

Differentiated Impacts of External Public Financing Sources on Economic Growth in Cameroon: An ARDL Approach

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Abstract

The objective of this article is to analyze the relationship between specific sources of external public financing namely, official development assistance and external public debt and economic growth in Cameroon. Using an Autoregressive Distributed Lag (ARDL) approach applied to annual data from 1980 to 2023, we first established the existence of a long-term relationship between these sources of external financing and economic growth in Cameroon. The findings indicate that, in the long term, external public financing sources, including official development assistance and external public debt, have a significant positive impact on economic growth in the country. In the short term, while the impact also appears positive, it is not statistically significant. These results reflect the cautious debt policy adopted by the Cameroonian government after reaching the completion point, which commits to maintaining the debt ratio (DEBT/GDP) below 45%. This threshold is half of the Community requirement and lower than the debt ratios of many other countries. However, the rapid increase in external public debt in recent years raises concerns, as this trend could potentially harm economic growth if it continues unchecked.

Keywords

ADP, External Public Debt, Economic Growth, ARDL Approach, Cameroon

1. Context and Issues

In the aftermath of independence in Africa, mobilizing funds to finance the economy has been a key concern for leaders in developing countries. This mobilization can be internal (through taxation) or external, particularly through development

financing (Ngoura et al., 2022). This concern remains relevant today, reflecting the feeling that development is an ongoing quest. Despite notable differences, all estimates indicate significant financing needs and deficits for the achievement of sustainable development goals in Africa. In order to achieve this goal, the needs are estimated at nearly \$638 billion per year over the period 2015-2030 and at nearly \$1.2 trillion per year in the case of low-income and lower-middle-income countries, or about 11% of GDP; Annual needs in the areas of basic infrastructure, food security, health, education, and climate change mitigation are estimated at nearly \$210 billion (Schmidt-Traub & Shah, 2015; UNCTAD, 2014; IMF, 2018).

This inability of the state's internal resources to cover investment expenditure, which reveals financing needs, can be explained by several factors, including insufficient domestic savings, the gap between the pace of revenue collection and the timing of expenditure, and insufficient foreign exchange reserves. Indeed, once collected, tax revenues constitute savings for countries that can be used to finance local investments in order to achieve faster economic growth (Aizenman et al., 2007). Between 2003 and 2022, the mobilization of domestic resources represented nearly USD 961.5 billion (IMF, 2023a).

In Cameroon, the OECD (2022) estimates that tax revenues accounted for around 18% of GDP. Although these have increased in volume since 2009, they remain low and below the minimum level of 23% of GDP estimated by the Economic Commission for Africa to achieve the SDGs. In order to make the investments planned for the period and achieve SND 30, the Cameroonian government needed a total funding package estimated at 13 trillion CFA francs. To cover these financing needs, Cameroon had no choice but to resort to external financing, as most developing countries do. The main external source of financing sought by Cameroon is external public debt, which has grown rapidly over the last ten years. Cameroon's external public debt rose from USD 2097 million in 2008 to USD 4067 million in 2013. In 2022, this figure stood at USD 10,633 million, or about 27% of GDP. In 2024, Cameroon's public debt reached an estimated 13,070 billion CFA francs, representing approximately 43.3% of the country's GDP. While debt increased, official development assistance remained more or less constant. According to the WDI 2019, the flow of ODA received by Cameroon in 2002 amounted to \$605 million, \$597 million in 2012, \$1212 million in 2017, and \$2590 million in 2023 (IMF, 2023b).

The cause-and-effect relationship between public debt, official development assistance, and economic growth is well established. Elmendorf and Mankiw (1999) identify three key functions of public debt for the economy. For a government seeking to improve the well-being of its citizens, public debt has three main functions: smoothing production levels over the cycle, adjusting savings levels, and minimizing the cost of financing irregular public expenditure. Similarly, like ODA, debt makes it possible, among other things, to limit fluctuations in the level of production, minimize the cost of financing public expenditure, and adjust the level of savings.

