International Journal of Management Science and Business Administration

Volume 3, Issue 2, January 2017, Pages 50-58
DOI: 10.18775/ijmsba.1849-5664-5419.2014.32.1005
URL: http://dx.doi.org/10.18775/ijmsba.1849-5664-5419.2014.32.1005

Government Spending and Economic Growth in Ghana: Evidence from Granger Causality Analysis

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Abstract: In spite of the diverse major issues affecting the economy of Ghana over the years, the economy continues to experience a downward spiral in its economic growth. Taking into account three opining views regarding government spending and economic growth, this study sets to investigate the causal nexus fractious and economic growth in Ghana. We apply the autoregressive distributed lag (ARDL) bounds testing approach to co-integration and the vector error correction model (VECM)-Granger causality test to evaluate both long- and short-run parameters including the direction of causation with data spanning from 1980 and 2015.The empirical results show evidence of co-integration for the existence of a long-run relationship between the dependent and independent variables. The Granger causality tests, in addition, indicated causal independence between government spending and economic growth within the time framework of the study in the economy of Ghana. Government spending has a cause effect on economic growth in Ghana**.** However, government spending channeled into a more fractious use with the building of resilience and infrastructural development that are self-liquidating if encouraged will enhance economic activities in the short run and also propel growth in the long run in the Ghana.

Keywords: Government Spending, Economic Growth, Granger Causality, Bounds test co-integration, Ghana

1. Introduction

The Ghanaian economy has been privileged to have a touch of many scholars investigate diverse issues affecting it in one way or the other. Some major areas usually being discussed spans from Trade, International Relation issues, Investment, Transfer of Technology only to mention but a few. All over the globe, the causal relationship between government spending and economic growth has been a subject of widespread debate; nevertheless, the economy of Ghana still stands distinct in this interesting area with very little study in the realm of research on the subject matter even though the economy has experienced exceptionally high levels of public debt rates and general economic crisis. As opined by Kunofiwa, T. et al 2013, at present, the issue of government spending and economic growth has three opining views. Principal among these views maintains that government spending propels growth. Second among these views stands firm on the debate that growth promotes government spending. The last view argues that both government spending and economic growth promotes one another.

In spite of the above discussion, economic theory does not inevitably generate solid conclusions about the impact of government spending on economic growth or dis-growth. Interestingly, most economists will agree to the fact that there are situations in which lower levels of government spending augments economic growth whereas, in other situations, higher levels of government spending is desirable. Obviously, we can assume a rather low economic growth in the case of a zero government spending since most infrastructural projects, property rights protection among other developmental projects needs to be set in progress through government spending. Needless to say, that government spending to an extent is necessary and beneficial for a smooth running of the economy. This paper aims to determine the causal effect of government spending on economic growth of Ghana for the period between 1980 and 2015. The study adopts desktop research which analyses a variety of existing literature on the subject matter as well as substantial amount of materials

from secondary data source being the World Bank and primary data source being Ministry of Finance (MOF) or Treasury Latest actual data: Government Finance Statistics Manual (GFSM), Ghana.

2. Literature Review

The government spending growth nexus has been a debating area for the intellectual exploitation of widespread researchers in a bid to investigate the causal effects. Given the opining views are two main theories that have been dominant in this realm of debate, being that of Wagner and Keynes. Initiating a model that government spending is endogenous to economic growth, Wagner (1883) explains that growth in an economy can cause an expansion in government spending. Keynes (1936) on the other hand initiates a model that during a period of recession, economic activities can be spurred up by the use of fiscal policies. In other words, an increase in government spending, expansionary fiscal policy among others can spur economic growth. These two theories being Wagner's law and the Keynesian theory have two opposing views in examining the relationship between government spending and growth. Wagner's model sets to elaborate that causality spans from growth to government spending while the Keynesian model holds an opposing view that causality spans from government spending to economic growth in the periods of recession.

In this study, we investigate whether government spending granger causes economic growth in both the long and short run and vice versa through the granger causality analysis. Examining the causal link between government spending and economic growth by conducting the panel Granger causality test using data set including 182 countries spanning 1950 to 2004, Wu, Tang et al. (2010) found results that supported strongly Wagner's model that government spending is useful to economic growth irrespective of how we view the size of government. The study also confirms a bi-directional causality between government spending and economic growth. Using advanced ARDL-bounds testing approach, Kunofiwa. et al 2013, also investigated the causal link between government expenditure and economic growth. Their regression result showed that there is a unidirectional causal flow from economic growth to government expenditure which again supports Wagner's model. This applied both in the short-run and in the long-run. The causal flow from government expenditure to economic growth, however, was evident only in the short-run.

