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External Debt and Economic Growth in Mauritania: An ARDL Time-Series Analysis (1970–2023)

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Abstract: This article analyzes the impact of external debt on economic growth in Mauritania over the period 1970–2023 using an ARDL model applied to time-series data from the World Development Indicators. Within the theoretical framework of debt overhang and the crowding-out effect, the study explicitly distinguishes the effect of the debt stock from that of debt service. The econometric results confirm the existence of a long-run cointegrating relationship between external debt and growth. The debt stock has a significant negative effect on GDP growth, while debt service also has a negative, albeit more moderate, impact. Conversely, domestic savings and gross fixed capital formation significantly stimulate growth. Trade openness appears unfavorable, reflecting primary specialization and external vulnerability, while an appreciation of the real exchange rate supports economic activity. These results argue for prudent debt management, increased domestic savings and better resource allocation to support sustainable growth.

Keywords: External Debt ; Economic Growth ; Debt Service ; Mauritania ; Developing Countries ; ARDL Model ; Cointegration.

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1. Introduction

The relationship between external debt and economic growth is a central and persistent debate in development macroeconomics. For developing countries, access to foreign capital has historically been seen as a crucial lever for bridging the gap in domestic savings and financing productive investments. However, the experience of debt crises and the accumulation of sometimes unsustainable debt have led to a critical reassessment of this perspective.

In this regard, the prevailing theoretical literature, which is formalized by the debt overhang hypothesis and the crowding-out effect, suggests that the impact of debt on growth is non-linear. Moderate debt can be beneficial, but beyond a certain threshold, it risks becoming a burden that discourages investment and diverts public resources.

Similarly, the empirical literature, while extensive, reflects this complexity. While many studies identify critical thresholds beyond which debt becomes detrimental, other research, particularly in sub-Saharan Africa, highlights a consistently negative effect, reinforcing the idea that the debt burden is a structural impediment to growth. These divergent results underscore that the impact of debt is strongly influenced by the institutional context and economic structure specific to each country.

For the specific case of Mauritania, this study adopts a linear specification. This choice is motivated by Mauritania's historical trajectory: for a large part of the period studied, debt ratios were high and often exceeded the levels identified in the literature as critical. In this context, the hypothesis of a largely dominant overhang effect is plausible, and the linear specification allows for a robust estimation of the average effect of the debt stock and debt service.

The analysis of the relationship between external debt and economic growth in Mauritania is particularly relevant in this context. As a developing economy dependent on natural resources and vulnerable to external shocks, Mauritania constitutes an important case study for testing existing theories against a specific reality. The relevance of this case study is reinforced by the history of Mauritanian debt. Rapid accumulation, linked in particular to investments in the mining sector and regional shocks, led to a critical debt burden during the 1980s and 1990s. Subsequently, the country's eligibility for debt relief initiatives (HIPC and MDRI) in the early 2000s made it possible to restructure this burden. Analyzing the impact of these major fluctuations—from over-indebtedness to substantial debt relief—on economic growth is therefore essential and constitutes the core of our research question.

Although the issue of debt is crucial for the country, it remains relatively unexplored in recent economic literature over such a long period, creating a gap that our study aims to fill. The main objective of this article is to examine the long- and short-term impact of the external debt stock and its debt service on Mauritanian economic growth. More specifically, we seek to answer the following research question:

- Do the external debt stock and debt service have distinct and significant effects on economic growth in Mauritania?

To answer this question, this article proposes a three-pronged contribution. First, we provide an empirical analysis for Mauritania based on an extended time series from 1970 to 2023, drawn primarily from the World Bank Development Indicators (WDI), which allows us to capture long-term structural dynamics. Second, our study explicitly distinguishes the impact of the debt stock from that of its servicing, two transmission channels that are often aggregated. Third, we apply a rigorous methodology, the Autoregressive Distributed Lag (ARDL) model, justified by the nature of the time series (mixed integration orders), to robustly estimate long-term cointegration relationships and short-term adjustment dynamics.