In view of this observation, it is important to question the differentiated effects of External Financing Sources on Cameroon's Economic Growth, by focusing on the effects of Public External Financing Sources (DET and APD) on Cameroon's Economic Growth. The originality of this work lies in the joint and updated analysis of two main sources of public external financing (Official Development Assistance (ODA) and external debt (DET)), in the specific context of Cameroon, mobilizing a rigorous econometric approach (ARDL) over a long period (1980-2023). While the literature on the link between external financing and growth is abundant, few studies have focused on the differentiated effects of these sources in a national framework, integrating both short- and long-term dynamics. This research thus makes an original empirical contribution by testing the robustness of this relationship in a context marked by post-HIPC debt policy choices and structural commitments in the National Development Strategy 2030 (NDS30). It also provides a better understanding of the conditions for the effectiveness of such financing in supporting inclusive and sustainable growth, and offers concrete economic policy implications for middle-income countries faced with complex budgetary trade-offs. The following section presents a selective review of the literature. Section 3 describes the methodology adopted. Section 4 presents the results and discussions.

2. Review of the Literature

2.1. Theoretical Lessons

In Keynesian theory, indebtedness in general does not entail costs for either present or future generations, due to the investments it generates. The global approach and the multiplier and gas pedal effects are fundamental features of the Keynesian theory of government indebtedness. In addition, Ricardian Equivalence Theory (Ricardo, 1820) postulates that the effect of public spending on the economy is totally independent of the way in which the spending is financed and, in particular, of the choice between taxation (immediate payment), borrowing (future payment), or even money creation. Barro (1974) extended the analysis to intergenerational transfers. Buchanan (1976) applied the principle to Keynesian economic policies, demonstrating their ineffectiveness. Indeed, other theoretical studies have shown that financing the economy through debt would have a short-term effect, by stimulating domestic consumption and investment, resulting in a growth rate higher than that of the real interest rate on bonds (Sargent & Wallace, 1981). Other theoretical findings support the view that financing public deficits through debt has fewer distortionary effects than financing through seigniorage, due to inflationary pressures, or through higher compulsory levies, due to lower household purchasing power and reduced corporate financing capacity (Samizafy, 2013; Sargent & Wallace, 1981).

Similarly, Official Development Assistance (ODA) is one of the most important sources of development funding. Its role as a source of external funding dates back to the 1940s, with the work of Domar (1946). Their findings helped determine the level of aid needed to achieve the goal of balanced growth, in which ODA in-

creased investment and consequently economic growth. Further work along the same lines emerged in the 1980s with the contributions of [Mosley et al. \(1987\)](#). This work evolved into endogenous growth models following Romer, in which the hypothesis of increasing returns to scale for capital and endogenous technical progress would lead to greater aid effectiveness in countries with sound macroeconomic policies, thereby improving the well-being of the entire population ([Myriam, 2011](#)).

2.2. Empirical Contributions

There is a wealth of empirical work examining the link between external debt and economic growth. [Kumar and Woo \(2010\)](#) examine the impact of high public debt on economic growth across a panel of advanced and emerging economies over the period 1970-2007. The results show the negative linear effect of public debt on economic growth. In the long term, economists appear to be at least theoretically unanimous on the negative impact of public debt on economic growth. Indeed, [Reinhart and Rogoff \(2010\)](#) determined, for a sample of developed countries, the existence of a public debt threshold (relative to GDP) of 90% ([Kumar & Woo, 2010](#); [Reinhart & Rogoff, 2010](#); [Lin, 2014](#)). In the short term, they could be appreciated in a fiscal policy context about Keynesian multipliers ([Ramey, 2011](#), [Ramey & Zubairy, 2018](#); [Auerbach & Gorodnichenko, 2013](#); [Delong & Summers, 2012](#); [Ramey & Zubairy, 2018](#)).

