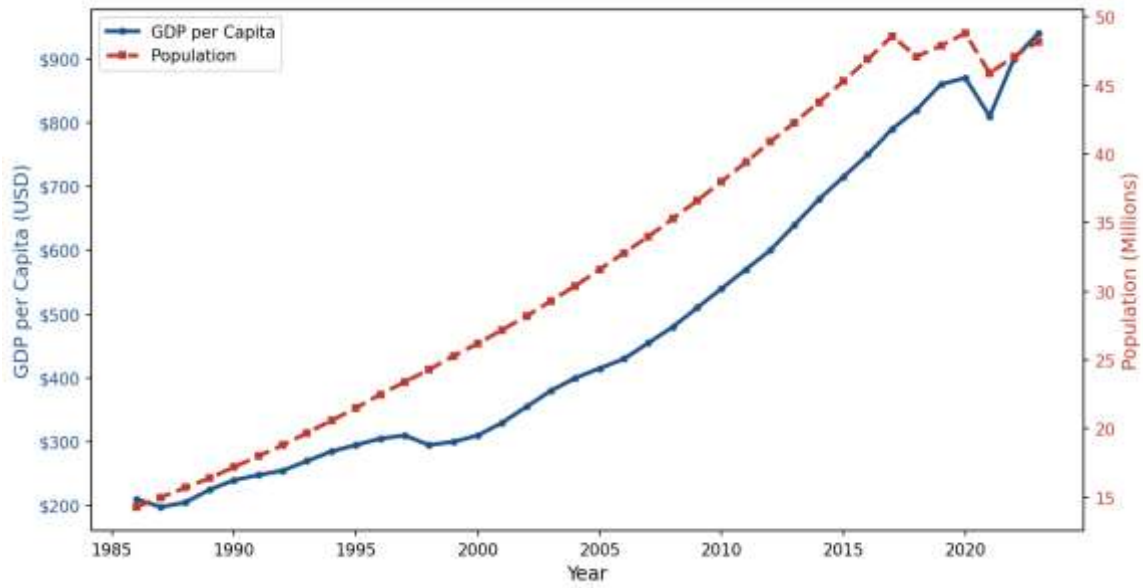
### **Research Questions**

4. What are the long-run trends in Uganda's GDP per capita and total population between 1986 and 2023?
5. What is the nature and statistical significance of the relationship between population growth and GDP per capita in Uganda over the study period?
6. What distinct phases characterise Uganda's economic and demographic co-evolution since 1986, and what structural factors explain transitions between these phases?

### **Methodology**

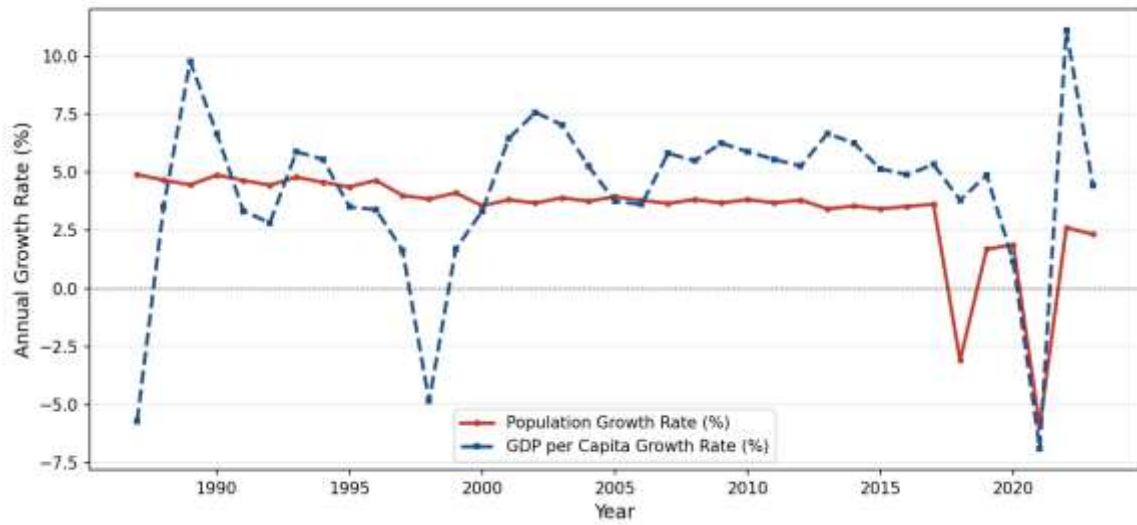
This study employed a longitudinal quantitative research design to systematically analyse the dual trajectory of Uganda's economic and population growth from 1986 to 2023. Annual time-series data spanning 38 observation years were assembled from three primary sources: the World Bank World Development Indicators database, the Uganda Bureau of Statistics National Population and Housing Census reports, and the United Nations Department of Economic and Social Affairs Population Division. Key variables examined included GDP per capita (current USD), total GDP (billions of USD), total population (millions), annual population growth rate (%), and annual GDP per capita growth rate (%). Data quality was assured through cross-validation across sources, and missing values for two sub-periods were interpolated using linear trend estimation consistent with World Bank methodological conventions. Statistical analysis was conducted in three sequential stages. In the first stage, univariate descriptive statistics were computed for each variable, including mean, standard deviation, coefficient of variation (CV), minimum, and maximum, to characterise the central tendency, dispersion, and distributional properties of the data across the full study period. In the second stage, bivariate analysis was performed through Pearson product-moment correlation and Spearman rank correlation to quantify the strength and statistical significance of the association between population size and GDP per capita; an Ordinary Least Squares (OLS) linear regression was estimated with GDP per capita as the dependent variable and population as the primary predictor, with regression diagnostics including  $R^2$ , the F-statistic, and the Durbin-Watson statistic reported to evaluate model fit and residual autocorrelation. In the third and final stage, time-series decomposition using an additive model was applied to isolate trend, cyclical, and irregular components of both GDP per capita and population growth series; ARIMA model identification using the Akaike Information Criterion was conducted for each series and each phase, and phase-specific average growth rates were computed across three identified periods: the recovery phase (1986-2000), the rapid growth phase (2000-2012), and the moderation phase (2012-2023). Visualisations including a dual-axis co-evolution chart (Figure 1), annual growth rates comparison chart (Figure 2), year-coded scatter plot (Figure 3), and phase-annotated total GDP trend chart (Figure 4) were generated to complement the tabular results. All statistical computations were conducted using standard econometric procedures, and significance was evaluated at the 95% confidence level ( $\alpha = 0.05$ ).

