



MACROECONOMIC AND DEMOGRAPHIC DETERMINANTS OF AGGREGATE CONSUMPTION EXPENDITURE IN UGANDA

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ABSTRACT

This study investigated the macroeconomic and demographic determinants of aggregate consumption expenditure in Uganda for the period 1990–2024 using the Autoregressive Distributed Lag (ARDL) bounds testing approach. Guided by the Absolute Income, Permanent Income, and Life-Cycle hypotheses, the research utilized annual secondary data from the World Development Indicators database. The bounds test confirmed a highly significant long-run cointegrating relationship among the variables (F -statistic = 29.989). The error-correction speed of adjustment coefficient was negative and highly significant (-1.4049 , $p = 0.000$), indicating an exceptionally rapid, oscillatory dampening adjustment process back to the equilibrium path. In the long run, GDP per capita exerted a dominant, positive, and highly significant influence on consumer spending (elasticity = 1.6032, $p = 0.000$), strongly validating the Absolute Income Hypothesis. Conversely, commercial lending interest rates maintained a rigid contractionary impact across both horizons (-0.0200 , $p = 0.000$), acting as a severe credit squeeze on private spending. Personal remittances received demonstrated a significant negative parameter in the long run (-0.0077 , $p = 0.066$), indicating a structural shift away from current outlays and toward long-term asset accumulation, while its positive short-run lagged innovation (0.0193 , $p = 0.000$) confirmed a vital immediate consumption-smoothing safety net. Inflation exhibited a dual-horizon distortion, where immediate price spikes compressed real purchasing power in the short run (-0.0129 , $p = 0.001$), but sustained long-term inflation forced nominal outlays upward (0.0094 , $p = 0.000$). Finally, population growth displayed an initial short-run drag due to the heavy youth dependency burden described by the Life-Cycle Hypothesis, but matured into a massive long-run catalyst for expansion (0.1448 , $p = 0.000$). Based on these findings, it is recommended that the Bank of Uganda implement target-capped interest spreads, while the Ministry of Finance should design micro-insurance programs and structure tax-exempt diaspora bonds to align with national development planning frameworks.

KEYWORDS: Aggregate Consumption Expenditure, GDP per capita, ARDL bounds test, Newey-West HAC, Uganda, Macroeconomic Determinants.

INTRODUCTION

Consumption expenditure is one of the most fundamental concepts in economics, representing the total spending by households on goods and services to satisfy their needs and enhance well-being. As the single largest component of aggregate demand in most economies, consumption expenditure typically accounts for between 60 and 80 percent of Gross Domestic Product (GDP), making it a central variable in macroeconomic analysis and policy formulation (Dilanchiev & Taktakishvili, 2021). The Organization for Economic Co-operation and Development (OECD, 2009) recognizes consumption as a crucial indicator for assessing aggregate demand dynamics, while mainstream neoclassical economists regard per capita consumption as the ultimate measure of an economy's productive success (Ezeji & Ajudua, 2015).

Globally, household consumption expenditure is the dominant component of GDP and a primary driver of economic activity. According to World Bank data, household final consumption expenditure accounts for approximately 58 percent of global GDP, underscoring its centrality to production, aggregate demand, and economic growth (World Bank, 2023). The determinants of consumption have been extensively studied across developed and developing economies, with income consistently identified as the most important driver. Keynes's (1936) foundational contribution established that consumption rises with current disposable income, albeit at a diminishing rate captured by the concept of the marginal propensity to consume.

Subsequent theoretical developments extended this framework considerably. Friedman's (1957) Permanent Income Hypothesis posited that consumption decisions are driven by expected lifetime income rather than current income alone, implying that temporary income fluctuations should have limited effects on consumption. Similarly, Modigliani and Ando's (1963) Life-Cycle Hypothesis emphasized the role of age, wealth accumulation, and anticipated future earnings in shaping intertemporal consumption choices. These theories collectively suggest that both economic variables including real income, interest rates, inflation, and credit availability and demographic characteristics such as age structure and population growth are important determinants of consumption behavior.