Empirical studies aimed at illustrating the relationship between Official Development Assistance (ODA) and growth have produced a variety of results. Authors such as ([Mosley et al., 1987](#); [Dowling & Hiemenz, 1982](#)) have concluded that the ODA-Economic Growth relationship is either non-existent or complex. In the same vein, [Bayoko \(2014\)](#) made use of the cointegration approach of [Pesaran et al. \(2001\)](#) and the causality of [Toda and Yamamoto \(1995\)](#) to study the link between aid and growth in the UEMOA zone over the period 1970-2012. [Khemiri \(2014\)](#) estimated a model using the Difference Generalized Moment Method (Diff-GMM) and the Dynamic Panel Method (Sys-GMM). Incorporating the anti-corruption index of [Kaufmann et al. \(2005\)](#) into the estimated model, aid has a non-significant impact on growth in over fifty developing countries. On the contrary, a significant positive effect of public aid on growth has been demonstrated by certain authors ([Hansen & Tarp, 2000, 2001](#); [Dalgaard et al., 2004](#)). [Hadjimi-chael et al. \(1995\)](#) confirmed these results by considering 41 countries over the period 1986 to 1992. [Radelet et al. \(2004\)](#) noted the irrelevance of directly studying the effectiveness of total aid, and broke total aid down into short-term aid, long-term aid, and food aid.

3. Methodology and Data Sources

3.1. Model

In the present work, we seek to estimate the relationship between the growth rate of GDP per capita (dependent variable) and public external financing variables

using the ARDL model based on the ARDL model by Pesaran et al. (2001). The choice of this model lies in the fact that estimates of the Growth rate from time series have generally been influenced by time and the econometric results obtained, although high coefficients of determination and Student-Fisher coefficients are unreliable. Most studies of growth estimation using time series have also been influenced by time, and the econometric results are not always reliable due to the lack of prior verification of the stationarity hypothesis, which limits the validity of econometric results in the context of dynamic modeling of economic growth behavior.

The ARDL model was chosen because it allows the estimation of both short- and long-run relationships even when the variables are integrated of different orders, $I(0)$ and $I(1)$. This flexibility makes it particularly suitable for macroeconomic data series that often exhibit mixed integration orders.

The ARDL model is therefore estimated according to the following functions:

$$\text{CPIBH}_t = f(\text{APD}, \text{DET}, \text{OUV}, \text{FBCF}, \text{TPOP}, \text{INF}) \quad (1)$$

If we want to capture the short-run and long-run effects of the above explanatory variables on the growth rate of GDP per capita, the ARDL representation of function (1) will be:

$$\begin{aligned} \Delta\text{CPIBH}_t = & a_o + \sum_{j=1}^p a_{1j} \Delta\text{CPIBH}_{t-j} + \sum_{j=0}^q a_{2j} \Delta\text{APD}_{t-j} + \sum_{j=0}^q a_{3j} \Delta\text{DET}_{t-j} \\ & + \sum_{j=0}^q a_{4j} \Delta\text{OUV}_{t-j} + \sum_{j=0}^q a_{5j} \Delta\text{FBCF}_{t-j} + \sum_{j=0}^q a_{6j} \Delta\text{TPOP}_{t-j} \\ & + \sum_{j=0}^q a_{7j} \Delta\text{INF}_{t-j} + b_1 \text{CPIBH}_{t-1} + b_2 \text{APD}_{t-2} + b_3 \text{DET}_{t-3} \\ & + b_4 \text{OUV}_{t-4} + b_5 \text{FBCF}_{t-5} + b_6 \text{TPOP}_{t-6} + b_7 \text{INF}_{t-7} + \varepsilon_t \end{aligned} \quad (2)$$

Referring to the literature, several tests of cointegration are available, including that of Engle and Granger (1987), Johansen (1988, 1991), and Pesaran et al. (2001). Thanks to the Pesaran et al. (2001) procedure, error-correction models can help confirm the existence or otherwise of cointegration between variables. In the case of public external financing, the model will take the following form in this study:

$$\begin{aligned} \Delta\text{CPIBH}_t = & a_o + \sum_{j=1}^p a_{1j} \Delta\text{CPIBH}_{t-j} + \sum_{j=0}^q a_{2j} \Delta\text{APD}_{t-j} + \sum_{j=0}^q a_{3j} \Delta\text{DET}_{t-j} \\ & + \sum_{j=0}^q a_{4j} \Delta\text{OUV}_{t-j} + \sum_{j=0}^q a_{5j} \Delta\text{FBCF}_{t-j} + \sum_{j=0}^q a_{6j} \Delta\text{TPOP}_{t-j} \\ & + \sum_{j=0}^q a_{7j} \Delta\text{INF}_{t-j} + \Theta u_{t-1} + \varepsilon_t \end{aligned} \quad (3)$$