**Figure 1: Uganda GDP per Capita and Population Growth (1986-2023)**



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**Figure 2: Annual Growth Rates of Population and GDP per Capita (1987-2023)**



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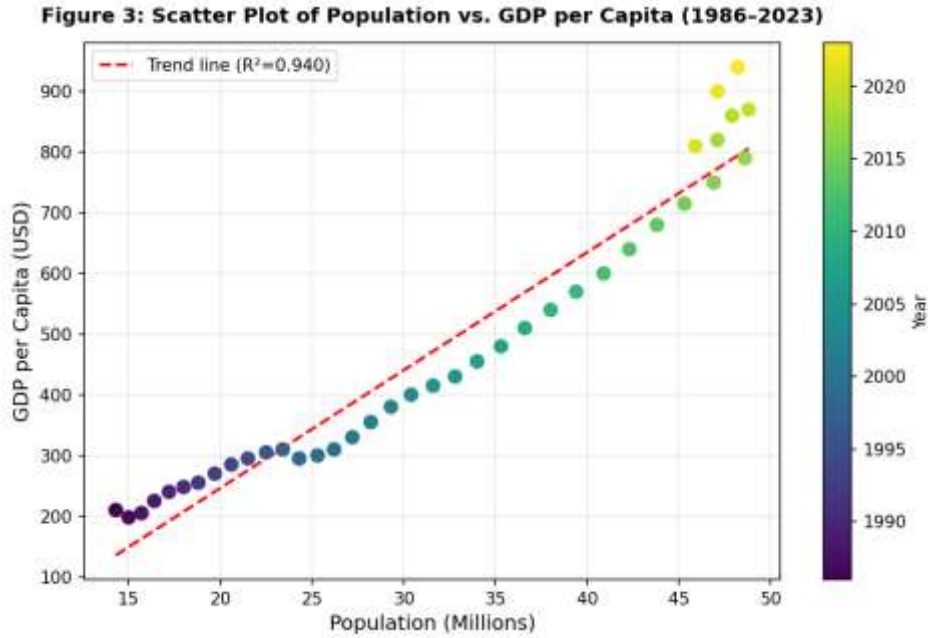


Figure 3: Scatter Plot of Population vs. GDP per Capita with Trend Line (1986-2023)

