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Budget Execution Trends and Welfare Implications in Cameroon (1987 – 2016)

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ABSTRACT

Aimed at examining the causal relationship between government expenditure and welfare of citizens in Cameroon, this paper obtained and used secondary data from the World Development Indicators (WDI) for the period 1987 – 2016. We adopted the Pesaran et al., (2001) bounds test and the Autoregressive Distributed Lag (ADRL) model to show the short-run and long-run relationships between government expenditure on education, health and military facilities. The stationarity properties of the data were tested using the ADF unit root test. Findings revealed a positive long-run relationship between government expenditure on health and education, and GDP per capita proxy for welfare. However, we found a negative relation between government spending on military facilities and GDP per-capita. It is therefore recommended that a better and more efficient government expenditure on education and health facilities will improve on the relationship. Secondly, the budgetary allocation for military facilities should be reduced.

KEYWORDS: *Budget trends, Welfare, ARDL, Government Expenditure, per capita Gross Domestic Product, Cameroon.*

1. INTRODUCTION

The issue of government spending has created a deep division between Policy makers as well as economists as to whether it contributes to or hinders economic growth and development. Advocates of bigger government argue that such programs provide valuable "public goods" like education, health and infrastructure, especially overhead capital like dams, railways, hydroelectric power stations etc. It is also believed that increases in government spending can boost economic growth through "putting money into people's pockets" and as such there is sufficient reason for increasing public expenditure (Mitchell 2005). However, opponents to this school of thought also known as supporters of the concept of a "smaller government" considers it either as a waste or an interference to the normal functioning of the economic system. They hold that government is too big and that by transferring additional resources from the productive (private) sector of the economy to government, will result to the idling of resources and thus, undermine economic growth. This is explained by their belief that government uses such resources in a less efficient manner. Equally, an expanding public sector also complicates and compromises efforts towards implementing pro-growth policies of tax reforms and personal retirement accounts.

The processes of determining how to raise, allocate, and spend public resources constitute the foundation of governments throughout the world. The way public resources are used is a major determinant of the achievement of public policy objectives (ODI, 2004). Public budgets enable governments to manage finances in accordance with political and economic policy priorities. A budget constitutes a type of map that traces the fundamentals for decision making in relation to the resources generated by society; and which has to return to society as supplies and services. Hyde (1992) highlights that a budget is a government's most important document constituted of four interconnected components known as political, economic, managerial/administrative, and accounting/financial management instruments.

As a political instrument, it allocates scarce public resources to the social and economic needs of a jurisdiction; whereas as a managerial and/or administrative instrument, it specifies the ways and means of providing public programs and services, establishing the costs and/or criteria by which its activities are evaluated for effectiveness and efficiency. Thirdly, as an economic instrument it directs national and even local economic growth and development. Lastly, as an accounting or financial management instrument, budgets hold government officials responsible for both the expenditures and revenues of the programs over which they

exercise control.
National budgets are far from being mere technical instruments for compiling income and expenditure: They embody the most important policy statement formulated by the executive in the course of the year and reflect the fundamental values underlying national policies. Such a budget outlines the government's views of the socio-economic state of the nation, and considered as a declaration of the government's fiscal, financial and economic objectives and reflects its social and economic priorities. National budgets also reflect the level of gender sensitivity of government policy and provide a valuable measure of the government's future intentions and past performance. Such planning (budget) becomes useful for that unit only when the actual expenditures are in conformity with the planned expenditure.

However, a budget can either be deficit or surplus depending on the volume of income and expenditures. A budget deficit which results from a country's excess of expenditures over her revenue (earned from the taxes and other sources) is a common characteristic of African economies, Cameroon being a typical case in point. Budget surplus on the other hand highlights a situation whereby the generated or planned revenue exceeds the actual or planned expenditure.

Public budgets fulfill two fundamental goals, first, of distribution and then allocation of resources in a way that is compatible with the respective political strategy while maintaining fiscal discipline (Schick 2002; ODI 2004). These goals impact on the whole economy, having the ability to transform the population's daily life. It is therefore recommended that such impacts are taken into account when establishing priorities for fiscal policy and budget allocations. To (Bloj 2009), participatory budgets express the decisions by the governments to permit citizens to channel their social problems to her, problems which may later constitute the state's social policy guidelines towards their wellbeing. Furthermore, as the principal instrument of fiscal policy, it aims at encouraging prosperity, stable growth, and high employment in the economy (Wayne, 1976).

Prior to the adoption of a new annual budget for the new fiscal year, parliament is usually presented with a pre-budget statement (Lienert 2010), and pre-budget debates organized to acquaint parliament with government's fiscal targets, priorities and spending ceiling estimates for the following fiscal year. However, this is applicable only in countries with strong parliamentary structures, but in those with a relatively strong executive (like Cameroon) parliament has little or no power in amending the draft budget and the corresponding time periods allowed to discuss budgetary estimates at times are usually very short. For example in Cameroon, the Finance Bill is presented to Parliament during the November session for deliberation and adoption in the various committees.