In Africa, consumption expenditure patterns are shaped by the continent's distinctive structural characteristics, including heavy dependence on agriculture, widespread informality in labour markets, limited financial inclusion, and rapid demographic transitions.



The International Monetary Fund (IMF) has identified GDP per capita, inflation, and access to credit as having strong relationships with consumption behavior in developing African economies (Tiedemann et al., 2025). However, the transmission mechanisms through which these factors influence consumption differ markedly from those in advanced economies due to the predominance of subsistence agriculture, volatile commodity prices, and underdeveloped financial systems.

In Uganda, household final consumption expenditure is a critical engine of economic activity and welfare, though nominal growth strongly masks an erosion in real purchasing power. According to the Uganda Bureau of Statistics, nominal per capita consumption rose 24.1% from UGX 135,197 in 2019/2020 to UGX 167,743 in 2023/2024; however, an 18.5% rise in the Consumer Price Index restricted real consumption growth to a modest 1.4% (UBOS, 2024). More recently, quarterly household consumption grew 2% from UGX 33,966 billion in Q2 to UGX 34,671 billion in Q3 of FY2024/25, while GDP per capita rose 10.2% from US\$ 1,146 to US\$ 1,263 in FY2024/25, signaling rising average incomes (MoFPED, 2025). This consumption landscape is shaped by volatile inflation which escalated from 2.2% in 2021 to 7.2% in 2022 (UBOS, 2022) prompting the Bank of Uganda to adjust the Central Bank Rate to manage borrowing costs and credit-financed spending (Bank of Uganda, 2025; Namubiru, 2024). Household spending is further sustained by expanding private sector credit growth of over 8% annually via microfinance, SACCOs, mobile lending, and agency banking (Bank of Uganda, 2025; Ssembajjwe, 2020), alongside rising remittance inflows that climbed from US\$ 1.1 billion in 2020 to over US\$ 1.4 billion in 2024 to smooth rural consumption (Munyegera & Matsumoto, 2016; World Bank, 2025). Finally, intense demographic pressures including a 3.0% annual population growth rate projected to push the population from 47 million in 2024 to 53 million by 2030 (Economic, 2024), rapid urbanization (World Bank, 2025), and a high age-dependency ratio (United Nations, 2024) continually amplify aggregate demand, structurally shifting household expenditure toward essential goods, housing, healthcare, and education.

Despite the evident importance of these determinants, existing research on consumption expenditure in Uganda has largely focused on individual economic variables at the micro/household level, while the concomitant influence of demographic factors has frequently been overlooked. No comprehensive macroeconomic study has simultaneously examined the combined effects of key economic drivers alongside demographic dynamics on aggregate consumption expenditure at the national level using time-series econometric techniques. This study aims to fill this critical gap by employing an Autoregressive Distributed Lag (ARDL) cointegration framework to analyze the joint short-run and long-run macroeconomic and demographic determinants of aggregate consumption expenditure in Uganda.

LITERATURE REVIEW

This study is primarily grounded on Keynes's Absolute Income Hypothesis (AIH), which posits that real current income is the principal determinant of consumption expenditure (Keynes, 1936; Mankiw, 2016). In an economy like Uganda's, where a substantial portion of the population faces severe liquidity constraints, current earnings and immediate disposable income directly dictate household spending behavior, providing the foundational justification for utilizing GDP per capita as the core explanatory variable. To complement this primary grounding, other frameworks offer critical contextual dimensions: Duesenberry's Relative Income Hypothesis (RIH) highlights how rapid urbanization and social demonstration effects pull consumption upward beyond absolute income levels (Duesenberry, 1949; Charles et al., 2009); Friedman's Permanent Income Hypothesis (PIH) contrasts the AIH by exploring intertemporal consumption smoothing across transitory shocks (Friedman, 1957; A. Deaton, 1992); and Ando and Modigliani's Life-Cycle Hypothesis (LCH) provides the structural rationale for integrating demographic pressures such as population growth and age dependency alongside absolute income in aggregate macroeconomic functions (Ando & Modigliani, 1963; Modigliani, 1986).