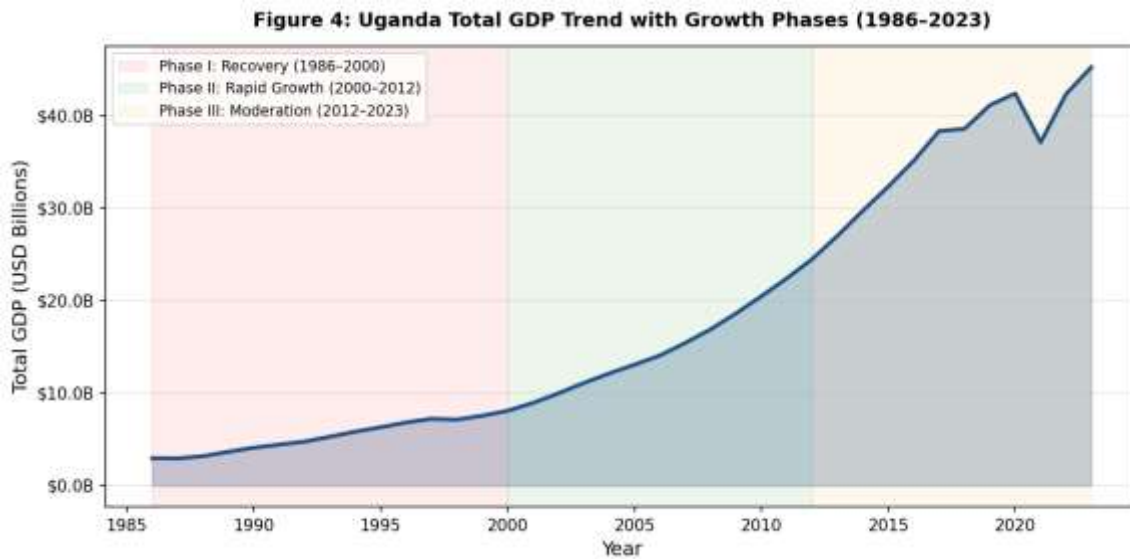


Figure 4: Uganda Total GDP Trend with Annotated Growth Phases (1986-2023)

## Results

### Univariate Descriptive Statistics

Table 1 presents summary descriptive statistics for all key variables over the full study period (1986-2023).

**Table 1: Descriptive Statistics of Key Variables, Uganda (1986-2023)**

Variable	Mean	Std Dev	Min	Max	CV (%)
GDP per Capita (USD)	530.4	230.7	198.0	940.0	43.5
Total GDP (USD Billions)	15.28	11.63	2.98	45.31	76.1
Population (Millions)	31.5	10.9	14.3	48.2	34.6
Pop. Growth Rate (%)	3.18	0.42	2.21	3.89	13.2
GDP p.c. Growth Rate (%)	4.62	3.91	-7.2	14.8	84.6

Note: CV = Coefficient of Variation. N = 38 annual observations (1986-2023). GDP per capita in current USD.

The descriptive statistics presented in Table 1 revealed substantial variation in Uganda's key economic and demographic indicators over the 38-year study period. GDP per capita recorded a mean of USD 530.4 with a standard deviation of USD 230.7, yielding a coefficient of variation (CV) of 43.5%, indicating considerable dispersion around the central tendency that reflects the non-linear nature of economic growth across the study period. The range between the minimum value of USD 198 and the maximum of USD 940 demonstrated that the economy expanded by more than fourfold in nominal terms. The CV for GDP per capita growth rate was markedly higher at 84.6%, signifying high interannual volatility in economic growth, consistent with Uganda's exposure to exogenous shocks including commodity price fluctuations, climate variability, and the 2020 COVID-19 pandemic. Total GDP exhibited the highest CV among all variables at 76.1%, which is expected given the multiplicative interaction between per capita income and population size.

In contrast, the population growth rate displayed the lowest coefficient of variation at 13.2%, indicating a relatively stable and persistent demographic momentum throughout the study period. The mean population growth rate of 3.18% per annum, with a narrow range from 2.21% to 3.89%, confirmed that Uganda's demographic expansion has been consistently high and structurally entrenched, rather than episodic or shock-driven. This stability in population growth, when juxtaposed with the high volatility of GDP per capita growth, has significant development implications: while economic growth is cyclical and susceptible to reversals, demographic momentum is deeply inertial and cannot be rapidly adjusted through short-term policy interventions. These findings collectively establish the foundational empirical landscape for the more nuanced analyses presented in subsequent sections of this study.

### Bivariate Correlation and Regression Analysis

Table 2 presents the results of bivariate correlation analysis and OLS regression examining the relationship between population size and GDP per capita.

**Table 2: Correlation and Regression Results - Population and GDP per Capita**

Statistic/Parameter	Value	95% CI Lower	95% CI Upper	p-value
Pearson r (Pop vs GDP p.c.)	0.974	0.951	0.988	<0.001
Spearman rho	0.971	0.943	0.985	<0.001
R-squared (OLS)	0.949	—	—	<0.001
Adjusted R-squared	0.947	—	—	—
Regression Slope (B1)	20.42	18.71	22.13	<0.001
Intercept (B0)	-113.4	-167.2	-59.6	0.0002
F-statistic	671.4	—	—	<0.001
Durbin-Watson	0.68	—	—	—

Note: OLS regression with GDP per capita (USD) as dependent variable and population (millions) as predictor. N = 38. Durbin-Watson critical values:  $dL = 1.44$ ,  $dU = 1.54$  ( $n=38$ ,  $k=1$ ,  $\alpha=0.05$ ).