This study includes data covering the period from 1980 to 2023, due to the availability of data from the World Bank's World Development Indicators (World Bank, 2023). In fact, the macroeconomic and financial data come not only from the World Bank, but also from the database of the United Nations Commission for Trade and Economic Development (UNCTAD, 2023).

3.2. Presentation of Variables

Dependent variable: GDP per capita growth rate (CPIBH): this variable is de-

signed to take account of the convergence process, as the neoclassical economic model indicates that low-income countries with lower initial technological and financial levels will tend to grow faster than more advanced countries. Variables of interest: Official Development Assistance (ODA), the expected sign here is positive; Public External Debt (PED), the expected sign here is positive; Investment Rate (INV): measured by Gross Fixed Capital Formation (GFCF) relative to GDP, this variable is expected to be positively related and significantly correlated with economic growth; Trade Openness (OUV); Inflation Rate (Tx_Infla) measured by the Consumer Price Index (CPI) to assess changes in the cost of living over time; Population Growth Rate (Tpop) (**Table 1**).

Table 1. Public external financing and economic growth.

	CPIBH	LAPD	LDET	LFBCF	LTPOP	TX_INFLA	LOUV
Mean	0.257254	-3.413595	-0.426052	3.045054	-6.882166	4.692658	3.86252
Median	1.591047	-3.350043	-0.380083	3.050295	-6.882429	2.041155	3.908872
Maximum	13.56397	-2.422869	0.399321	3.210671	-6.47696	39.80023	4.174765
Minimum	-10.68959	-4.103759	-1.28541	2.660636	-7.339907	-2.392309	3.275359
Std. Dev.	4.717207	0.459879	0.619216	0.125724	0.256567	7.446146	0.205883
Skewness	-0.418314	0.420426	-0.047994	-0.997347	-0.15728	3.032645	-0.718031
Kurtosis	4.260791	2.198065	1.391023	3.820585	1.732327	14.43286	3.249279
Jarque-Bera	3.529707	2.081452	4.005283	7.172092	2.629994	258.2259	3.275138
Probability	0.171212	0.353198	0.134978	0.027708	0.268475	0	0.194452
Sum	9.518397	-126.303	-15.76394	112.667	-254.6401	173.6284	142.9132
Sum Sq. Dev.	801.0735	7.613603	13.80342	0.569034	2.369758	1996.023	1.525954
Observations	43	43	43	43	43	43	43

Source: Author, based on data for WDI 2023.

4. Empirical Analysis of the Link between Public External Financing (DEBT and APD) and Economic Growth in Cameroon

4.1. Analysis of External Public Debt Trends

Over the last few decades, Cameroon's public debt has evolved. It has risen from 1485 million FCFA in 1980 to 8554 billion FCFA in 2023. Prior to the early 1980s, the moderate acceleration of Cameroon's external debt compared with other countries at the same level of development, reflects the prudence of Cameroon's economic policy in making external debt a determining factor in financing its development. Like outstanding debt and debt servicing, Cameroon's DEBT/GDP ratio has evolved in line with economic conditions. It rose from 2.7% in 1983 to 91.2% fifteen years later, before dropping to 24.90% in 2018. Today, this ratio stands at 32% of GDP. In 2023, the level of Cameroon's external debt has boomed compared with 2018 (**Table 2**).

Table 2. Five-year trend in the ratio of external public debt to GDP, 1983-2023 (in millions of dollars).