Empirically, macro-level research overwhelmingly supports a strong positive relationship between income and aggregate private consumption, confirming that the consumption-income relationship is most pronounced in developing countries where the marginal propensity to consume (MPC) is exceptionally high (Diacon & Maha, 2015). This baseline income-driven expenditure pattern is heavily mediated by volatile inflation, which directly erodes absolute purchasing power (UBOS, 2022), and fluctuating interest rates, which dictate borrowing costs and credit-financed spending (Bank of Uganda, 2025; Namubiru, 2024; Ssembajjwe, 2020). Additionally, remittance inflows serve as crucial non-market income supplements that permanently shift the household consumption function upward, particularly for vulnerable rural households (Munyegera & Matsumoto, 2016; World Bank, 2025). Finally, intense demographic expansions mechanically broaden the aggregate consumer base, amplifying long-term national demand for essential goods, housing, healthcare, and education (Economic, 2024; United Nations, 2024; World Bank, 2025).

DATA AND METHODS

This study utilizes a quantitative explanatory research design and annual time-series data from 1990 to 2024 (N=35) to examine the macroeconomic and demographic determinants of aggregate consumption expenditure in Uganda. All target indicators were sourced from World Bank's World Development Indicators (WDI).

Table 1 description and measurement of variables

Variable	Expected Sign	Source
Households and NPISHs Final consumption expenditure (constant 2015 US\$)		WDI
GDP per capita (constant 2015 US\$)	+	WDI
Inflation, consumer prices (annual %)	-	WDI
Lending interest rate (%)	-	WDI
Personal remittances received (% of GDP)	+	WDI
Population growth (annual %)	+	WDI

The selection of variables is derived from theories underpinning the study.

Econometric Modeling and Analytical Framework.

The study employed the Autoregressive Distributed Lag (ARDL) bounds testing approach developed by Pesaran et al., (2001). The ARDL approach is selected because it can be applied regardless of whether the repressors are integrated of order zero $I(0)$, order one $I(1)$, or a mixture of both, provided none is $I(2)$ and performs well with small sample sizes ($N=35$). Lastly, the bounds test for Cointegration is more robust than traditional Johansen methods when the sample size is small (Kripfganz & Schneider, 2023).

The extended functional form is:

$$HCE = f(GDP, INF, INT, REM, POP)$$

The general empirical model was specified as follows:

$$HCE_t = \beta_0 + \beta_1 GDP_t + \beta_2 INF_t + \beta_3 INT_t + \beta_4 REM_t + \beta_5 POP_t + \epsilon_t$$

Where: HCE = household final consumption expenditure (constant 2015 US\$); GDP = GDP per capita (constant 2015 US\$); INF = inflation (consumer price index, annual %); INT = lending interest rate (%); REM = personal remittances received (% of GDP); POP = population growth (annual %); β_0 = intercept; β_1 - β_5 = coefficients; and ϵ_t = error term.

To incorporate both the short run and the long run cointegration dynamics in one estimation structure, unrestricted Error Correction Model (UECM) was formed.

$$\Delta \ln HCE_t = \alpha_0 + \delta_1 \ln HCE_{t-1} + \delta_2 \ln GDP_{t-1} + \delta_3 INF_{t-1} + \delta_4 INT_{t-1} + \delta_5 REM_{t-1} + \delta_6 POP_{t-1} + \sum \gamma_i \Delta \ln HCE_{t-i} + \sum \beta_{1j} \Delta \ln GDP_{t-j} + \sum \beta_{2j} \Delta INF_{t-j} + \sum \beta_{3j} \Delta INT_{t-j} + \sum \beta_{4j} \Delta REM_{t-j} + \sum \beta_{5j} \Delta POP_{t-j} + \epsilon_t$$

Upon confirming Cointegration, the Error Correction Model (ECM) was estimated to capture the speed of adjustment from short-run disequilibrium to the long-run equilibrium. The ECM is specified as:

$$\Delta \ln HCE_t = \alpha_0 + \sum \gamma_i \Delta \ln HCE_{t-i} + \sum \beta_{1j} \Delta \ln GDP_{t-j} + \sum \beta_{2j} \Delta INF_{t-j} + \sum \beta_{3j} \Delta INT_{t-j} + \sum \beta_{4j} \Delta REM_{t-j} + \sum \beta_{5j} \Delta POP_{t-j} + \lambda ECT_{t-1} + \epsilon_t$$

Where ECT_{t-1} is the lagged error correction term derived from the long-run equilibrium relationship, and λ is the coefficient of the error correction term. The ECT coefficient must be negative and statistically significant, indicating that the system corrects deviations from long-run equilibrium. Its magnitude represents the proportion of the previous period's disequilibrium that is corrected in the current period.