The remainder of the article is structured as follows. Section 2 presents a review of the theoretical and empirical literature. Section 3 describes the methodology, model specification, and data. Section 4 presents and discusses the econometric results. Finally, Section 5 concludes and proposes economic policy recommendations.

2. Review of Empirical Literature

The empirical literature examining the relationship between external debt and economic growth is both extensive and marked by a lack of clear consensus. Existing work can be broadly classified into two main categories.

On the one hand, a significant body of research concludes that there is a non-linear relationship, often characterized by the identification of a critical threshold beyond which the effect of debt reverses. According to this perspective, moderate debt can be beneficial, but it becomes detrimental to

economic growth once it exceeds a certain threshold. Perhaps the most influential study is that of Pattillo, Poirson, and Ricci (2002, 2004). By analyzing a large panel of 93 developing countries over the period 1969–1998, these authors demonstrated that the impact of external debt on growth becomes negative when its stock reaches approximately 35–40 percent of GDP, or 160–170 percent of exports. They suggest that this high level of debt hinders growth primarily by reducing the efficiency of investment rather than its volume.

In the same vein, subsequent research has confirmed and refined this approach. For example, Clements, Bhattacharya, and Nguyen (2003), focusing on 55 low-income countries between 1970 and 1999, identified a similar threshold, between 30 and 37 percent of GDP. Likewise, the influential work of Reinhart and Rogoff (2010), although focusing on total public debt, popularized the idea that a debt-to-GDP ratio above 90 percent is associated with significantly slower growth, a finding often extrapolated to external debt. More recently, Egert (2015) corroborated these findings for OECD countries, setting a threshold of around 90 percent of GDP.

Other studies have provided further nuances. Khan (2025), for example, distinguishes between total external debt, with a threshold estimated at 90%, and long-term debt, for which the critical threshold is 50.53%. Zaghdoudi (2020) showed that for middle-income countries, this threshold could be much lower, at 15.28%, emphasizing that the impact of debt varies according to the level of development. Finally, Elkhalfi (2024) confirms this non-linear relationship for emerging economies (1990-2022), noting that excessive debt accumulation leads to diminishing returns.

Conversely, many studies highlight a consistently negative effect. This approach often relies on the "debt overhang" hypothesis, according to which a high debt stock discourages investment and policy reforms, thereby undermining future growth. Cunningham (1993), for example, concluded that for 16 heavily indebted nations during the period 1971–1987, the growth of the debt burden had a direct negative effect on economic growth. Similarly, Fosu (1999) demonstrated that external debt hampered growth in 35 Sub-Saharan African (SSA) countries during the 1980s, even though its impact on investment volume was small.

This conclusion has been reinforced by more recent analyses using advanced econometric methods. Siddique, Selvanathan, and Selvanathan (2016), using an ARDL model on 40 Heavily Indebted Poor Countries (HIPC) from 1970 to 2007, showed that debt exerts a negative influence in both the short and long term. Similarly, Wang (2021), using a panel of low- and middle-income countries for the period 1970–2018, provided strong evidence that an increase in external public debt consistently predicts a slowdown in growth.

The African continent has received particular attention. Senadza, Fiagbe, and Quartey (2017), as well as Muhia John Gachunga (2019), confirm, using panels of SSA countries, that external debt directly hinders economic growth. National case studies, such as Boboye and Ojo's (2012) study of Nigeria, corroborate these findings at the macroeconomic level, linking the debt burden to economic recession, currency devaluation, and a deterioration of public services.

Finally, an important transmission mechanism was highlighted by Fosu (2010). His analysis shows that debt service pressures force governments to reallocate public spending at the expense of social sectors such as education and health, thereby indirectly affecting human capital and long-term growth.

In this context, analyzing the relationship between external debt and economic growth in Mauritania becomes particularly relevant. It will allow us to test these theoretical frameworks and existing empirical findings against the realities of a specific developing economy, in order to determine which of these dynamics prevails.