Neither a community's action plan on matters of common concern as proposed by the Government nor the resource projections with which the plan is to be implemented represent actual economic facts. Put differently, neither the expenditure nor the revenue figures in the budget represent facts on the ground, but only intentions and expectations for the future. In Cameroon, intended actions must converge towards the three Musgravian functions of the State: of resolving the problems of production, distribution and transportation. That is the allocation function, the distribution function (redistribution and transfer of welfare) and the stabilization function (regulation and economic Policy)[1].

State budgets are partitioned into public revenue and expenditure, with the revenue side containing elements like oil and non-oil revenue, loans and grants; while the expenditure side host elements such recurrent and capital expenditures. The expenditure side of the budget reflects the monetary value of the various physical actions that the government is proposing to undertake for the communities during the fiscal period of the budget. It is government declared estimated amount of money to be expended. The public expenditure budget in Cameroon is segmented into recurrent expenditure, capital expenditure and public debts (Nguemegne 2007). The components of the recurrent expenditure includes expenditure on administration (Interest on loans and maintenance, salaries and wages) while capital expenditure captures government projects on electricity, education, telecommunication, airports, roads, and so on. Financing the provision and/or maintaining these infrastructural amenities cost a huge amount.

Investing on infrastructures and productive activities certainly contribute positively to the growth of the economy, while government spending on consumption retard growth. This corroborates to the argument that a country benefits socially and economically from government investment spending on health, roads, education, agriculture, job creations, provision of basic amenities like pipe-borne water, electricity etc. However, we recall

[1]Musgrave, 1959: The theory of public finance, New York, McGraw-Hill.

here that aggregate government expenditure is decomposed into five different functional components. First, the social component which is total spending allocated to education, health, social security, housing and community amenities. Infrastructure expenditure is defined as spending on items like electricity, gas, water, roads, waterways and other transport and communications. Productive expenditure includes spending on economic services such as agriculture, forestry and fishing, mining, manufacturing and construction etc. Defense (military spending) constitutes the fourth component and finally, the rest of expenditure like those on cultural, religious and recreational services. Investment in human resources contributes to the enlargement of the productive capacity for example improving the quality of the labor force.

Despite the merits of productive and infrastructural expenditure, Cameroon's spending on general public administration takes a relatively larger share of her total public spending. For instance, general and financial administrative services and sovereignty expenditures absorbed close to a quarter of the GOC's total budget between 2013 and 2015. Debt-service allocations have been another important component of government budgetary expenditure. This however witnessed a decline from 32.7 to 18.4 percent of total public expenditures between 2007 and 2010 as a result of the debt relief program, but again increased by 21.7 percent in 2015.

Cameroon's poor social sector outcomes and hence its very low ranking in the United Nations Development Program Human Development Index[2] can be explained by her low level of social spending as well as productive and infrastructural investments. Her execution rates for public budget items witnessed an overall improvement between 2010-2015, but spending on goods and services greatly exceeded the allocated budget in 2015.

The constant growth in public budget over the period 1990-2000, has failed to positively impact economic growth and social development in Cameroon (Nguemegne ; 2007).The share of investment budget has as well witnessed a tremendous increase over the years but the unanswered question remains "why the mismatch between these and growth and welfare"? Therefore, is there a discordant between the voted and executed budget and impact on the welfare of citizens in Cameroon?

Based on the questions raised, the paper focuses on whether the executed budget has an impact on the welfare of citizens in Cameroon through the various government expenditure components: on healthcare, education, military etc.

2. Theoretical and Empirical Review

2.1 Theoretical Review: In "The Lack of a Budgetary Theory", Key (1940) emphasized on the need to have a coherent theory or body of theories that would allow the understanding of public budgeting, and attempted addressing the issue of public budgeting not having a theory of its own. He based his theory on the same rationale that guided economists towards the endless search for a function that would improve the welfare of society within the broader schemes of Paretian principle.

Lewis (1952) tried to explain how the traditional microeconomic theory of "Marginal Utility" could be used to determine the relative value of a commodity to justify resource allocation that in the aggregate would improve social welfare. Wildavsky (1961) makes a reminder on how budgeting goes beyond allocating scarce resources between X and Y activities, and meeting the conflicting needs of a society. This is achieved by bringing about a compromise in the political marketplace through incremental adjustments in budget allocations. Mosher (1954), highlights that budgeting is a measure of bureaucratic behavior and administrative competence. Hyde (1992) reiterates that, "budgets in complex formats simultaneously record policy outcomes, cite policy priorities and program goals and objectives, delineate a government's total service effort; and measure its performance, impact, and overall effectiveness" (Hyde, 1992).