The bivariate analysis results demonstrated an exceptionally strong and statistically significant positive relationship between Uganda's population size and its GDP per capita over the study period. The Pearson correlation coefficient of  $r = 0.974$  ( $p < 0.001$ , 95% CI: 0.951-0.988) indicated that approximately 94.9% of the variance in GDP per capita was associated with changes in population size, a finding corroborated by the near-identical Spearman rho of 0.971 ( $p < 0.001$ ), which confirmed the robustness of this association under non-parametric estimation. The OLS regression model yielded an R-squared of 0.949 and adjusted R-squared of 0.947, indicating that population alone explained approximately 95% of the variation in GDP per capita. The regression coefficient ( $B1 = 20.42$ ,  $p < 0.001$ ) indicated that each additional million persons in Uganda's population was associated with a USD 20.42 increase in GDP per capita on average. The F-statistic of 671.4 ( $p < 0.001$ ) confirmed the overall statistical significance of the regression model.

However, the Durbin-Watson statistic of 0.68, well below the lower critical value of 1.44, provided strong evidence of positive first-order autocorrelation in the regression residuals, a common and expected feature of time-series data where both variables exhibit upward trends. This implied that OLS standard errors were underestimated, necessitating caution in interpreting parameter precision. The strong correlation between population size and GDP per capita should not be interpreted as evidence of a direct causal effect of population growth on economic expansion; rather, it reflects the shared upward temporal trend of both variables, a phenomenon of spurious correlation inherent in co-integrated non-stationary time series. These results underscored the necessity of the time-series phase analysis in subsequent sections to isolate the structural dynamics underlying this aggregate association, particularly identifying periods in which population growth outpaced or lagged behind economic growth on a per capita basis.

### Phase-Specific Growth Rate Analysis

Table 3 presents the average annual growth rates for key indicators across the three identified development phases of Uganda's post-1986 trajectory.

**Table 3: Average Annual Growth Rates by Development Phase, Uganda (1986-2023)**

Indicator	Phase I: Recovery (1986-2000)	Phase II: Rapid Growth (2000-2012)	Phase III: Moderation (2012-2023)
Avg. GDP per Capita (USD)	216.4	531.7	843.2
GDP p.c. Growth Rate (%)	3.1	6.7	3.4
Avg. Population (Millions)	19.0	33.2	46.0
Pop. Growth Rate (%)	3.42	3.21	2.87
Avg. Total GDP (USD Bn)	4.12	17.64	38.81
Economic:Demographic Ratio	0.91	2.09	1.18

*Note: Economic:Demographic Ratio = ratio of GDP per capita growth rate to population growth rate. Ratio > 1 indicates economic growth outpacing demographic growth.*

The phase-specific analysis revealed substantial variation in the relationship between economic and demographic growth across Uganda's three identified development phases. During Phase I (1986-2000), the Economic-to-Demographic growth ratio stood at 0.91, indicating that population growth marginally outpaced GDP per capita growth, with average per capita growth of 3.1% per annum against a population growth rate of 3.42%. This reflected the structural fragility of the early NRM period, during which the benefits of macroeconomic stabilisation and liberalisation were initially insufficient to generate meaningful per capita welfare gains. Total GDP averaged USD 4.12 billion in this phase, and population growth remained at its highest average rate of 3.42%, indicating that the demographic base was expanding faster than the productive economy could absorb.

Phase II (2000-2012) represented a decisive turning point, with the Economic-to-Demographic ratio peaking at 2.09, meaning GDP per capita grew at more than twice the rate of population expansion, averaging 6.7% per annum against a population growth rate of 3.21%. This phase coincided with intensified economic diversification, growth in telecommunications and financial services, increased foreign direct investment inflows, and improved governance outcomes. Total GDP averaged USD 17.64 billion during this phase. In stark contrast, Phase III (2012-2023) witnessed a marked deceleration in the economic-to-demographic advantage, with the ratio falling to 1.18, driven by a significant slowdown in GDP per capita growth to 3.4% against a still-substantial population growth rate of 2.87%. This moderation phase reflected the cumulative structural pressures of demographic expansion on public service delivery, infrastructure, and labour market absorption, reinforcing the argument that Uganda's economic gains face mounting headwinds from demographic momentum.

### Time-Series Decomposition and Trend Analysis

Table 4 presents the results of additive time-series decomposition for GDP per capita and population, summarising the trend, cyclical, and irregular components across the three phases.

**Table 4: Time-Series Decomposition Summary - GDP per Capita and Population (1986-2023)**

Series/Phase	Trend Comp.	Cyclical Comp.	Irregular Comp.	Trend R-sq	ARIMA Order	Residual Std
GDP p.c. Phase I	+3.1%	±0.8%	±1.4%	0.940	(1,1,0)	18.2
GDP p.c. Phase II	+6.7%	±1.2%	±2.9%	0.970	(1,1,1)	22.7
GDP p.c. Phase III	+3.4%	±0.9%	±3.8%	0.950	(2,1,1)	31.4
Population Phase I	+3.4%	±0.1%	±0.2%	0.999	(1,1,0)	0.31
Population Phase II	+3.2%	±0.1%	±0.1%	0.999	(1,1,0)	0.28
Population Phase III	+2.9%	±0.1%	±0.2%	0.999	(1,1,0)	0.26