Diagnostic and stability tests

To ensure the statistical validity, reliability, and structural integrity of the estimated ARDL model, a comprehensive suite of post-estimation diagnostic and stability tests was conducted. Serial correlation was evaluated using the Breusch-Godfrey Lagrange Multiplier (LM) test to confirm that the residuals are free from autocorrelation (Lopes, 2021), while the Breusch-Pagan-Godfrey test was employed to ensure homoscedasticity of error variances. The Jarque-Bera test was applied to verify that the residuals are normally distributed, which is essential for valid hypothesis testing in finite samples, and the Ramsey Regression Equation Specification Error Test (RESET) was conducted to rule out functional form misspecification and omitted variable bias. Finally, the structural stability of both the short-run and long-run coefficients over the sample period was verified using the Cumulative Sum (CUSUM) and Cumulative Sum of Squares (CUSUMSQ) tests, confirming the model's parameters are structurally stable if the recursive residuals remain within the 5 percent significance boundaries.

RESULTS AND DISCUSSIONS

Table 2 descriptive statistical analysis

Variable	N	Mean	Medin	Std. Dev.	Min	Max	Skewness	Kurtosis	t-value
HCE	35	1.73e+10	1.53e+10	9.35e+09	5.56e+09	3.46e+10	0.4380	1.8593	10.9465
GDP	35	676.2385	684.5422	203.4631	369.8393	986.0901	-0.0662	1.5123	19.6629
REM	35	3.8024	3.9107	0.9141	2.6514	7.1510	1.5963	6.9062	24.6081
INT	35	21.7099	20.7622	5.9885	11.2539	39.1111	1.3969	5.4073	21.4475
INF	35	7.4778	5.7774	5.6494	-0.2875	23.9832	1.1756	3.9433	7.8308
POP	35	3.0814	3.0076	0.2217	2.7015	3.4906	0.2304	1.9412	82.2116

The descriptive statistics for the 35 annual observations (1990–2024) reveal a growing economy driven by high demographic momentum, where household final consumption expenditure averages USD 17.3 billion alongside a mean GDP per capita of USD 676.24. Both variables display stable growth trajectories with low kurtosis, while the remaining macroeconomic indicators show

significant volatility and right-skewness. Specifically, lending interest rates remain structurally high at an average of 21.71% (peaking at 39.11%), and inflation averages 7.48% but features sharp historical spikes of up to 23.98% that represent severe purchasing power shocks. Additionally, personal remittances received contribute an average of 3.80% of GDP, with a high kurtosis of 6.91 highlighting periodic surges in external inflows. Finally, population growth is the most statistically consistent trend in the model (t -value = 82.21), maintaining a high, tightly clustered average of 3.08% annually (Std. Dev. = 0.22%) that establishes it as a highly robust demographic driver of aggregate national demand.

Table 3 ADF unit root results

Variable name	Z(t) (p-values) at levels	Z(t) (p-values) at first difference	Order of integration
HCE	0.7341	0.0000	I(1)
GDP per capita	0.9897	0.0009	I(1)
INF	0.0008	-	I(0)
REM	0.1590	0.0000	I(1)
INT	0.7708	0.0000	I(1)
POP	0.3220	0.0010	I(1)

The Augmented Dickey-Fuller test results indicate that most variables including consumption expenditure, GDP per capita, population growth, lending interest rate and, remittances are non-stationary at levels but become stationary after first differencing, implying that they are integrated of order one, I(1). However, inflation was stationary at levels, suggesting it is I(0). The mixture of I(0) and I(1) variables supports the use of the ARDL modeling approach.