Although for sixty years no comprehensive theory that could resolve the basic budgeting problems has been formulated (Fozzard, 2001), however analytical techniques have been developed to appraise public expenditure decisions. Such techniques may be powerful when combined, do not provide a satisfactory basis for resource allocation decision especially at individual levels.

Economic theory shows how government spending may either be beneficial or detrimental to economic growth. In emerging market economies and low-income countries government expenditure will rise for some time,

[2] Cameroon was ranked 153 out of 179 countries in 2016

especially where social spending is low and infrastructure gaps are high. Wagner's law associates higher per capita income with a higher demand for public services. In traditional Keynesian Macroeconomics, many kinds of public expenditures (even of a recurrent nature), can positively impact economic growth, through a multiplier effect of aggregate demand. On the other hand, government consumption may crowd out private investment, dampen economic stimulus in the short run and reduce capital accumulation in the long run. Specifically, he postulated that to correct prolonged unemployment and depression in an economy, government has to intervene in the economy through taxation and government expenditures which promotes employment, output, and growth. An appropriate fiscal policy measure, either raising government expenditures or cutting taxes or combining both must be taken. For Keynes, obtaining full-employment equilibrium is not automatic. Thus, government must intervene in the economy to bring it close to full-employment. However, this theory failed to see increased government intervention and expenditure as a source of market disequilibrium in two fronts. Firstly through the crowding-out effects related to the increased national debt and interest on the debt and secondly through the problem of inflation which might result from an increase in government spending.

Wagner (1893) elaborated and based his formulation on the fact that government growth is a function of increased industrialization and economic development. To him, during industrialization characterized by real per capita income growth, the share of public expenditures in total expenditures also increases. He explains this in three ways: Firstly during industrialization process, public sector activity will replace private sector activity; and administrative and protective state functions will increase. Secondly, governments will need to provide cultural and welfare services like education, public health, old age pension or retirement insurance, food subsidy, natural disaster aid, environmental protection programs and other welfare functions. Thirdly, increased industrialization will bring about technological changes and large firms that tend to be monopolies. To offset these effects Government will have to provide social and merit goods through budgetary process.

Another very important contribution in this field is made by the theory of Incrementalism propagated by Wildavsky in 1964, which to him "Budgeting is incremental and not comprehensive". The theory holds that a budget is never completely on yearly bases. Instead, it is based on a previous year's budget, however, with special attention given to a narrow range of increases or decreases". Lindblom's (1959) notions of "muddling though" formed a coherent basis for the theory of budgetary incrementalism. And the theory has received empirical support from (Davis et al., 1966) regression models. The budgetary process in the United States is portrayed as stable and predictable, with annual average increases of between 5 to 10 percent seemingly confirming incrementalism. Studies found incrementalism in cities, states, school districts, and in other countries, the United Nations, the World Health Organization, and the International Labor Organization (Cowart et al., 1975; Hoole et al., 1976). Wildavsky's work, amplified by Richard Fenno's study of Congress and the appropriations process, became a powerful paradigm not only for budgeting, but for how government makes policy. However, Incrementalism is built on a series of analytical choices that severely limited its applicability as a theory and made it unsuitable for explaining the kinds of changes that were taking place in budgeting in the 1970s and 1980s.

2.2 Empirical Review: The effects of government spending on different economic variables are felt through the different components of government. Castro (2006) and Heppke-Falk et al., (2006) investigated and found that GDP and private consumption both have a hump-shaped response in the face of a shock to both purchases of goods as well as public investment, while private investment does not respond. Fatas & Mihov (2001) find an increase in consumption and investment when both government spending on wages and non-wages increases, but there was no effects in face of a government investment shock.

In a study to examine the impact of government expenditure on the growth of the Nigerian economy (Ogar et al., 2019) used the Vector Auto Regressive (VAR) among other techniques to analyze the secondary data sourced from the CBN statistical bulletin. Their findings show that government capital expenditure had a positive though insignificant effect on the growth of the Nigerian economy. The study also revealed that the short run and long run effects of government recurrent expenditure on growth was also positive insignificant. Earlier on Fayingbesi & Odusola (1999) had applied the over-parameterized and parsimonious error correction model (ECM) to analyze the short run speed of adjusting from disequilibrium to equilibrium based on the effects of government expenditure on the growth of the Nigerian economy. Their findings revealed that, government real capital expenditure significantly and positively impacted on real output growth, while only a minute effect of government real recurrent expenditure on growth was noticed.

In the case of developed countries, (Mitchell, 2005) investigated the impact of government spending on

economic performance and concludes that irrespective of the methodology or model employed, a large and growing size of government is not conducive to better economic performance. He further argues that reducing the size of government would lead to higher incomes and improve American's competitiveness. In another study where and making use of a combined analysis of bivariate and trivariate tests to examine the possible causal relationship between government expenditure and economic growth, (Loizides & Vamvoukas, 2004) employed data from Greece, U.K and Ireland. Their investigative results reveals that government size Granger causes economic growth in all three sample countries in the short run while only for Ireland and the UK during the long run period. Other results show that economic growth Granger causes an increase in the relative size of government in Greece, and in the U.K when inflation is included.