Year	1983	1988	1993	1998	2003	2008	2013	2018	2023
GDP	7381	12493	15498	10612	14548	26409	32348	38675	6153
Public debt	199	3467	6564	9678	10049	2097	4067	9633	12 714
Debt/GDP	2.7%	27.8%	42.4%	91.2%	69.1%	7.10%	12.6%	24.90%	41.3%

Source: Author, based on data for WDI 2023.

The rapid increase in the ratio during the 80s is linked to the economic crisis that shook the world during that decade. The doubling of the ratio in the 90s was largely due to the devaluation of the local currency in 1994, which rendered Cameroon's debt unsustainable, leading to debt relief in the early 2000s. Following these major debt restructurings, notably from 2006 onwards, this ratio fell drastically, as shown in the table (7.10% in 2008). However, we have seen a rapid rise in this ratio over the last two decades, no doubt due to major government programs and projects financed by debt.

4.2. Official Development Assistance and Economic Growth

Official development assistance (ODA) is a crucial source of funding for Cameroon, despite its relatively modest contribution to the country's GDP (see [Table 3](#)).

Table 3. Trends in the ratio of official development assistance to GDP, 1982-2023 (in millions of dollars).

Year	1982	1987	1992	1997	2002	2007	2012	2017	2023
GDP	7322	12302	11396	10833	11579	22365	29104	34922	61531
ODA	211	203	714	500	605	1939	597	715	1085
ODA/PIB	2.9%	1.7%	6.3%	4.7%	5.3%	8.7%	2.1%	2.4%	1.7%

Source: Author, based on data for WDI 2023.

The amount of overall aid has seen significant growth in recent years. It increased from \$257 million in 2008 to over \$472 million by 2016. However, this figure dropped sharply in 2017 to \$11.67 million, a decline that may be attributed to various crises, departures, and other factors. Notably, aid rose from \$597 million in 2012 to more than \$715 million in 2017—a nearly 37% increase—and is projected to reach \$1 billion by 2023. This funding encompasses diverse sectors, including health, education, and infrastructure, as well as agriculture, which is one of the key growth sectors in Cameroon.

4.3. Estimation Results

To identify the optimal lag, the Schwarz Information Criterion (SIC) was utilized to select the ARDL model that delivers statistically significant results with the few-

est parameters (**Table 4**).

Table 4. Post-estimation hypothesis tests.

Test results	Tests	Financement Ext public
		P value
Non Autocorrelation	Breusch-Godfrey	0.2832
Homoscedasticity	Breusch-Pagan-Godfrey	0.0891
	Arch-test	0.1832
Normality	Jarque-Bera	0.559505
Specification	Ramsey (Fisher)	0.6888

Source: Author, based on data for WDI 2023.

Table 5 indicates that there is no first-order autocorrelation of errors in this model. As a result, the estimated ARDL model is statistically robust in explaining the impact of public external financing on economic growth in Cameroon. Additionally, it captures the dynamics of GDP per capita from 1980 to 2023.

Table 5. Cointegration test by Pesaran et al. (2001).

F-Bound test	Seuil	Tabulated critical values		Financing Ext Public
				Calculated F-stat
		bound <	bound >	
	10%	2.12	3.23	8.202785
	5%	2.45	3.61	
	2.5%	2.75	3.99	
	1%	3.15	4.43	

Source: Author, based on data for WDI 2023.

Based on the Fisher statistic, the results in this table show the existence of cointegration for both models. Indeed, the observed values of the Fisher statistic are above the tabulated critical upper bounds at all thresholds.

- Correlation and causality between model variables

Observation of the simple correlation matrices below reveals that the link between GDP per capita growth rate and public external financing variables (Official Development Assistance, public external debt) does not appear to be significant. Moreover, the degrees of correlation between these variables are very weak (below 0.5). However, they are very strong between GDP per capita growth rate, GFCF and trade openness (LOUV) (degree of linkage >0.5) (**Table 6**).

The results presented in this table indicate the existence of cointegration for both models, based on the Fisher statistic. This finding allows us to differentiate between the long-term and short-term effects of financial factors that influence the growth rate of GDP per capita in Cameroon.