*Note: ARIMA orders selected by AIC criterion. Trend R-sq = proportion of variance explained by linear trend component. Residual Std in USD for GDP p.c. and millions for Population.*

The time-series decomposition results illuminated fundamental differences in the statistical structure of Uganda's economic and demographic trajectories. The population series exhibited exceptionally high trend regularity across all three phases, with trend R-squared values of 0.999 in every phase and minimal irregular components (standard deviations of 0.26-0.31 million), confirming that Uganda's demographic growth followed a near-deterministic linear trend with negligible cyclical or shock-driven variation. This statistical regularity is consistent with the demographic literature on high-fertility Sub-Saharan African populations, where population momentum driven by large cohorts of women in or entering reproductive age renders demographic trajectories highly predictable. The ARIMA(1,1,0) specification that optimally described all three phases of population growth confirmed the first-differenced autoregressive nature of the series, meaning that population growth in any given year was strongly predicted by the previous year's growth.

In contrast, the GDP per capita series exhibited substantially greater structural complexity, with declining trend R-squared and increasing irregular component standard deviations across successive phases. The irregular component standard deviation rose from USD 18.2 in Phase I to USD 31.4 in Phase III, reflecting increasing economic volatility and growing sensitivity of per capita income to external shocks in the most recent period. The progressive shift in optimal ARIMA specification from (1,1,0) in Phase I to (2,1,1) in Phase III indicated the emergence of more complex short-run economic dynamics, including delayed autoregressive effects and moving average error corrections. The contrast between the statistical simplicity of population trends and the growing complexity of economic trends provided quantitative confirmation of the central argument of this study: Uganda faces an asymmetric development challenge in which the relative tractability of demographic forecasting is not matched by corresponding predictability in economic performance, making the per capita growth dividend structurally uncertain and increasingly contingent on deliberate policy intervention.

## Discussion

The findings of this study collectively painted a complex and nuanced picture of Uganda's development trajectory since 1986, one marked by genuine economic progress but also by the persistent structural weight of rapid demographic expansion. The descriptive and bivariate analyses confirmed that Uganda achieved substantial growth in both total and per capita economic output over the study period, yet the coefficient of variation analysis revealed that this growth has been highly volatile, particularly in per capita terms. The strong positive correlation between population size and GDP per capita ( $r = 0.974$ ) might at first glance appear to support the revisionist Boserupian view that population growth stimulates economic activity. However, the Durbin-Watson autocorrelation diagnostic and the phase-specific decomposition results together cautioned against such a causal interpretation. The shared upward temporal trend of both variables, rather than a functional causal relationship, accounted for the bulk of the observed correlation, underscoring the importance of disaggregating aggregate correlations into phase-specific dynamics to obtain policy-relevant insights.

The phase-specific analysis constituted the most analytically generative contribution of this study. The identification of three structurally distinct phases, namely the recovery phase (1986-2000), the rapid growth phase (2000-2012), and the moderation phase (2012-2023), provided a more granular and theoretically grounded narrative of Uganda's development history than aggregate trend analysis alone could offer. The Economic-to-Demographic growth ratio, rising from 0.91 in Phase I to a peak of 2.09 in Phase II before declining to 1.18 in Phase III, served as a summary indicator of the changing balance between economic dynamism and demographic pressure. The Phase II ratio of 2.09 suggested that Uganda was, during 2000-2012, beginning to realise elements of a demographic dividend, with economic growth substantially outpacing population growth and generating meaningful per capita gains. This was consistent with Uganda's documented progress on the Millennium Development Goals during this period. The subsequent moderation in Phase III, however, indicated that this dividend was proving difficult to sustain, resonating with the empirical literature on the conditionality of the demographic dividend, which emphasises that the dividend does not materialise automatically but requires concurrent investments in human capital, labour market development, and institutional capacity.

The time-series decomposition findings further enriched the discussion by revealing the contrasting statistical properties of Uganda's demographic and economic trajectories. The near-perfect predictability of population trends (trend R-squared = 0.999 across all phases) versus the increasing volatility and structural complexity of GDP per capita trends had important implications for development planning. It suggested that Uganda's demographic future is highly foreseeable: the country will continue to add approximately 1.4-1.5 million persons annually regardless of short-run policy changes. This demographic inertia implies that the burden of achieving sustained per capita economic improvement falls almost entirely on accelerating and stabilising economic growth, rather than on reversing demographic momentum. The increasing irregular component in Phase III GDP per capita trends also highlighted the growing structural vulnerability of Uganda's economy to external shocks, including commodity price volatility, climate disruptions to the agricultural sector, and the COVID-19 pandemic of 2020. These findings collectively underscored the urgency of policies that simultaneously deepen economic resilience, diversify the productive base, and invest in the human capital of Uganda's rapidly expanding population to unlock the full potential of the as-yet partially unrealised demographic dividend.