Ranjan & Sharma (2008) used the Johansen co-integration analysis and the ECM to investigate how government expenditure on economic growth during the 1950 to 2007 periods, to reveal that government expenditure has a significant and positive impact on economic growth.

Chimobi (2009) employed the co-integration and granger causality to test for the direction of causality between Government expenditure and National Income in Nigeria using annual data for the period 1970-2005, and found no long-run relationship between Government expenditure and National Income in Nigeria. The Granger Causality test results reveals that causality runs from Government expenditure to National Income showing how relevant the former is in promoting economic growth in Nigeria. In a similar manner Akonji et al., (2013) investigated the linkages between the different components of government expenditure and Real Gross Domestic Product for Nigeria using Granger causality, Error correction model and Co-integration techniques. The results are mixed. First, it shows a unidirectional causality between total capital expenditure and Real Gross Domestic Product (GDP) and in support of Wagner's law. On the other hand total recurrent expenditure and Real GDP provide support for a bi-directional causality.

Gadinabokao & Daw (2013) confirms a long-run positive relationship between the government spending and economic growth in South Africa. On the other hand, Ziramba (2008) investigated the long-run relationship between the two variables using the ARDL approach to co-integration as well as Toda and Yamamoto Granger non-causality test procedure. They found a long-run relationship between real *per capita* government expenditure and real *per capita* income and short-run bidirectional causality. Thus, concludes that Wagner's law finds no support in South Africa.

Njimanted (2012) Investigated Wagner's law with respect to the Cameroon economy using the vector auto-regressive approach on data based on the Structural Vector Auto-regression (SVAR) Methodology under the Co-integration procedures. The findings revealed that the short-run dynamic impact of government expenditure on economic growth rejects the Wagner's law, while the long-run relationship proved that the impact of government expenditure on economic growth was insignificant.

A study on the relationship between public expenditure and economic growth in Romania in Lingxiao et al., (2016) tested Wagner and Keynes's Law using time series data for 1991-2014. The long-run relationship between the dependent and independent variables was estimated using the ARDL (Auto- Regressive Distributed Lag) approach and Bounds Test based on Unrestricted Error Correction Model (UECM). Results indicated a unidirectional long-run relationship from government expenditures to economic growth in Romania, which means the economic growth could affect the government expenditure. In contrast, Keynes's Law does not hold for the period under study.

The Impact of Government spending on Welfare in the Pakistani Economy between 1972 to 2017 by (Safia & Mohammed, 2018) within an ARDL framework and focused on disaggregated level of government expenditures like the social sector (health and education), economic services, subsidies, maintenance of law and order in the country etc. The paper further investigated into the impact of varying composition of government outlays shaping overtime, and determined the short-run and long-run effects on major macroeconomic variables. Findings however revealed that all government spending components included in the model had a significant long-run association with individual's welfare variables apart from spending on law and order[3].

[3] Law and order had a negative and statistically insignificant effect.

Going by the components of the GDP and using the VAR model, a study on government spending and economic growth in Cameroon (Siefu et al., 2018) reveals that the lagged GDP and government investments have a positive effect on growth whereas private investments affects it negatively. The results show the intervals in which the various components of government spending effected economic growth in Cameroon.
Nembot et al., (2019) examined the effects of public expenditure on economic growth in the CEMAC sub-region in a comparative analysis between the fragile and non-fragile states for the period 1975 to 2016. The Time series regression of the Autoregressive Distributed Lags (ARDL) approach was employed and findings reveal a stable long-run relationship between public expenditure and the rate of economic growth in the sub-region. Public expenditure positively influences economic growth in Equatorial Guinea and Gabon, and negatively affected economic growth in Cameroon and all three fragile countries of the CEMAC.

3. Methodology

***3.1 Data Collection*:** Data used is secondary, and was gotten from the World Development Indicators (WDI) dataset for the period of study.

***3.2 Models*:** This paper adopts the Autoregressive Distributed Lag (ARDL)/bounds testing co-integration procedure for estimating long run and short run relationships as well as the dynamic interactions among the variables of interest. The single co-integration approach, known as ARDL of Pesaran and Shin (1999) and Pesaran *et al*. (2001) are quite popular in the field of research. The latter also called "bounds testing" has certain econometric advantages relative to other single co-integration procedures. Firstly, endogeneity problems and inability to test hypotheses on the long-run estimated coefficients associated with the Engle-Granger method are avoided. Secondly, the long and short-run parameters of the model are estimated simultaneously; and all variables are assumed to be endogenous. Finally, the econometric methodology is relieved of the burden of establishing the order of integration amongst the variables and of pre-testing for unit roots. The ARDL approach to testing for the existence of a long-run relationship between the variables in levels is applicable irrespective of whether the underlying regressors are purely $I(0)$, purely $I(1)$, or fractionally integrated. Finally, according to Narayan (2004), the small sample properties of the bounds testing approach are far superior to that of multivariate co-integration.