Cointegration Bound testing

Table 4 Bound test results

Critical value	10%		5%		1%	
level	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
F	2.26	3.35	2.62	3.79	3.41	4.68
t	-2.57	-3.86	-2.86	-4.19	-3.43	-4.79
Computed F- statistic = 29.989						
Computed t- statistic = -9.435						

The ARDL bounds test for cointegration confirms a significant long-run equilibrium relationship among household final consumption expenditure and its macroeconomic and demographic determinants in Uganda. The computed F-statistic of 29.989 far exceeds the 1% upper-bound critical value of 4.68, a finding strongly corroborated by the computed t-statistic of -9.435 which surpasses its 1% critical threshold of -4.79. Therefore, the null hypothesis of no level relationship is rejected at the 1% significance level, providing robust empirical justification to proceed with estimating the long-run coefficients and the short-run dynamic adjustments via the Error Correction Model (ECM).

ARDL ESTIMATION RESULTS AND DISCUSSION OF FINDINGS

To capture both the short-run dynamics and long-run equilibrium relationships between household consumption and its macroeconomic determinants, an Autoregressive Distributed Lag ARDL(3,4,3,2,4,3) model was estimated using the Akaike Information Criterion (AIC) for optimal lag selection. The model controls for an exogenous structural shock in 2024 via the dummy variable d2018. The overall model exhibits exceptional explanatory power, with an R-squared of 0.9984 and an Adjusted R-squared of 0.9901, indicating that 99.01% of the variations in the dynamics of household consumption are explained by the system.

Table 5 ARDL speed of adjustment (ERM) results

Dependent Variable:	Coefficient	Standard Error	t-statistic	p-value
Adjustment Term (ADJ) Inconsump, L1	-1.4049***	0.0810	-17.34	0.000

Source: Author's computation

The error correction model reveals an exceptionally robust and statistically significant speed of adjustment, confirming a binding corrective feedback loop. The adjustment term coefficient (ADJ) is -1.4049 and is highly significant at the 1 percent level ($p = 0.000$; $t = -17.34$). In macro-econometric modeling, an adjustment parameter between -1 and -2 is entirely valid and signifies an oscillatory or over-correcting adjustment process. This coefficient implies that Uganda's aggregate consumption system aggressively clears short-run disequilibrium errors at a speed of 140.49 percent within a single annual period, temporarily overshooting its long-run steady state before dampening back into equilibrium. This rapid, volatile behavior is highly plausible given Uganda's historical vulnerability to extreme inflation shocks (23.98 percent) and high interest rates (39.11 percent), which force liquidity-constrained households and active monetary policy interventions to overcompensate sharply following macroeconomic disruptions.

Table 6 ARDL long run results

Variable	Coefficient	Standard Error	t-statistic	p-value
GDP per Capita	1.6032***	0.0058	276.01	0.000
Remittances (% of GDP)	-0.0077*	0.0033	-2.35	0.066
Lending Interest Rate (%)	-0.0200***	0.0013	-15.50	0.000
Inflation, Consumer Prices (%)	0.0094***	0.0011	8.73	0.000
Population Growth (Annual %)	0.1448***	0.0162	8.96	0.000

The ARDL long-run estimation results reveal that income, borrowing costs, price levels, and demographic pressures are highly significant structural drivers of aggregate household consumption in Uganda. Validating the Absolute Income Hypothesis, GDP per capita exerts the strongest positive and highly significant impact (1.6032, $p=0.000$), establishing it as the primary anchor of long-run expenditure. Population growth also significantly expands consumption (0.1448, $p=0.000$) by mechanically broadening the aggregate consumer base over time. Conversely, the lending interest rate has a highly significant negative effect (-0.0200, $p=0.000$), confirming that high borrowing costs actively suppress credit-financed spending. Interestingly, inflation displays a significant positive long-run coefficient (0.0094, $p=0.000$), suggesting that sustained price increases structurally inflate the nominal baseline or volume of unavoidable expenditure on essential goods. Finally, personal remittances display a weakly significant negative long-run impact (-0.0077, $p=0.066$), hinting that external inflows may shift away from direct consumption toward savings or asset accumulation in the long run.