3. Methodology

3.1 Data Description

This study uses time series data from 1970 to 2023 to analyze the impact of external debt on economic growth in Mauritania. The data are from the World Bank's World Development Indicators database, ensuring their reliability and international comparability. Most variables have been logarithmically transformed to facilitate the interpretation of coefficients in terms of elasticities; however, three series with negative values have been retained in levels to maintain the statistical validity of the analysis.

Table 1. Description of the variables used in the study

Variable	Definition	Data Source
GDPG	Real GDP growth rate (% annual)	World Development Indicators, World Bank
L_EXTD	External debt stock as a percentage of gross national income (% of GNI)	World Development Indicators, World Bank
L_DSRV	External debt service as a percentage of gross national income (% of GNI)	World Development Indicators, World Bank
L_GFCF	Gross fixed capital formation as a percentage of gross domestic product (% of GDP)	World Development Indicators, World Bank
GDS	Gross domestic savings as a percentage of gross domestic product (% of GDP)	World Development Indicators, World Bank
INF	Inflation rate, measured by the GDP deflator (% annual)	World Development Indicators, World Bank
L_POPG	Population growth rate (% annual)	World Development Indicators, World Bank
L_REER	Real effective exchange rate, adjusted by GDP deflator	World Development Indicators, World Bank
L_OPEN	Trade openness, measured by the ratio of trade to GDP	World Development Indicators, World Bank

3.2 Regression Specification

To examine the impact of external debt on economic growth in Mauritania, our model draws on major theoretical and empirical contributions. Krugman (1988) and Sachs (1989) introduced the concept of debt overhang, highlighting the negative impact of excessive debt on investment and growth. Empirical studies such as those by Pattillo, Poirson, and Ricci (2002) and Clements, Bhattacharya, and Nguyen (2003) confirm this finding in the case of developing countries, highlighting that external debt, when it exceeds certain thresholds, hinders economic development.

The model that will be estimated in this article is as follows:

$$\boldsymbol{GDPG_t = C + \beta_1 L\_EXTD_t + \beta_2 L\_DSRV_t + \beta_3 GDS_t + \beta_4 L\_GFCF_t + \beta_5 INF_t + \beta_6 L\_REER_t + \beta_7 L\_POPG_t + \beta_8 L\_OPEN_t + \varepsilon_t}$$

Où $\beta_3, \beta_4, \beta_4, \beta_6, \beta_7, \beta_8 > 0$ et $\beta_1, \beta_2, \beta_5, < 0$. $\boldsymbol{\varepsilon_t}$ is the error term.

The above model represents the long-run equilibrium relationship for economic growth.

To examine the short- and long-term relationships between the variables, we will use the ARDL (Autoregressive Distributed Lag) method proposed by Pesaran et al. (2001). This approach has the advantage of being applicable whether the series are integrated of order zero [I(0)] or order one [I(1)], or a combination of both. The stationarity of the variables will be verified beforehand using the Augmented Dickey-Fuller (ADF) unit root test to determine their respective orders of integration.

The ARDL-ECM model associated with this equation can be written as follows:

$$\Delta GDPG_t = \sum_{i=0}^{p} \gamma_t L\_EXTD_{t-i} + \sum_{i=0}^{p} \pi_t L\_DSRV_{t-i} + \sum_{i=0}^{p} \varepsilon_t GDS_{t-i} + \sum_{i=0}^{p} \rho_t L\_GFCF_{t-i} + \sum_{i=0}^{p} \partial_t INF_{t-i} + \sum_{i=0}^{p} \alpha_t L\_REER_{t-i} + \sum_{i=0}^{p} \omega_t L\_POPG_{t-i} + \sum_{i=0}^{p} \vartheta_t L\_OPEN_{t-i} + \delta ECM_{t-1} + \varphi_t$$

Where Δ denotes the first difference, and p the optimal number of lags for the variable. $\gamma_t, \pi_t, \varepsilon_t, \rho_t, \partial_t, \alpha_t, \omega_t$ et ϑ_t represent the short-run coefficients of the explanatory variables. δ corresponds to the speed of adjustment towards equilibrium (must be negative and significant), ECM_{t-1} denotes the error correction term lagged by one year. φ_t is the short-run error term.