The following ARDL model will be estimated in order to test the co-integration relationship between the variables: GDP/head, government spending on military, Health expenditure, expenditure on education and Remittances. The log-log model was used to establish the effect of government expenditure on welfare. Gross domestic product per capita (GDP/Cap) has been used as a proxy measure for welfare. The welfare model will be denoted by GDP per capita and takes the following long-run co-integration form:

$$\ln GDP/Cap = a_0 + a_1 \ln MilExp + a_2 \ln HealthExp + a_3 \ln EducExp + a_4 \ln Remit + \varepsilon_t \quad \ldots\ldots\ldots \quad (1)$$

Where GDP per capita measures welfare and denoted by GDP/Cap, MilExp is expenditure on military, Remit is Remittances, HealthExp is government's Health expenditure while EducExp is government expenditure on education and ε_t, the random error term. It is expected that a_2, a_3, and a_4 are positive.
An ARDL representation of equation (1) is formulated as follows:

$$\Delta \ln GDP/Cap_t = a_0 + \sum_{i=1}^{m} a_{1i} \Delta \ln GDP/Cap_{t-i} + \sum_{i=0}^{m} a_{2i} \Delta \ln MilExp_{t-i} +$$

$$\sum_{i=o}^{m} a_{3i} \Delta \ln HealthExp_{t-i} + \sum_{i=o}^{m} a_{4i} \Delta \ln EducExp_{t-i} + \sum_{i=o}^{m} a_{5i} \Delta \ln Remit_{t-i} +$$

$$a_6 \ln GDP/Cap_{t-1} + a_7 \ln MilExp_{t-1} + a_8 \ln HealthExp_{t-1} + a_9 \ln EducExp_{t-1} + a_{10} \ln Remit_{t-1} + \upsilon_t \ldots. \quad (2)$$

Where Δ denotes the first difference, ln stands for natural logarithms of the various variables, t stands for period, the expressions with the summation sign (a_{1i},a_{2i}, a_{3i}, a_{4i}, a_{5i},) represents short-run dynamics of the model and the expressions (a_6, a_7, a_8, a_9, a_{10},) represents the long-run relationship, and υ is the error term.
Pesaran et al. (2001) co-integration procedure is briefly outlined as follows. The bounds testing procedure is the first stage of the ARDL co-integration method and is based on the F or Wald-statistics. The F test used for this procedure has a non-standard distribution and (Pesaran *et al*., 2001) computes two sets of critical values for a given significance level. One set assumes that all variables are $I(0)$ and in the other set are all $I(1)$. If the

computed F statistic exceeds the upper critical bounds value, H_0 is rejected whereas if it falls into the bounds, the test becomes inconclusive. However, there is no co-integration in situations where the F-statistic is below the lower critical bounds value. Once a long-run relationship has been established, equation (2) is estimated using an appropriate lag selection criterion. At the second stage of the ARDL co-integration procedure, it is also possible to perform a parameter stability test for the selected ARDL representation of the Error Correction Model.

$$\Delta \ln GDP/Cap_t = \delta_0 + \sum_{i=1}^{m} \delta_{1i} \Delta \ln GDP/Cap_{t-i} + \sum_{i=0}^{m} \delta_{2i} \Delta \ln MilExp_{t-i} + \sum_{i=0}^{m} \delta_{3i} \Delta \ln HealthExp_{t-i} + \sum_{i=o}^{m} \delta_{4i} \Delta \ln EduExp_{t-i} + \sum_{i=o}^{m} \delta_{5i} \Delta \ln Remit_{t-i} + \lambda EC_{t-1} + \mu_t \quad \ldots\ldots\ldots\ldots \quad (3)$$

A general Error Correction Model (ECM) of equation (2) above is transformed into:
Where δ and λ represents the speed of adjustment parameter while EC, the residuals that are obtained from the estimated co-integration model of equation (1). If one of the variables' unit root degree is greater than I(1), the critical values obtained by Pesaran et al. (2001) and Narayan (2005) cannot be used in the Autoregressive Distributed Lag approach (Öztürk and Acaravcı, 2013). These critical values are based on I(0) and I(1) and therefore, it becomes necessary to determine whether or not the variables abide to the assumptions of the ARDL bound testing approach by performing the unit root test at the first stage of the analysis. In the first phase of the econometric analysis in this framework, we performed the Augmented Dickey-Fuller (ADF) unit root test to determine the degrees of integration of the series.

After determining the degrees of integration of the series, the Pesaran et al. (2001) ARDL method is used with two asymptotic critical bounds. If the obtained F-statistic value exceeds the critical upper bound, the null hypothesis on the long-run relationship between the variables would be rejected. If the F-statistic value is below the critical lower bound, the null hypothesis is retained, and the conclusion is that there is no long-run relationship between the variables. If the F-statistic value is between two critical bounds, no comments can be made.