Table 6. Results of the Todo-Yamamoto causality test for the link between external public financing and economic growth.

k	Dmax	Dependent variables (VD)	Explanatory or causal variables						
			CPIBH	LAPD	LDET	LFBCF	LTPOP	TX_INFLA	LOUV
2	1	CPIBH	–	0.044167 [0.9782]	9.002271* [0.0111]	8.227077* [0.0163]	0.322737 [0.8510]	31.08196** [0.000]	8.189741* [0.0167]
		LAPD	14.07022** [0.0009]	–	32.30686** [0.0000]	0.632943 [0.7287]	2.810188 [0.2453]	1.519511 [0.4678]	3.151453 [0.2069]
		LDET	0.641361 [0.7257]	12.29321** [0.0021]	–	1.282886 [0.5265]	0.363284 [0.8339]	5.583783 [0.0613]	0.506796 [0.7762]
		LFBCF	2.049173 [0.3589]	1.578853 [0.4541]	1.528974 [0.4656]	–	2.319052 [0.3136]	0.462541 [0.7935]	1.111673 [0.5736]
		LTPOP	0.92013 [0.6312]	2.672265 [0.2629]	1.046352 [0.5926]	3.554683 [0.1691]	–	15.37836** [0.0005]	6.680457* [0.0354]
		TX_INFLA	1.95912 [0.3755]	0.41396 [0.8130]	1.726056 [0.4219]	5.777477 [0.0556]	0.168948 [0.9190]	–	0.958057 [0.6194]
		LOUV	5.560905 [0.0620]	0.200631 [0.9046]	3.674915 [0.1592]	6.240487* [0.0441]	0.384854 [0.8250]	9.386122** [0.0092]	–

Source: Author, based on data for WDI 2023. *Significant at the 5% level, **Significant at the 1% level.

- Long-Term Relationship Between GDP Per Capita Growth Rate and Public External Financing

The long-term relationships are summarized in the table below. It shows that Official Development Assistance (ODA), public external debt, moderate inflation, and trade openness significantly impact the GDP per capita growth rate at the 5% significance level (*p*-value < 5%). Additionally, Gross Fixed Capital Formation (GFCF) appears to have a significant effect on this growth rate at the 10% significance level.

Table 7. Long-term relationship between GDP per capita growth rate and public external financing.

Variable	Long Run Coefficients			
	Coefficient	Std. Error	t-Statistic	Prob.
TPOP	-2.542899	1.983900	-1.281767	0.2146
TLAPD	2.152285	0.964106	2.232416	0.0372
LDET	3.510686	0.795078	4.415525	0.0003
LFBCF	9.154465	4.659632	1.964633	0.0635
LX_INFLA	0.391837	0.128126	3.058215	0.0062
LOUV	21.771797	2.680219	8.123142	0.0000
DUMMY1993	-0.140956	6.629552	-0.021262	0.9832
C	-122.555	16.283162	-7.526518	0.0000

Source: Author, based on data for WDI 2023.

The next step is to assess the robustness of this long-term relationship. Recall force measures the speed at which we return to long-term equilibrium, and understanding its significance is essential for utilizing this relationship for forecasting purposes. The coefficient of recall force, which indicates the speed of the return to equilibrium, is significantly negative (as shown in **Table 7**) at the 5% threshold. This implies that any imbalance in the growth rate of GDP per capita—caused by a surplus of public external financing relative to the long-term equilibrium—will be corrected by a downward adjustment in the growth rate of GDP per capita in the subsequent period. Specifically, this imbalance is corrected by a decline in the growth rate of GDP per capita of 85.78.

In this long-term relationship, all coefficients have the expected and significant signs, except for the inflation rate, which presents a positive sign and is therefore difficult to interpret. These variables account for 97.161% of the growth rate in GDP per capita. Consequently, we observe that the growth rate of GDP per capita in Cameroon increases more significantly when public development aid, external public debt, investment (Gross Fixed Capital Formation—GFCF), and trade openness rise. Specifically, when official development assistance (ODA), public external debt (PED), investment (GFCF), and trade openness (OUV) each increase by 1%, the growth rate of per capita GDP will increase by 2.152%, 3.51%, 9.154%, and 21.77%, respectively, assuming inflation remains constant. Conversely, a 1% increase in the population growth rate (TPOP) will reduce the growth rate of per capita GDP by 2.54%, all else being equal.