We will also perform standard diagnostic tests to verify the absence of residual autocorrelation, normality, and heteroscedasticity, thus ensuring the validity of the model specification. Furthermore, the stability of the estimates will be assessed using the Cumulative Sum (CUSUM) and Cumulative Sum of Squares (CUSUMSQ) statistics.

4. Results and Discussion

For the model estimation, we use the Autoregressive Distributed Lag (ARDL) method. Before proceeding with this estimation, it is important to verify certain preliminary assumptions, notably the stationarity of the series using ADF tests and the existence of a cointegrating relationship via the Bounds Test. This rigorous pre-estimation procedure ensures the statistical validity of our results.

4.1 Stationarity

The results of the Augmented Dickey-Fuller (ADF) unit root test indicate stationarity properties that vary depending on the model specifications. The GDS variable appears stationary at level (I(0)) in the Trend and Intercept model, while in the Intercept model, it requires first differencing to achieve stationarity, thus becoming integrated of order one (I(1)). The GDPG, L_EXTD, L_DSRV, INF, and L_GFCF variables are stationary at level for both models. In contrast, all other tested variables (L_OPEN, L_REER, and L_POPG) are found to be integrated of first order (I(1)) in both specifications, with or without a trend. This combination of integration orders fully justifies the use of an ARDL (Autoregressive Distributed Lag) model.

Table 2. Stationarity tests

Models	Variables	ADF statistic (Level)	ADF statistic (1st differnece)	MacKinnon 5%	MacKinnon 10%	Order of integration
Intercept	GDPG	-8.670849		-2.918778	-2.597285	I(0)
	L_EXTD	-3.922334				I(0)
	L_DSRV	-3.963799				I(0)
	GDS	-2.193170	-8.364098			I(1)
	INF	-6.821954				I(0)
	L_GFCF	-3.582962				I(0)
	L_OPEN	-2.270853	-5.925089			I(1)
	L_REER	-2.556520	-5.640793			I(1)
	L_POPG	-1.848232	-4.581009			I(1)
Trend and	GDPG	-8.953867		-3.498692	-3.178578	I(0)

Intercept	L_EXTD	-3.398910				I(0)
	L_DSRV	-3.628821				I(0)
	GDS	-3.873508				I(0)
	INF	-7.162699				I(0)
	L_GFCF	-4.420795				I(0)
	L_OPEN	-2.419275	-5.842396			I(1)
	L_REER	-2.994159	-5.787852			I(1)
	L_POPG	-1.815403	-4.541160			I(1)
Notes: I(0) means that the variable is stationary in level without differentiation, and I(1) denotes that it has been differentiated only once to make it stationary.						

4.2 Bounds Test

Table 3 presents the results of the bounds test, based on the F-statistic, designed to assess the existence of cointegration between the variables. The results indicate that the F-statistic (F = 21.10) exceeds the upper bound of the critical values at the 1% significance level. Therefore, the null hypothesis of no long-term relationship is rejected, suggesting the existence of a long-term cointegration relationship for the estimated model. These results show that the set of explanatory variables is significantly related to long-term economic growth.

Table 3. Bounds test

F-Bounds Test		**Null Hypothesis: No levels relationship**		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	21.10962	10%	1.85	2.85
K	8	5%	2.11	3.15
		2.5%	2.33	3.42
		1%	2.62	3.77

4.3 Optimal Lags and ARDL Model

The graph below shows the Akaike Information Criterion (AIC) values for the top twenty models. As the analysis shows, the ARDL model (1, 4, 2, 4, 3, 3, 4, 4, 4) is the most optimal among the other 19 models, as it displays the smallest SIC value (Figure …). It follows that the number of lags retained corresponds to the lowest value of the criterion.