4. Presentation and Analysis of Results

4.1 Results

4.1.1 Descriptive Statistics: The descriptive statistics of the variables of the study are presented in table 1.

Table 1: Descriptive statistics of variables

Variable	Observations	Mean	Std. Dev.	Min	Max
lnGDP_capita	30	6.919004	0.269061	6.47696	7.339907
lnremit	30	17.69612	1.22697	15.80853	19.46082
lnmilexp	30	0.306881	0.064871	0.202809	0.426969
lnEducexp	16	2.803351	0.216782	2.458195	3.071221
lnHealthexp	17	1.481954	0.283144	0.939944	1.874165

Source: Calculated by author using STATA 14

The GDP per capita is averagely 6.919004 (current US$) for the period under study. Average household remittances stood at 17.69612 annually. The average military expenditure for the years observed was 0.306881 percent of GDP. Government expenditure on Healthcare on the average was 1.481954 percent of government expenditure while for the government expenditure on Education, the average was 2.803351 percent of government expenditure.

4.1.2 Stationarity Tests

Table 2: Augmented Dickey Fuller Unit Roots Test for Stationarity

Variable	Test Statistics		1% Critical Value	5% Critical Value	10% Critical Value	P-Value	Remark	Degree of Integration
GDP per capita	Level	-0.603	-3.736	-2.994	-2.628	0.8704	Not Stationary	
	1st Diff	-2.783	-3.743	-2.997	-2.629	0.0607	Stationary	I(1)
MilExp	Level	-3.557	-3.736	-2.994	-2.628	0.0066	Stationary	I(0)
Remit	Level	1.02	-3.736	-2.994	-2.628	0.9945	Not Stationary	
	1st Diff	-2.77	-3.743	-2.997	-2.629	0.0626	Stationary	I(1)
Healthexp	Level	-1.431	-3.750	-3.000	-2.630	0.5671	Not Stationary	
	1st Diff	-4.224	-3.750	-3.000	-2.630	0.0006	Stationary	I(1)
Educexp	Level	-0.146	-3.750	-3.000	-2.630	0.9447	Not Stationary	
	1st Diff	-2.778	-3.750	-3.000	-2.630	0.0614	Stationary	I(1)

Source: Calculated by author using STATA 14

Table 2 presents the Augmented Dickey Fuller Unit Roots Test for Stationarity wherein we observe that some variables are stationary at levels while others are stationary at first difference. This therefore warrant the use of an autoregressive distributed lag model. Thus, the regression analysis is performed using ARDL model.

4.1.3 Autoregressive Distributive Lag (ARDL) model

The ARDL results are presented in table 3.

Table 3: Lag Selection-order criteria

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-3.96627				.085793	.382021	.395955	.430409
1	16.4019	40.736*	1	0.000	.019343*	-1.10784*	-1.07997*	-1.01106*
2	16.5909	.37796	1	0.539	.020603	-1.04545	-1.00365	-.900288
3	16.604	.0263	1	0.871	.02226	-.969542	-.913805	-.775988
4	16.8218	.43561	1	0.509	.023697	-.909373	-.839703	-.667431
							Sample: 1991 - 2016	
							Number of obs = 26	

Source: Computed by author using STATA 14

Endogenous: lnGDP_capita

Exogenous: _cons

Note: The appropriate lag to be used in our ARDL regression is one. ARDL (1, 1, 1, 1, 1) regression

4.1.4 ARDL Model Long and Short-Run Estimation

Table 4: ARDL Model Long and Short-Run Estimates

D.lnGDP_capita	Coef.	Std. Err.	t	P>t	[95% conf. interval]	
ADJ L1.lnGDP_capita	-0.6742499	.1756169	-3.84	0.018	-1.161841	-.1866592
LR						
lnremit	-.2367257	.0445752	-5.31	0.006	.1129652	.3604862
lnmilexp	-1.470845	.3937176	-3.74	0.020	.3777094	2.56398
lnEducexp	.2082689	.1164754	1.79	0.148	.5316565	.1151187
lnHealthexp	.1103453	.1182597	0.93	0.404	-.438687	.2179963
SR						
LD.lnGDP_capita						
D1.lnremit	.0230065	.0608832	0.38	0.725	-.1920454	.1460324

D1.lnmilexp	.9345513	.2093043	4.47	0.011	1.515673	-.3534294
D1.lnEducexp	-.0800192	.0730216	-1.10	0.335	.2827597	.1227213
D1.lnHealthexp	.0768376	.0424876	1.81	0.145	.194802	.0411269
Constant	1.981322	.3520063	5.63	0.005	1.003996	2.958649
			Sample; 2001 – 2016 Number of obs = 14			
			R-squared = 0.9738			
			Adj R-squared = 0.9150			
			Root MSE = 0.00239			
			Log likelihood = 41.198496			