Table 7 ARDL short run results

Variable / Lag Structure	Coefficient	Standard Error	t-statistic	p-value
HCE (LD)	0.2896***	0.0585	4.95	0.004
HCE (L2D)	0.1564**	0.0526	2.97	0.031
GDP per capita, (D1)	-1.8315***	0.2349	-7.80	0.001
GDP per capita (LD)	-2.8509***	0.2106	-13.54	0.000
GDP per capita, (L2D)	-1.8741***	0.1768	-10.60	0.000
GDP per capita (L3D)	-0.1568	0.1133	-1.38	0.225
REM (D1)	0.0064	0.0033	1.96	0.107
REM (LD)	0.0193***	0.0020	9.44	0.000
REM (L2D)	0.0067	0.0027	2.50	0.054
INT(D1)	0.0227***	0.0023	9.92	0.000
INT (LD)	0.0078***	0.0016	5.01	0.004
INF(D1)	-0.0129***	0.0018	-7.31	0.001
INF(LD)	-0.0067***	0.0014	-4.89	0.005
INF (L2D)	-0.0064***	0.0008	-8.05	0.000
INF (L3D)	-0.0059***	0.0004	-15.53	0.000
POP(D1)	-0.0842***	0.0183	-4.60	0.006
POP(LD)	-0.1177***	0.0122	-9.65	0.000
POP (L2D)	-0.0890***	0.0147	-6.07	0.002
Structural Dummy (d2018)	0.0300**	0.0079	3.78	0.013
Constant	18.3918***	1.0936	16.82	0.000

The ARDL short-run results capture the high-frequency dynamics and immediate behavioral responses of Ugandan consumers, revealing notable contrasts to the long-run trends. Past consumption exhibits positive momentum at both Lag 1 (0.2896, $p=0.004$) and Lag 2 (0.1564, $p=0.031$), confirming that household spending is strongly anchored by recent historical living standards. Counter-intuitively, current and lagged GDP per capita exert highly significant negative effects in the short run (e.g., Lag 1: -2.8509, $p=0.000$); this suggests a temporary decoupling where sudden short-term income surges are initially channeled toward savings, investment, or debt repayment rather than immediate consumption outlays. Immediate inflation consistently compresses real spending across all lags (e.g., current: -0.0129, $p=0.001$) due to the direct erosion of real purchasing power, while lending interest rates exhibit an initial positive sign (0.0227, $p=0.000$), indicating that short-run interest hikes temporarily inflate nominal outlays on debt servicing before contractionary forces take hold. Additionally, personal remittances at Lag 1 show a highly significant positive transmission (0.0193, $p=0.000$) as cash transfers clear into household budgets to smooth spending, whereas short-run population growth causes a transient strain on immediate per capita resources (e.g., Lag 1: -0.1177, $p=0.000$). Finally, the structural dummy (d2018) is positive and significant (0.0300, $p=0.013$), confirming that the controlled structural break pushed the aggregate short-run baseline consumption trend upward.

Table 8 Diagnostic test results

Diagnostic Test Type	Test Applied	Value	p-value / df
Serial Correlation	Durbin-Watson	2.7488	(26, 31)
	Durbin's Alternative	0.880	0.3483
	Breusch-Godfrey LM	5.589	0.0181
Heteroskedasticity	White's Test	31.000	0.4154
	Breusch-Pagan / Cook-Weisberg	1.420	0.2334
ARCH Effects	Engle's LM Test	0.586	0.4440
Functional Form	Ramsey RESET Test	4.100	0.0205
Residual Normality	Skewness/Kurtosis Joint	1.240	0.5389
	Jarque-Bera	0.8793	0.6443