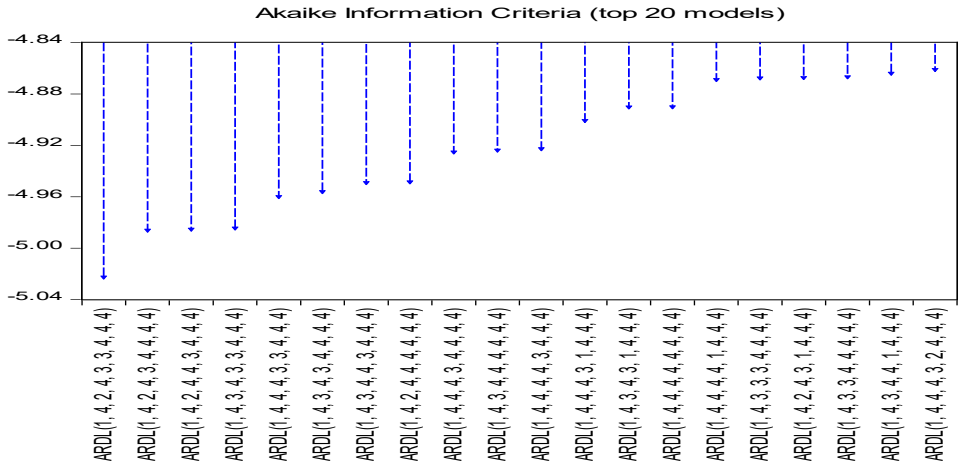

Figure 1. The graph of the Akaike Information Criterion (AIC)

The table 4 presents the optimal ARDL specification and key statistics, chosen according to the number of lags that minimizes the Schwarz Information Criterion (SIC). The results indicate that the model is statistically significant, with a p-value of the F-statistic of 0.000475 and an adjusted coefficient of determination ($\mathbf{R^2}$) of 0.82, demonstrating a strong relationship between the explanatory variables and the dependent variable. The F-statistic exceeds the critical value at the 5% level (2.59), confirming the overall significance of the model, while the Durbin-Watson coefficient, close to 2, attests to the good specification of the estimated equation.

Table 4. Summary of the optimal ARDL specification and key statistics

Item	**Value**
Adjusted R^2	0.8173
F-statistic	6.9253 (p = 0.000475)
Durbin–Watson stat	1.9709
Akaike info criterion (AIC)	−5.0227
Schwarz criterion (SIC)	−3.5696

4.4 Robustness tests

Finally, as shown in Table 5 and Figures 1 and 2, the ARDL model passes all the robustness tests. The LM serial correlation test indicates a probability greater than the 5% level, confirming the absence of error autocorrelation. Similarly, the Ramsey test (RESET) validates the good specification and linearity of the model. The Jarque-Bera normality and heteroscedasticity (ARCH) tests confirm that the residuals are normally distributed and homoscedastic. [**Table 5**] To assess the short- and long-term stability of the variables, the CUSUM and CUSUMSQ tests were applied. The results show that the curves remain within the corridor delimited by the red dotted lines, thus confirming the structural (**Figure 1**) and parameter stability (**Figure 2**) of the model.

Table 5. Robustness tests

Statistical tests	**Test stat probability**	**Acceptance Rule: H0**	**Hypothesis : H0**
Ramsey RESET	0.44 (0.66)	Prob > 0,05	The model is well specified
Serial correlation LM	0.71 (0.51)	Prob > 0,05	Uncorrelated errors
ARCH	0.72 (0.40)	Prob > 0,05	Homoscedastic errors
Jarque-Bera	3.30 (0.19)	Prob > 0,05	residue is normal
Notes: The values in parentheses () are the probabilities associated with the test statistics.			