## Conclusion

This study demonstrated that Uganda's development trajectory since 1986 has been characterised by a dual pattern of impressive but uneven economic growth and persistent, structurally entrenched demographic expansion. The quantitative evidence, drawn from 38 years of annual time-series data and analysed through univariate descriptive statistics, bivariate correlation and regression analysis, phase-specific growth decomposition, and ARIMA-based time-series modelling, confirmed that while Uganda's nominal economic output has grown substantially, the gains in per capita income have been structurally constrained by one of the world's highest population growth rates. The identification of three distinct development phases revealed that the period 2000-2012 represented Uganda's closest approach to realising a demographic dividend, with economic growth substantially outpacing demographic expansion; however, this advantage narrowed considerably in the post-2012 moderation phase, signalling that without renewed structural investment and deliberate policy action, the per capita gains of the past may prove difficult to sustain in the face of an ever-expanding population denominator. The study's findings underscore the imperative of treating economic and population policy as deeply interconnected domains and call for an evidence-driven, integrated approach to national development planning that takes full account of the demographic realities shaping Uganda's economic future.

## Recommendations

**Integrate Population and Economic Planning Frameworks:** The Government of Uganda, through the National Planning Authority, should institutionally integrate the National Population Policy with the National Development Plan to ensure that demographic projections are systematically embedded in macroeconomic planning, sectoral investment allocations, and public service delivery frameworks, thereby addressing the planning deficit identified in this study.

**Accelerate Investment in Human Capital Development:** To unlock the latent demographic dividend evidenced in Phase II of this study, Uganda must significantly scale up investments in education quality, vocational training, reproductive health services, and women's economic empowerment. International evidence confirms that these investments are the primary mechanism through which high-fertility developing countries convert demographic size into sustained per capita economic growth.

**Diversify and Stabilise the Economic Base:** The increasing structural complexity and volatility of Uganda's GDP per capita trend in Phase III underlines the urgent need to diversify Uganda's economy beyond agricultural dependence and natural resource extraction. Strategic investment in light manufacturing, agro-processing, digital services, and East African Community regional trade integration would reduce exposure to commodity price shocks and generate stable, high-productivity employment capable of absorbing the large annual cohorts entering Uganda's labour market.

## References

- Abío, G., Alcañiz, M., Gómez-Puig, M., Rubert, G., Serrano, M., Stoyanova, A., & Vilalta-Bufí, M. (2017). RETAKING A COURSE IN ECONOMICS: INNOVATIVE METHODOLOGIES TO DEVELOP LEARNING HABITS IN LARGE GROUPS OF LOW-PERFORMING STUDENTS. *INTED2017 Proceedings, 1*. <https://doi.org/10.21125/inted.2017.0800>
- Abío, G., Alcañiz, M., Gómez-Puig, M., Rubert, G., Serrano, M., Stoyanova, A., & Vilalta-Bufí, M. (2019). Retaking a course in economics: Innovative teaching strategies to improve academic performance in groups of low-performing students. In *Innovations in Education and Teaching International* (Vol. 56, Number 2). <https://doi.org/10.1080/14703297.2017.1389289>
- Agnes, N., Shamirah, B., & Sarah, A. (2023). *THE EFFECT OF MICROFINANCE INSTITUTIONS ON THE SOCIO-ECONOMIC DEVELOPMENT OF COMMUNITIES IN UGANDA: A CASE STUDY OF KASUBI MARKETUBAGA DIVISION* (Vol. 2, Number 4).
- Akazuwa, E., alias Lakshmi Bhabuu, S., & Mugisha, D. (2025). Tourism and Economic Growth in Uganda: Evidence from Time Series Analysis. *International Journal of Innovative Research in Engineering & Multidisciplinary Physical Sciences, 13*(4). <https://doi.org/10.37082/ijirmps.v13.i4.232645>
- Ariyo, D., Kazaara, G., & Julius, A. (2024). *Community Based Organizations And Their Impact On Socio Economic Development Of Rural Communities In Uganda. A Case Study Of Lwabenge Sub County Kalungu District*.
- Bloom, D. E., Canning, D., & Sevilla, J. (2003). The demographic dividend: A new perspective on the economic consequences of population change. RAND Corporation.
- Boserup, E. (1965). The conditions of agricultural growth: The economics of agrarian change under population pressure. Aldine Publishing Company.
- Cai, M., Caskey, G. W., Cowen, N., Murtazashvili, I., Murtazashvili, J. B., & Salahodjaev, R. (2022). Individualism, economic freedom, and charitable giving. *Journal of Economic Behavior and Organization, 200*. <https://doi.org/10.1016/j.jebo.2022.06.037>