The study of Puent et al. (2015) analyzed the possible presence of Granger causality between debt and growth in 16 OECD countries between the periods of 1980 to 2009. Applying the panel bootstrap Granger causality test to control for both the presence of cross-country heterogeneity and cross-sectional dependence, their results showed that government debt does not cause real GDP growth. Loizides et al. (2005) in their study, explored on the size of government measured as the share of total expenditure in GNP to find out whether or not granger causes the rate of economic growth. Adopting the bivariate error correction model within the Granger causality framework and including two variables being unemployment and inflation distinctly to generate a simple "trivariate" analysis, their results showed that government size granger causes economic growth in both the long- and short-run. Again, the results revealed that economic growth Granger causes the relative size of government.

In a bid to investigate the nature of the relationship between government expenditure and economic growth, Al-Faris, (2002) used a dynamic model adjusted to the Gulf Cooperation Council (GCC) countries' data as methodology and found that national income is a prognostic factor which can increase government as hypothesized by Wagner. However, the empirical findings did not support Keynesian theory and hypothesis being that government spending causes growth. Following the expenditure income hypothesis debate in economics with a focus on Keynes and Wagner's contradicting theories, Ansari et al. (1997) applied the Granger and Holmes-Hutton statistical procedures to test for the income-expenditure hypothesis for some African countries involving Ghana, Kenya, and South Africa. Their results revealed that the hypothesis of public expenditure causing national income is not sustained by the data for these African countries.

Bagdigen et al. (2004) taking into account the current developments in econometric techniques, investigates Wagner's Law of a long-run relationship between public expenditure and GDP for the case of Turkey for the period between 1965-2000. The relationship is supposed public expenditure to be an outcome, not cause, of growth in GDP. Causality must run from GDP to public expenditure, not other ways around. Using the cointegration test and the Granger Causality test, their empirical analysis indicated the non-existence of causality in both directions; neither Wagner's Law nor Keynes hypothesis was valid for the case of Turkey. The study of Islam, (2001) takes into account a re-examination of Wagner's hypothesis of developing the government and the economy at large by using advanced econometric techniques such as cointegration and exogeneity tests which were not adopted in previous empirical studies. The result of their findings showed solid support for Wagner's hypothesis for the USA.

Furthermore, in Abu-Bader, et al. (2003)'s study on the causal relationship between government expenditure and economic growth for Syria, Israel and Egypt, Israel for three decades using the multivariate cointegration and variance decomposition techniques was carried out. Basing on the bivariate system of total government spending and economic growth, they tested for causality and found a bi-directional causality from government spending to economic growth with a negative long-term relationship between the two variables. Adversely, their test for causality in a trivariate system being economic growth, the share of government civilian expenditures in GDP and military burden also indicated that the military burden negatively affects economic growth for the countries of interest, and that civilian government expenditure does cause positive economic growth in Israel and Egypt.

In line with the above, Samudram, et al. (2009) examines the Keynesian opinion and the Wagner's Law on the role of public expenditure on economic growth for Malaysia (1970–2004). Employing the Auto-Regression Distributed Lag (ARDL) model and the 'bounds test' (Pesaran et al, 2001) as methodology, their analysis results showed the existence of a long-run relationship between their variables. Furthermore, their findings revealed the long-run causality being bi-directional for GNP and expenditures on administration and health, which supports both Keynes view and Wagner's Law considering the structural break in 1998.

Magazzino, (2012) acknowledged Wagner's Law as the principal model of public spending in the history of public finance and assessed the empirical evidence of public spending and growth in the Italian economy for the period 1960–2008 at a disaggregated level by adopting the time series approach. The study revealed a cointegration relationship for three out of five items. Again, findings from the Granger causality tests showed confirmation of support of Wagner's Law only for passive interests spending in the long-run, and for reliable labor income spending in the short-run.

Lastly, an insightful study by Chen, (1993) sets to investigate the causal relationship between defense spending and economic growth in mainland china was examined for the period between 1950 and 1991. The result showed that defense spending is not cointegrated with economic growth rate, indicating the nonexistence of long-run equilibrium relationship between the two variables. The Granger causality tests, in addition, indicated causal independence among the two variables.