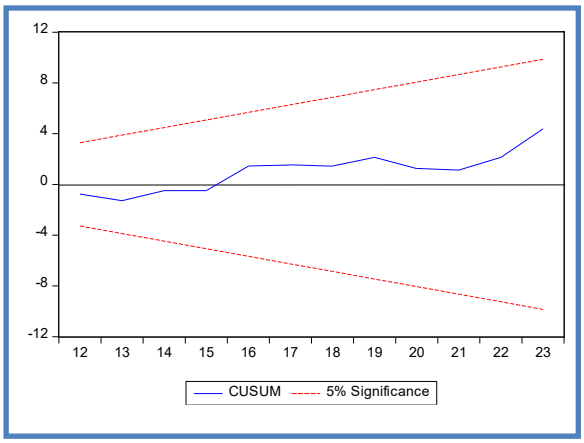

Figure 1. CUSUM test

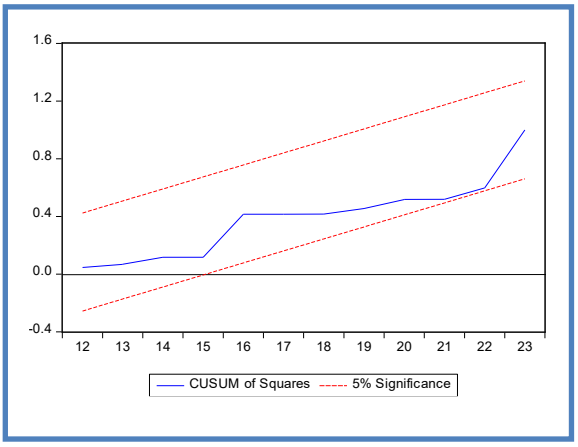

Figure 2. Square CUSUM test

4.5 Long-run coefficients and error correction model

Table (6) reveals that most variables exert a significant long-run influence (at the 5% level). Debt service (L_DSRV) is marginally significant (10%), while inflation (INF) and population growth (L_POPG) are not statistically significant.

These estimated long-run relationship coefficients highlight that:

- External debt has a significant negative effect on long-term economic growth in Mauritania: a 1% increase in the external debt stock reduces GDP growth by approximately 0.087 percentage points. This result is mainly explained by the debt overhang effect, whereby the accumulation of high debt generates an expectation of future tax liabilities, which tends to discourage private investment and weaken policymakers' incentives to implement ambitious structural reforms. Furthermore, high external debt restricts the state's capacity to finance growth-promoting public investments, particularly in infrastructure and human capital. In a context of limited institutional capacity, the inefficient allocation of borrowed resources exacerbates these negative effects, making external debt a structural impediment to long-term growth rather than a lever for development.
- External debt servicing has a significant negative impact on economic growth at the 10% threshold, with a 1% increase in this service reducing GDP growth by approximately 0.02 percentage points. This result is explained by the fact that debt servicing absorbs a growing share of public resources, limiting the state's capacity to finance productive investments. It also increases macroeconomic pressures and the cost of financing, thereby crowding out private investment. The combination of these mechanisms, in a context of structural constraints, sustainably reduces long-term growth potential.
- Gross domestic savings have a positive and statistically significant effect on long-term economic growth in Mauritania, with an elasticity of 0.38 percentage points of GDP for each percentage point increase. This result is consistent with endogenous growth models that emphasize the role of capital accumulation. Domestic savings are the primary source of internal financing for productive investment, reducing macroeconomic vulnerability to external debt. By strengthening resilience and creating an environment conducive to private investment, high domestic savings endogenously consolidate long-term growth potential.
- Gross Fixed Capital Formation (GFCF) has a positive and statistically significant effect on economic growth in Mauritania, with a one percentage point increase in GFCF translating into a 0.09 percentage point increase in GDP. This result is consistent with growth models that posit investment as the primary driver of productive capital accumulation and improvements in Total Factor

Productivity (TFP). Investment in infrastructure and equipment generates positive externalities (technology transfer, reduced production costs) that endogenously and sustainably support the economy's growth potential.