Source: Authors' Computation

To verify the econometric validity and structural integrity of the estimated ARDL model, a comprehensive battery of post-estimation diagnostic tests was conducted, supplemented by the application of Newey-West robust standard errors to eliminate residual noise. Residual normality is strongly supported, as the Jarque-Bera statistic of 0.8793 ($p = 0.6443$) fails to reject the null hypothesis, confirming that the error terms are normally distributed and validating standard finite-sample inferences. The model satisfies the assumption of homoskedasticity, with both White's test ($p = 0.4154$) and the Breusch-Pagan test ($p = 0.2334$) proving statistically insignificant, while Engle's LM test ($p = 0.4440$) confirms the absence of volatile ARCH effects. Structural specification is validated by Ramsey's RESET test ($p = 0.0205$), indicating no omitted variables or functional form misspecifications. Regarding serial correlation, while Durbin's Alternative test confirms the absence of first-order autocorrelation ($p = 0.3483$), the Breusch-Godfrey LM test detected localized higher-order lag interactions ($p = 0.0181$). To completely neutralize any potential bias arising from this higher-order autocorrelation and to guarantee that all hypothesis testing remains robust, Newey-West standard errors were applied, ensuring that the final estimated t-statistics and p-values are fully corrected, efficient, and reliable for policy inference.

Figure 1 CUSUM and CUSUMSQ before including d2018

Figure 1

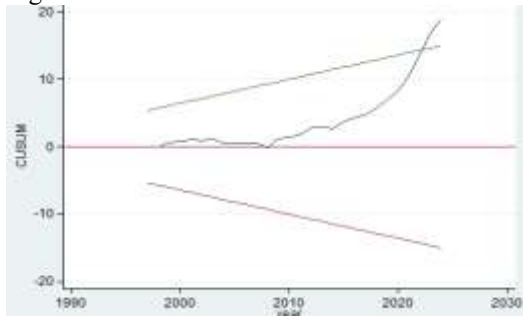
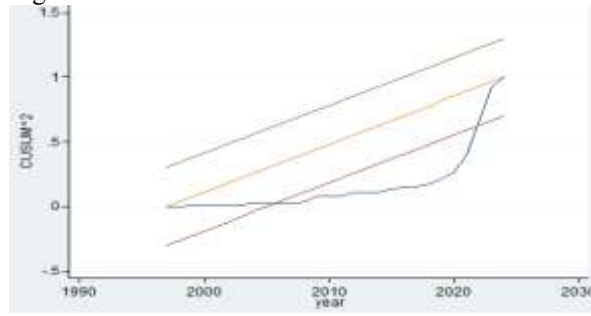


Figure 2



Source: author's computation

Figure 2 CUSUM and CUSUMSQ after including d2018

Figure 3

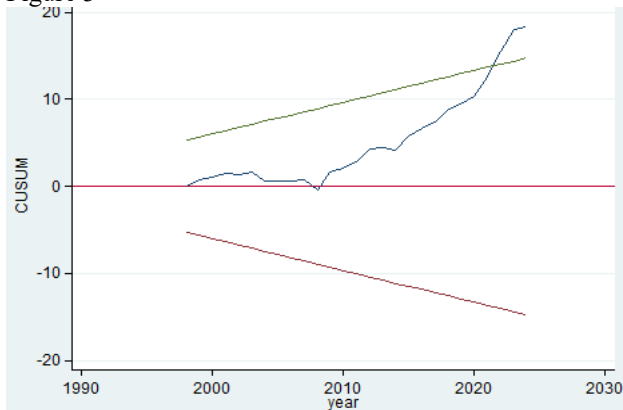
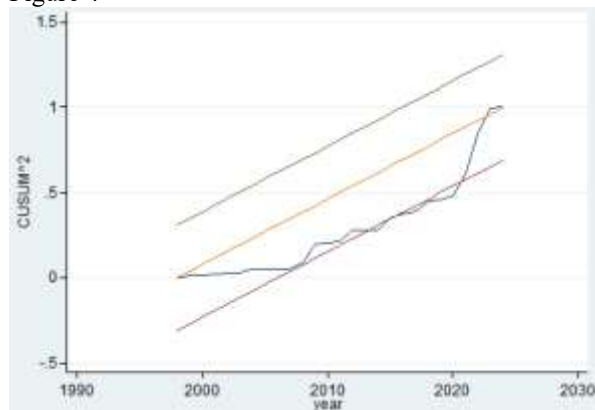