3. Methodology

This study is an empirical investigation evaluating the causal relationship between economic growth, debt, current account balance and inflation. An appropriate econometric model, which supposedly established the relationship between variables of interest, are specified and used to aid us to practically demonstrate the effect of government spending on economic growth in Ghana. In line with the theoretical considerations, we specified the models as:

$$GDP_t = f(INF_t, DBT_t, COB_t)\xi_t \quad \text{.....(1)}$$

$$GDP_t = \beta_0 + \beta_1 INF_t + \beta_2 DBT_t + \beta_3 COB_t + \xi_t \quad \text{.....(2)}$$

Where;
GDP = Gross Domestic Product
INF = Inflation
DBT = Debt profile
COB = Current account balance
ζ = Error term of equation 1

4. Result and discussion

4.1 Time series properties of data and unit root test

It is significant to examine the time series characteristics of the variables. This is for reasons of determining the order of integration due to the fact that the ARDL bounds testing approach to cointegration are applicable only in the presence of I(0) or I(1) variables, thus, being stationary/integrated at the level form or at first difference. That is, the assumption of bounds testing will disintegrate in the presence of I (2) variable (Fosu et al., 2006).

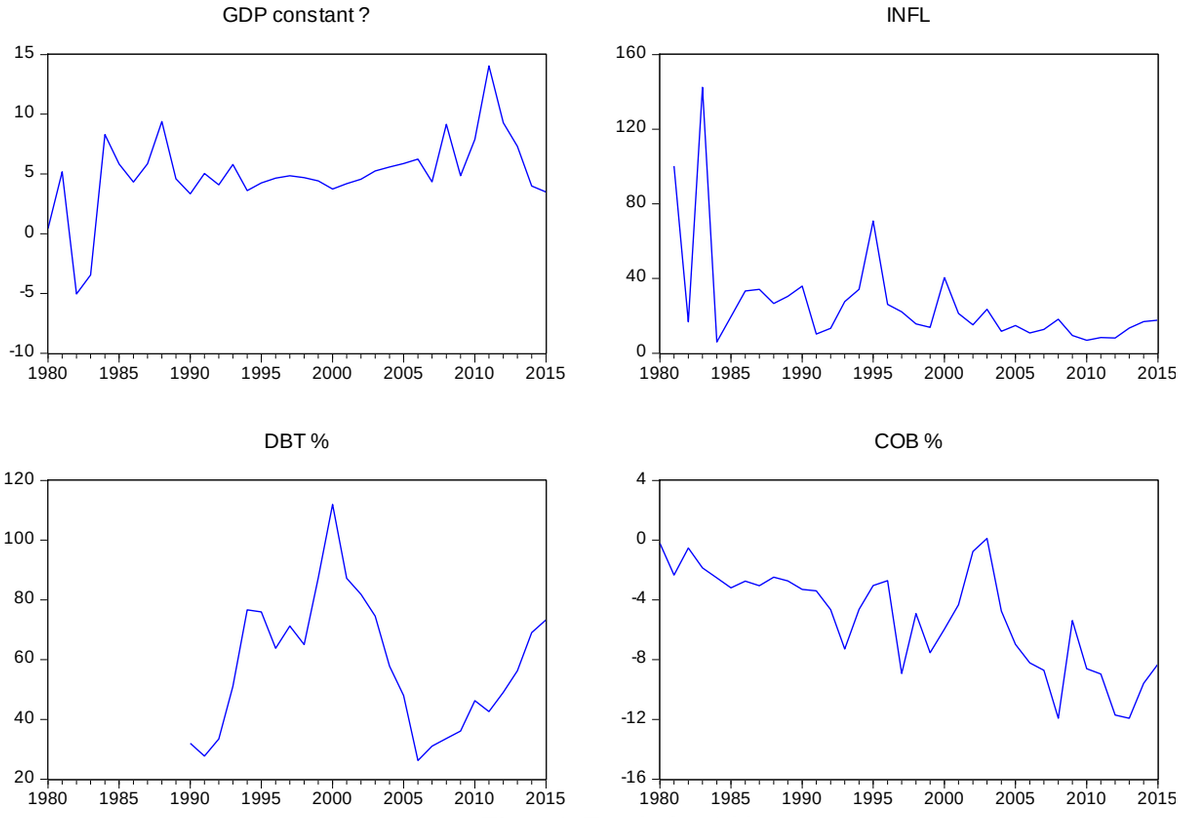

Figure1: Trend of variables

Figure 1 above indicates the trend of variables from 1980 to 2015 in their logarithm form. The vertical axes, in turn, show that the variables are measured in a different unit but converted to logarithm forms in a bid to bringing them to balance in the same base or unit. The trends of the variables Gross Domestic Product, Debt profile, current account balance and inflation. The graphs, however, exhibit trends and structural breaks. We conduct unit root tests on our variables of interest by utilizing both the NG-Perron and ZA tests at 1%, 5% and 10% levels of significance. The null hypothesis signifies a unit root problem exists, that is, $\beta 1 = \beta 2 = \beta 3 = 1$ as against the alternative hypothesis also signifying the non-existence of unit root problem that is, $\beta 1 \neq \beta 2 \neq \beta 3 \neq <1$.