- Trade openness has a negative and statistically significant effect on long-term economic growth in Mauritania (elasticity of -0.02 percentage points). This result is explained by increased specialization in primary exports, which exposes the economy to external shocks and limits productivity gains. Furthermore, import competition can weaken local industries and hinder productive investment in the absence of supporting policies.
- The Real Effective Exchange Rate (REER) has a positive and statistically significant effect on economic growth in Mauritania, with a one percentage point increase translating into a 0.11 percentage point increase in GDP. This result is explained by the fact that the real appreciation of the ouguiya effectively reduces the local currency cost of imports (food, energy, industrial inputs, equipment), which translates into increased household purchasing power and lower production costs for businesses. This decrease in imported prices directly stimulates domestic consumption and facilitates capital investment (equipment, machinery, etc.). Furthermore, a strong currency limits imported inflation and stabilizes the macroeconomic environment, strengthening the confidence of economic actors.
- Inflation has a negative impact on economic growth in Mauritania, although this effect is not statistically significant at the conventional threshold. This lack of significance suggests that, over the period studied, the observed inflation levels were neither high nor persistent enough to generate major macroeconomic costs—such as uncertainty in relative prices, distortion of economic signals, or a decline in total factor productivity—capable of permanently hindering growth. Thus, inflation appears more as a factor of macroeconomic stability than as a central determinant of long-term growth.
- Population growth has a negative but not significant effect on economic growth in Mauritania. The lack of significance suggests that the negative effects are partially offset by positive factors, such as the expansion of the labor force, indicating that demographic dynamics are not a robust determinant of long-term growth over the period studied.

Table 6. Log-run coefficients and ECM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
L_EXTD	-0.087274	0.022676	-3.848675	0.0023
L_DSRV	-0.020305	0.011141	-1.822571	0.0934
GDS	0.383451	0.063987	5.992683	0.0001
INF	-0.179526	0.144478	-1.242580	0.2378
L_GFCF	0.090297	0.024634	3.665493	0.0032
L_OPEN	-0.077012	0.034657	-2.222094	0.0463
L_REER	0.117582	0.023954	4.908681	0.0004
L_POPG	-0.062130	0.060645	-1.024488	0.3258
C	0.295018	0.258865	1.139660	0.2767
ECM = GDPG - (-0.0873*L_EXTD -0.0203*L_DSRV + 0.3835*GDS -0.1795*INF + 0.0903*L_GFCF -0.0770*L_OPEN + 0.1176*L_REER -0.0621 *L_POPG + 0.2950)				

4.6 Short-run coefficients

The appendix presents the results of the short-run dynamic coefficients associated with the long-term relationships derived from the ECM equation. The signs of the short-run coefficients are consistent with the long-run estimates. However, the coefficient (δ) of the l'ECM_{t-1}, estimated at -1.66, is

negative and highly significant. Although atypical, a value between -1 and -2 remains econometrically admissible and reflects an oscillatory adjustment mechanism characterized by overshooting. Specifically, the system corrects the deviation from equilibrium by approximately 166% in the first year, temporarily exceeding its long-run trajectory before converging in a damped manner. This dynamic suggests a strong responsiveness of macroeconomic adjustments to shocks, potentially linked to the Mauritanian economy's dependence on volatile sectors such as extractive industries. Despite these short-term oscillations, the stability of the convergence process is confirmed by the CUSUM and CUSUMSQ tests, which do not indicate any significant structural break.

5. Conclusion

The question of the impact of external debt on economic growth remains central to debates in development economics, oscillating between the view of it as an essential financing lever and that of a structural impediment. This study aimed to shed light on this debate in the specific context of Mauritania, by employing a time series analysis over the period 1970-2023 and using an Autoregressive Distributed Lag (ARDL) model to distinguish between short- and long-run dynamics.

First, the validity of our model is supported by a battery of standard diagnostics and stability tests that confirm the consistency of the ARDL estimation and the existence of a long-run equilibrium relationship. Furthermore, the negative and significant error correction coefficient confirms the relevance of our approach and indicates a rapid adjustment towards long-run equilibrium.