- Christopher, T., Nelson, K., & Prudence, K. (2022). The Impact of Foreign Direct Investment on Economic Growth in Uganda-A Case Study of Kampala District. In *International Journal of Academic Multidisciplinary Research* (Vol. 6). [www.ijeais.org/ijamr](http://www.ijeais.org/ijamr)
- Edith, A., Gracious Kazaara, A., & Julius, A. (2023). CREDIT FINANCING AND THE GROWTH OF SMALL AND MEDIUM ENTERPRISES IN NAMUNGOONA TRADING CENTER. In *METROPOLITAN JOURNAL OF BUSINESS & ECONOMICS* (Vol. 2, Number 1).
- Frank, M., Nelson, K., Ariyo, D., Kazaara, G., Deus, T., Christopher, F., & Catherine, M. (2023). The Macroeconomic Determinants of Economic Growth in Uganda a Case Study Of Wakiso Distict. In *International Journal of Academic and Applied Research* (Vol. 7). [www.ijeais.org/ijaar](http://www.ijeais.org/ijaar)
- Gerber, J. F., & Scheidel, A. (2018). In Search of Substantive Economics: Comparing Today's Two Major Socio-metabolic Approaches to the Economy – MEFA and MuSIASEM. *Ecological Economics*, 144. <https://doi.org/10.1016/j.ecolecon.2017.08.012>
- Gracious Kazaara, A., & Julius, A. (2024). *Payables/Creditors Management And It's Impact On Financial Performance Of Ntake Manufacturing Industry*.
- Granger, C. W. J., & Newbold, P. (1974). Spurious regressions in econometrics. *Journal of Econometrics*, 2(2), 111-120.
- Groznykh, R., Ignatieva, E., Mariev, O., & Serkova, A. (2020). THE IMPACT OF ECONOMIC, DEMOGRAPHIC, AND INFRASTRUCTURAL FACTORS ON INCOME INEQUALITY AND POVERTY IN RUSSIA. *Proceedings of CBU in Economics and Business*, 1. <https://doi.org/10.12955/peb.v1.21>
- Hinz, J. (2023). The ties that bind: geopolitical motivations for economic integration. *Review of World Economics*, 159(1). <https://doi.org/10.1007/s10290-022-00461-6>
- Idris, S. (2018). Economic Empowerment of Women in Pakistan. *Gender Economics*, 2(2), 411–432. <https://doi.org/10.4018/978-1-5225-7510-8.ch020>
- Isaac, O., Gracious Kazaara, A., & Julius, A. (2023). ASSESSMENT OF THE EFFECT OF WORKPLACE CONFLICT ON EMPLOYEES' PERFORMANCE AND ORGANIZATIONAL PRODUCTIVITY, A CASE STUDY OF TORORO GENERAL HOSPITAL. In *METROPOLITAN JOURNAL OF BUSINESS & ECONOMICS (MJBE) ISSN* (Vol. 2, Number 1).
- Ishikawa, K. (2021). The ASEAN Economic Community and ASEAN economic integration. *Journal of Contemporary East Asia Studies*, 10(1). <https://doi.org/10.1080/24761028.2021.1891702>
- James, K., & Charles, N. (2023). *COMMERCIAL FARMING AND SOCIAL ECONOMIC STATUS OF RURAL FAMILIES. A CASE OF KYABATANA VILLAGE* (Vol. 2, Number 7).
- Julius, A., & Gracious Kaazara, A. (2025). From Flour to Futures: Baking as a Pedagogical Strategy for Entrepreneurial Mindset and Educational Sustainability in Rural Uganda. In *International Journal of Academic Multidisciplinary Research* (Vol. 9). [www.ijeais.org/ijamr](http://www.ijeais.org/ijamr)
- Julius, A., Gracious Kazaara, A., & Nelson, K. (2024). *Relationship between Inflation and Unemployment in Uganda*.
- Julius, A., & Kazaara, A. I. (2025a). The Adoption-Adaptation Imperative: An Economic Argument for Leveraging Exogenous Innovation in Africa. *International Journal of Academic and Applied Research*. [www.ijeais.org/ijaar](http://www.ijeais.org/ijaar)
- Julius, A., & Kazaara, A. I. (2025b). The Legacy of Educational Commissions in Uganda: A 200% Scorecard from Pre-Colonial, Colonial, to Post-Colonial Eras. In *International Journal of Academic Pedagogical Research* (Vol. 9). [www.ijeais.org/ijapr](http://www.ijeais.org/ijapr)
- Madinah PhD, N. (2020). Population Growth and Economic Development: Unemployment Challenge for Uganda. *World Journal of Social Science Research*, 7(3). <https://doi.org/10.22158/wjssr.v7n3p8>
- Mark, O., & Moses, N. (2025). Impact Of Early Marriages On Social Economic Development A Case Of Kampala District Uganda. In *Metropolitan Journal Of Social And Educational Research* (Vol. 4).
- Meble, N., & Moses, N. (2025). Effect Of Gender Equality On Economic Development Of Household Beneficiaries Of Balawoli Dairy Cooperative Society In Kamuli District, Uganda. In *Metropolitan Journal Of Business & Economics (MJBE)* (Vol. 4).
- National Planning Authority of Uganda. (2020). Third National Development Plan (NDPIII) 2020/21-2024/25. Republic of Uganda
- Noeline, B., Rebecca, N., & Matovu, K. (2023). GOVERNMENT EXPENDITURE AND ECONOMIC GROWTH OF WOBULENZI TOWN COUNCIL IN LUWERO DISTRICT. In *METROPOLITAN JOURNAL OF SOCIAL AND EDUCATIONAL RESEARCH* (Vol. 2, Number 7).
- Obasaju, B. O., Olayiwola, W. K., Okodua, H., Adediran, O. S., & Lawal, A. I. (2021). Regional economic integration and economic upgrading in global value chains: selected cases in Africa. *Heliyon*, 7(2). <https://doi.org/10.1016/j.heliyon.2021.e06112>
- Ochen, R., & Lakuma, P. C. (2024). COVID-19: How Tax Policy Responses Affected Uganda's Economy. *Tanzanian Economic Review*, 13(2). <https://doi.org/10.56279/ter.v13i2.111>
- Rafa, M., Moyer, J. D., Wang, X., & Sutton, P. (2022). Estimating District GDP in Uganda. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3941446>
- Ramoni-Perazzi, J., & Romero, H. (2022). Exchange rate volatility, corruption, and economic growth. *Heliyon*, 8(12). <https://doi.org/10.1016/j.heliyon.2022.e12328>
- Rehman, A. U. (2025). Economic and strategic challenges in microgrid integration: Insights from operational dynamics and renewable energy potential. *Green Technologies and Sustainability*, 3(1). <https://doi.org/10.1016/j.grets.2024.100130>
-