Figure 4



Source: Author's Computation

POLICY RECOMMENDATIONS

To stabilize domestic demand and support national growth frameworks like the fourth National Development Plan (NDP IV), specific interventions must be deployed across monetary, fiscal, and development planning institutions. First, the Bank of Uganda should introduce macroprudential regulations, such as target-capped interest spreads and regulatory incentives, to lower retail



borrowing costs and revitalize credit-financed household outlays, while collaborating with the Ministry of Trade to finance strategic national commodity buffers that anchor short-run inflationary expectations. Second, the Ministry of Finance, Planning and Economic Development (MoFPED) should scale up weather-indexed micro-insurance programs within rural agricultural networks to shield low-income households from temporary income-lag shocks, alongside floating tax-exempt diaspora bonds to channel long-run remittance inflows away from private consumption and directly into national public infrastructure projects. Finally, development planners must align state resources with Uganda Vision 2040 by significantly expanding budget allocations to Technical and Vocational Education and Training (TVET), thereby equipping the expanding youthful cohort with market-relevant skills to systematically transform the short-run youth dependency burden into a productive, high-earning long-run consumer market.

LIMITATIONS OF THE STUDY

While providing a robust econometric framework for analyzing consumption dynamics, this investigation encountered three distinct data and structural limitations that bound its empirical conclusions. First, the study relied exclusively on official macroeconomic time-series data from the World Development Indicators (WDI) database, meaning the remittances variable only captured flows transmitted through formal financial platforms and excluded Uganda's substantial unrecorded informal cash networks. Second, the strictly national, macro-level level of analysis aggregated all consumer spending into a single dependent variable, masking localized distributional nuances, urban-rural consumption gaps, and variations in the marginal propensity to consume across household income quintiles. Lastly, operating with an annual time-series dataset of 35 observations (1990–2024) restricted the mathematical degrees of freedom within the ARDL specification; this data constraint induced perfect multicollinearity when multiple structural dummy variables were introduced close together, preventing the model from simultaneously estimating separate indicators for the 2018 structural break and the 2021 post-pandemic inflationary shock.

AREAS FOR FURTHER RESEARCH

To extend the empirical reach of this framework and resolve the data constraints encountered during this investigation, three primary pathways are proposed for future academic research. First, future studies should attempt to model aggregate consumption behavior by utilizing adjusted remittance tracking datasets that incorporate informal inflow proxy measures or mirror-data accounting methods to evaluate if unrecorded transfers alter the long-run parameter observed in this study. Second, researchers should employ quarterly macro-data panels or disaggregated regional time-series to test whether the short-run credit squeeze caused by lending interest rates impacts urban, credit-dependent consumer groups more intensely than rural, cash-based agricultural households. Finally, to better address the post-pandemic structural breaks observed in the late-sample CUSUM plots, future econometric work should deploy non-linear or regime-switching models (such as NARDL or Markov-switching frameworks), allowing for shifting slope parameters across different economic crises without causing multicollinearity or model exclusion warnings.

CONCLUSION

This study successfully executed a comprehensive macroeconomic and demographic evaluation of aggregate consumption expenditure in Uganda from 1990 to 2024, providing definitive empirical proof that consumption behavior operates across distinct, often conflicting horizons. By deploying a robust ARDL framework with Newey-West standard errors, the empirical findings established that while long-run consumption expansion is firmly anchored by rising absolute incomes (GDP per capita) and expanding population baselines, the short-run trajectory is heavily disrupted by severe purchasing power erosion from inflation and immediate structural lags in household behavioral adjustment. Furthermore, variables like interest rates and population growth exhibit opposing short- and long-run effects, highlighting that consumption dynamics in a rapidly developing economy cannot be properly captured by simple static assumptions. Ultimately, bridging these conflicting horizons requires synchronized, evidence-based policy frameworks spanning monetary easing, fiscal insulation, and targeted demographic human-capital investments to sustain domestic aggregate demand and advance Uganda's structural transformation.

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