Regarding the empirical results, our analyses robustly establish the existence of a long-run cointegrating relationship between external debt and economic growth. The estimation of this relationship reveals a negative and statistically significant influence of the debt stock: a 1% increase in the debt stock is associated with a contraction in GDP growth of approximately 0.087 percentage points. Equally crucial, debt servicing also has a significant negative effect, with a 1% increase in this burden reducing growth by 0.02 percentage points. These convergent results align our study with the theories of "debt overhang" and public investment crowding-out. They suggest that, for Mauritania, the debt level has exceeded an optimal threshold, where the burden of the debt stock and the cost of debt service jointly act as a barrier to private investment and the allocation of public resources to productive sectors.

Furthermore, our analysis has highlighted the crucial role of other determinants. Consistent with growth theory, domestic savings and gross fixed capital formation appear as positive and significant drivers of long-run growth. However, somewhat counterintuitively, our results indicate a negative effect of trade openness and a positive effect of real exchange rate appreciation, suggesting an economic structure vulnerable to external shocks and highly dependent on imports.

In light of these findings, several policy implications emerge. First, more prudent and strategic management of external debt is imperative. This implies not only controlling the overall level of indebtedness but also negotiating more sustainable debt service terms and improving the efficiency of borrowed fund allocation. Second, policies aimed at stimulating domestic savings and encouraging productive private investment appear to be key levers for reducing dependence on external financing.

Finally, this research paves the way for future investigations. The application of nonlinear models could allow for the estimation of a debt threshold specific to Mauritania. This study thus contributes to the literature by providing a robust empirical analysis for a little-studied country, confirming that without rigorous management, external debt and its debt service risk permanently compromising economic development prospects.

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Appendix: Selected short-run dynamic coefficients from the ECM equation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(L_EXTD)	-0.202043	0.018869	-10.70754	0.0000
D(L_EXTD(-1))	-0.125457	0.020341	-6.167661	0.0000
D(L_EXTD(-2))	0.043693	0.018987	2.301202	0.0401
D(L_EXTD(-3))	0.194527	0.024421	7.965668	0.0000
D(L_DSRV)	0.025020	0.011828	2.115315	0.0560
D(L_DSRV(-1))	0.042331	0.011677	3.625256	0.0035
D(GDS)	0.340004	0.056121	6.058381	0.0001
D(GDS(-1))	-0.065936	0.052267	-1.261539	0.2311
D(GDS(-2))	0.433918	0.051451	8.433611	0.0000
D(GDS(-3))	0.355471	0.055269	6.431641	0.0000
D(INF)	-0.078713	0.054566	-1.442536	0.1747
D(INF(-1))	0.290026	0.068232	4.250582	0.0011
D(INF(-2))	0.349532	0.059806	5.844414	0.0001
D(L_GFCF)	0.060995	0.013890	4.391428	0.0009
D(L_GFCF(-1))	0.019305	0.011846	1.629744	0.1291
D(L_GFCF(-2))	0.049566	0.017259	2.871946	0.0140
D(L_OPEN)	-0.223343	0.028459	-7.847902	0.0000
D(L_OPEN(-1))	0.097361	0.027930	3.485928	0.0045
D(L_OPEN(-2))	-0.093477	0.027032	-3.458029	0.0047
D(L_OPEN(-3))	-0.110531	0.021561	-5.126482	0.0003
D(L_REER)	0.330517	0.046303	7.138078	0.0000
D(L_REER(-1))	0.238173	0.056841	4.190190	0.0013
D(L_REER(-2))	0.189464	0.051386	3.687075	0.0031
D(L_REER(-3))	-0.270343	0.043883	-6.160571	0.0000
D(L_POPG)	0.133954	0.049951	2.681700	0.0200
D(L_POPG(-1))	0.106706	0.059182	1.803035	0.0965
D(L_POPG(-2))	-0.154516	0.047544	-3.249939	0.0070
D(L_POPG(-3))	-0.203413	0.039632	-5.132479	0.0002
CointEq(-1)*	-1.662832	0.086515	-19.22026	0.0000