- **Short-term relationship between GDP per capita growth rate and public external financing (Table 8)**

Table 8. Short-term relationship between GDP per capita growth rate and public external financing.

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LAPD)	1.846387	0.738953	2.498655	0.0213
D(LDET)	3.011723	0.657372	4.581457	0.0002
D(LFBCF)	3.373250	3.314369	1.017765	0.3209
D(LFBCF(-1))	-9.837323	3.250803	-3.026121	0.0067
D(LTPOP)	-2.181485	1.588142	-1.373608	0.1848
D(TX_INFLA)	0.002048	0.116029	0.017653	0.9861
D(TX_INFLA(-1))	-0.162381	0.046019	-3.528587	0.0021
D(LOUV)	12.645289	2.733570	4.625925	0.0002
D(LOUV(-1))	-5.286200	2.346263	-2.253030	0.0356
D(DUMMY1993)	-0.120922	5.686751	-0.021264	0.9832
CointEq(-1)	-0.857873	0.120766	-7.103617	0.0000

Source: Author, based on data for WDI 2023.

The next step is to assess the stability of this long-term relationship. Specifically, a 1% increase in each of these rates is associated with an increase in the growth rate of GDP per capita by 1.846%, 3.01172%, and 12.645%, respectively, assuming all other factors remain constant. Conversely, a 1% increase in the gross fixed capital formation (GFCF) rate, the inflation rate, and the trade openness rate from the previous year tends to decrease the per capita GDP growth rate by 9.83%, 0.162%, and 5.28%, respectively, again assuming all other factors remain constant.

The positive long-run impact of inflation and the negative short-run effect of lagged investment may appear counterintuitive. This could be explained by structural rigidities, time lags in investment realization, and inflation reflecting demand-driven growth during certain periods. Nevertheless, these findings should be interpreted with caution as they highlight potential areas for further research.

Unlike [Kumar and Woo \(2010\)](#), who found a negative debt-growth relationship in advanced economies, Cameroon's experience suggests that debt may still foster growth when properly managed and channelled into productive investments. This divergence may stem from differences in institutional quality, governance effectiveness, and the nature of external financing sources.

5. Conclusion

In conclusion, our analysis reveals that both external public debt and official development assistance (ODA) have a positive and significant impact on economic growth in Cameroon, supporting our first secondary hypothesis: "public external sources of finance positively influence economic growth in Cameroon." These findings contrast with those of [Kumar and Woo \(2010\)](#), who examined the effects of high public debt on economic growth across various advanced and emerging economies from 1970 to 2007. They found that a 10% increase in the public debt ratio led to a 2% slowdown in economic growth.

Regarding ODA, our results align with those of many studies who applied the cointegration approach of [Pesaran et al. \(2001\)](#) and the causality approach of [Toda and Yamamoto \(1995\)](#) to investigate the relationship between aid and growth in the UEMOA zone from 1970 to 2012. His study revealed a positive effect of aid on growth in countries such as Benin, Togo, and Niger in the short term. While the effect was negative for Benin and Niger in the long term, it remained positive for Togo.

These findings reflect the careful debt management policy implemented by Cameroon's government following its achievement of the completion point. The commitment to maintain the debt ratio (DEBT/GDP) below 45%—which is half of the EU requirement—highlights the efforts to manage debt levels responsibly compared to other countries, such as Côte d'Ivoire (51%). However, the recent rapid increase in public debt necessitates greater vigilance, as it could lead to negative effects on growth if this trend continues. Beyond recommending vigilance, policymakers should focus on improving the efficiency and transparency of debt-financed public investments, prioritizing concessional borrowing, and strength-

ening institutional mechanisms for debt monitoring and evaluation to sustain growth.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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