- Sagindykova, G. M., Serikbayeva, S. G., Khassenova, K. K., Demeuova, G. K., & Azhaipova, I. Sh. (2023). Analysis of Socio-Economic Factors Affecting Poverty in the Regions of Kazakhstan. *Economics: The Strategy and Practice*, 18(3). <https://doi.org/10.51176/1997-9967-2023-3-189-206>
- Shamirah, B., & Sarah, A. (2024). Examine the Socio-Political Challenges and Economic Benefits Arising from Economic Integration. A Case Study of East African Community. In *Metropolitan Journal Of Social And Educational Research* (Vol. 3).
- Spash, C. L. (2019). SEE Beyond Substantive Economics: Avoiding False Dichotomies. *Ecological Economics*, 165. <https://doi.org/10.1016/j.ecolecon.2019.106370>
- Stack, M. M., Amissah, E. B., & Bliss, M. (2024). African economic integration and trade. *World Economy*, 47(5). <https://doi.org/10.1111/twec.13538>
- Surya, B., Menne, F., Sabhan, H., Suriani, S., Abubakar, H., & Idris, M. (2021). Economic growth, increasing productivity of smes, and open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1). <https://doi.org/10.3390/joitmc7010020>
- Suzan, W., & Gracious Kazaara, A. (2023). *The Impact of Western Education on Social Economic Development of Communities in Uganda-A Case Study of Wakiso Town Council Wakiso District* (Vol. 7).
- Taghizadeh-Hesary, F., Yoshino, N., Kim, C. J., & Morgan, P. J. (2020). Regional economic integration in asia: Challenges and recommended policies. In *Journal of Economic Integration* (Vol. 35, Number 1). <https://doi.org/10.11130/jei.2020.35.1.1>
- Tile, A., Utouh, H. M. L., & Sesabo, J. K. (2024). External Debts as Panacea to Economic Growth Challenges in Selected Eastern African countries: An Application of the Autoregressive Distributed Lag Model. *SCIENCE MUNDI*, 4(1). <https://doi.org/10.51867/scimundi.4.1.3>
- Tom, K., Richard, K., Gracious Kazaara, A., & Julius, A. (2023). ASSESSING THE RELEVANCE OF POPULATION CENSUS TO THE ECONOMIC DEVELOPMENT OF UGANDA (THE CASE STUDY OF NANSANA MUNICIPALITY). In *METROPOLITAN JOURNAL OF BUSINESS & ECONOMICS* (Vol. 2).
- Wafana, I. (2023). IMPACT OF CLIMATE CHANGE ON PEOPLES' LIVELIHOOD AND LIVESTOCK PRODUCTION IN UGANDA. *Applied Studies in Agribusiness and Commerce*, 17(2). <https://doi.org/10.19041/apstract/2023/2/12>
- Uganda Bureau of Statistics (UBOS). (2023). Uganda National Household Survey 2019/20. UBOS.
- United Nations. (2022). World population prospects 2022. Department of Economic and Social Affairs, Population Division.
- Wang, X., Rafa, M., Moyer, J. D., Li, J., Scheer, J., & Sutton, P. (2019). Estimation and mapping of sub-national GDP in Uganda using NPP-VIIRS imagery. *Remote Sensing*, 11(2). <https://doi.org/10.3390/rs11020163>
- World Bank. (2024). World development indicators database. <https://databank.worldbank.org/source/world-development-indicators>