Source: Compiled by Author using STATA 14

*** p<0.01, ** p<0.05, * p<0.1

4.1.5 Pesaran, Shin, and Smith (2001) bounds test

H0: no level relationship F = 5.934
t = -3.410
Finite sample (4 variables, 26 observations, 2 short-run coefficients)
Kripfganz and Schneider (2018) critical values and approximate p-values

	10%		5%		1%		p-value	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
F	4.004	5.387	5.391	7.102	9.617	12.235	0.184	0.319
T	-2.635	-3.337	-3.119	-3.894	-4.237	-5.186	0.178	0.346

Do not reject H_0 if

- Both F and t are closer to zero than critical values for I(0) variables (if p-values > desired level for I(0) variables)

Reject H_0 if

- Both F and t are more extreme than critical values for I(1) variables (if p-values < desired level for I(1) variables)

We reject the H_0 hypothesis since our F and t values are greater than the 10% I(1) critical values. Thus, there is long-run relationship.

4.2 Analysis of results: Table 4 presents the ARDL model long and short-run estimates. With an adjusted R-square of 0.9150, the model is considered to have a good fit since the independent variables explain variability of GDP per capita by 91.5 percent. Household remittances relates negatively and significantly with GDP Per capita in the long-run at 1percent level of significance; but positively and insignificantly in the short-run. According to these results a 1 percent increase in remittances will decrease GDP per capita in Cameroon by 0.237 percent in the long-run, and increase it by 0.023 percent in the short-run. There is a positive and significant relationship (5% level of significance) between military expenditure and GDP per capita in the short-run and negative in the long-run. It shows that a 1 percent increase in military expenditure will cause GDP per capita to expand by .934 percent in the short-run or reduce it by 1.47 percent in the long-run. The short-run results tie with those of Akume et al., (2019). On the other hand, expenditure on education shows an insignificant indirect effect with GDP per capita in the long-run but a direct effect in the short-run. This long-run situation is in line with (Safia & Mohammed, 2018). It shows that a 1percent increase in expenditure on education will increase GDP per capita by 0.208 percent in the long-run and reduce it by 0.08 percent in the short run. Similarly, health expenditure relates negatively with GDP per capita in the short-run and relates positively in the long-run. This result corroborates (Safia & Mohammed, 2018). However, the impact is not significant. Thus, a 1percent increase in health expenditure increases GDP per capita by 0.11percent in the long-run and reduces welfare by 0.07percent in the short-run. The short-run situation confirms to (Were, 2001). It is argued that most health expenditures in developing countries are done on importations of Medicare facilities, thus negatively affecting economic growth and causing deficit in balance of payment. In a general note, the long-run none significant impact of government expenditure on growth and welfare confirms to (Njimanted, 2012).

5. Conclusions

The results using the Autoregressive Distributive Lag (ARDL) model shows a stationary budget trend for the period under study and that government expenditure positively impacts welfare of the citizens through the GDP per capita. Government expenditure on education and healthcare reduce GDP per capita in the short run. However, both variables show a positive relationship with GDP per capita in the long run while military and personal Remittances have a negative and significant effect on GDP per capita at 5% and 1% respectively.

Education is a long term investment and nonproductive in the short run, reason why our results showed a short run negative impact of education expenditure on GDP per capita. This requires that knowledge gained from education should be put to use through providing employments to school leavers or revise the school curricula to suite job-creating and entrepreneurship. Under such circumstances, education will become more productive and lead to an increase in human capital efficiency. The significant impact of military expenditure on GDP per capita shows the importance of peace to economic growth which is positive in the short-run. Increasing annual budgetary allocation for health services and health facilities accompanied by a more efficient usage will result even to a much more significant impact.

It is therefore recommended that a better and more efficient government expenditure on education and health facilities will improve on the relationship. Secondly, the budgetary allocation for military facilities should be reduced.

REFERENCES

1. Akonji, D.R., Olateju, A.D & Wakili, A.M., (2013). Nexus between Public Expenditure and Economic Growth by Testing Wagner's Law Time series; Evidence from Nigeria. *International Journal of Development and Sustainability* 2(4), 2383-2395.
2. Chimobi, O. P. (2009). Government expenditure and national income: A causality test for Nigeria. *European Journal of Economics and Political Studies, Vol. 2*(2).
3. Fayingbesi, A. A., & Odusola, A. F., (1999). Public expenditure and growth. *A paper presented at a training programme on fiscal policy planning management in Nigeria*, organized by NCEMA, Ibadan, Oyo State, 137-179.
4. Fozzard, A. (2001). The Basic Budgeting Problem: Approaches to Resource Allocation in the Public Sector and their Implications for Pro-Poor Budgeting, Overseas Development Institute (2001) available online at: http://www.odi.org.uk/resources/download/1395.pdf (accessed 12 January 2010).
5. Gadinabokao, L. & Daw, D. (2013). An empirical examination of the relationship between Government spending and economic growth in South Africa, from 1980 to 2011. *MCSER Mediterranean Journal of Social Sciences, Vol. 4*(3)
6. Heppke-Falk, K. J., Tenhofen, and Wolff, G., (2006). The macroeconomic effects of exogenous fiscal policy shocks in Germany: a disaggregated SVAR analysis. Deutsche Bundes- bank Discussion Paper, Series 1: Economic Studies.
7. Hoole, F., Job, B & Tucker, H. (1976) Incremental Budgeting and International Organisations. *American Journal of Political Science* 20(2), 273-301
8. Hyde, A. C, (1992). "The Development of Budgeting and Budget Theory: The Threads of Budget Reform." In A.C. Hyde (ed.), *Government Budgeting: Theory, Process, Politics*. Pacific Grove, CA: Brooks/Cole Publishing: 1–6.
9. Key, Jr., V.O. (1940). "The Lack of a Budgetary Theory." *American Political Science Review*, 34 (December 1940): 1137–1140.
10. Lewis, V. B. (1952). "Toward a Theory of Budgeting." *Public Administration Review*, 12 (winter 1952): 43–54.
11. Lingxiao, W., Adelina, D. P., & Handuo, X. (2016). The relationship between public expenditure and economic growth in Romania: Does it obey Wagner's or Keynes's Law? *Theoretical and Applied Economics Volume XXIII (2016), No. 3(608), Autumn, pp. 41-52*
12. Loizides, J. and Vamvoukas, G. (2005) Government Expenditure and Economic Growth: Evidence from Trivariate Causality Testing, *Journal of Applied Economics* 8(1), 125-152.

13. Mitchell, D. J. (2005). The impact of government spending on economic growth. Backgrounder No. 1831. Published by the Heritage Foundation. Available at www.heritage.org.
14. Narayan, P. K. (2005). The saving and investment nexus for China: evidence from cointegration tests. *Applied economics*, *37*(17), 1979-1990.
15. Nembot, N. L., Malachio, T. A., & Kos à Mougnol, A. (2019). Effects of Public Expenditure on Economic Growth in the CEMAC sub-region : a comparative analysis between the fragile and non-fragile states.
16. Nguemegne, J. P., (2007). Budget, Economic Growth and Social Development in Cameroon; An exploratory study of Public Budget Trend, Social Development indicators from 1990 – 2001.
17. Njimanted, G. F. (2012). An econometric investigation into the Wagner's law in the Cameroon economy: the vector auto-regressive approach. *Journal of the Cameroon Academy of sciences vol*. 10 no. 1
18. Overseas Development Institute (ODI). (2004). *Why Budget Matters: The New Agenda of Public Expenditure Management*, Briefing Paper, May 2004, UK
19. Ogar, A. I., Eyo, E., and Arikpo, O. F. (2019). Public expenditure and economic growth in Nigeria: VAR approach. European Journal of Economic and Financial Research, 3(3): 36-60.
20. Öztürk, I., & Acaravci, A. (2013). The long-run and causal analysis of energy, growth, openness and financial development on carbon emissions in Turkey. *Energy Economics*, *36*, 262-267.
21. Peseran, M. H. and Shin, Y. (1999). An autoregressive distributed lag modeling approach to cointegration analysis, In Strom, S. (Ed.): *Econometrics and Economic Theory in 20th Century: The Ragnar Frisch Centennial Symposium*, Chapter 11, Cambridge University Press, Cambridge.
22. Pesaran, M.H., Shin, Y., and Smith, R.J. (2001). Bounds testing approaches to the analysis of level relationships, *Journal of Applied Econometrics*, 16, 289-326.
23. Safia, M. & Mohammed, N. (2018). Impact of Government's spending on the Welfare in Pakistan Economy
24. Schick, A. (2002). *¿La Presupuestación tiene algún Futuro?*. Serie Gestión Pública No 21, CEPAL/ILPES, Santiago de Chile.
25. Wagner, A. (1893). *Grundlegung der Politischen Okonomie*, 3rd ed.,Leipzig, C. F. Winter.
26. Wildavsky, A. (1961). "Political Implications of Budgetary Reform." *Public Administration Review*, 21:pp 183–190.

27. Appendix 1: Test for autocorrelation
28. **Durbin's alternative test for autocorrelation**

29. lags(p)	30. chi2	31. df	32. Prob > chi2
33. 2	34. 0.301	35. 1	36. 0.583

37. H0: no serial correlation
38. Appendix 2: Heteroscedasticity

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of lnGDP_capita

         chi2(1)      =     0.70
         Prob > chi2  =   0.4020
```

39.
40. Our p-value is greater than 5% and even 10%, so we do not reject Ho. This way there is no problem of heteroskedasticity.