Table 1: Unit root test

Ng-Perron unit root test				
Variable	MZa	Mzt	MSB	MPT
GDP	-16.463	-2.8012	0.1705	5.9351
∆GDP	-15.8523*	-2.8145	0.1775	5.7532
INF	-15.5333*	-2.7625	0.1778	6.0091
∆INF	-0.4028*	-0.4245	1.0539	203.908
DBT	-3.7249	-1.3362	0.3587	24.0289
∆DBT	-11.4248*	-2.3877	0.2090	7.9875
COB	-15.1956***	-2.7441	0.1805	6.0686
∆COB	-15.7958**	-2.8047	0.1775	5.8021
Zivot-Andrews structural breaks unit root test				
Variable	At levels	Time break	At first diff	Time break
GDP	-5.5076*	2010	-9.2684*	2013
INF	-8.2136*	2011	-6.4472**	1995
DBT	-2.6510	1999	-6.6751*	1999
COB	-5.9481*	1997	-8.5004*	2003

Note: ***, ** and * shows the significance at the 1, 5 and 10 percent level, respectively.

Table 1 indicates the NG-Perron and ZA unit root results for all variables of interest. The table shows an integration or stationarity of GDP and DBT at the first difference whereas inflation and current account balance are stationary at levels. In the presence of I(2) or higher order variables, the computed statistics provided by Narayan (2004) and Pesaran et al. (2001) are not valid (Pesaran et al (1997). The presence of a combination of order one and zero suggests that we can assertively apply the Pesaran, Shin and Smith-ARDL methodology for analyzing for cointegration.

The trends of the variables include GDP, inflation; debt and current account balance. The graphs present the trends and structural breaks. GDP structural break occurs in 2010 and 2013 at levels and first difference respectively. Inflation structural break occurs in 2011 and 1995 at levels and first difference respectively, while debt structural break occurs in 1999 both levels and first difference. Current account balance on the other hand structural break occurs in 1997 and 2003 at levels and first difference respectively.

4.2 Bounds test approach to cointegration

The bounds test approach to cointegration is ideal compared to other conventional cointegration tests due to the fact that it has several essential advantages over other conventional tests. The approach efficiently corrects for any possible endogeneity among the dependent variables. Another key advantage of the ARDL approach is that it helps to avoid the uncertainties generated by unit root pre-testing as it can be applied regardless of whether the series are I(0) or I(1). An even added or extra bonus of this approach is that unlike other conventional tests for cointegration, it can be applied to studies having a small sample size (Narayan, 2004). More so, both the short- and the long-run relationship can be simultaneously estimated. In this study we estimate the ARDL approach to cointegration using the following unrestricted error correction (UREC) regressions as follows:

$$\Delta GDP_t = \alpha_1 + \sum_{i=0}^{p} \beta_{1i}\Delta GDP_{t-i} + \sum_{i=0}^{p} \kappa_{1i}\Delta INF_{t-i} + \sum_{i=0}^{p} \lambda_{1i}\Delta DBT_{t-i} + \sum_{i=0}^{p} \gamma_{1i}\Delta COB_{t-i} + \sum_{i=0}^{p} \eta_{1i}\Delta GDP_{t-i} + \sum_{i=0}^{p} \eta_{1i}\Delta INF_{t-i} + \sum_{i=0}^{p} \eta_{1i}\Delta DBT_{t-i} + \sum_{i=0}^{p} \eta_{1i}\Delta COB_{t-i} + \mu_3 \quad (3)$$

$$\Delta INF_t = \alpha_2 + \sum_{i=0}^{p} \beta_{2i}\Delta GDP_{t-i} + \sum_{i=0}^{p} \kappa_{2i}\Delta INF_{t-i} + \sum_{i=0}^{p} \lambda_{2i}\Delta DBT_{t-i} + \sum_{i=0}^{p} \gamma_{2i}\Delta COB_{t-i} + \sum_{i=0}^{p} \eta_{1i}\Delta GDP_{t-i} + \sum_{i=0}^{p} \eta_{2i}\Delta INF_{t-i} + \sum_{i=0}^{p} \eta_{3i}\Delta DBT_{t-i} + \sum_{i=0}^{p} \eta_{4i}\Delta COB_{t-i} + \mu_2 \quad (4)$$

$$\Delta DBT_t = \alpha_3 + \sum_{i=0}^{p} \beta_{3i}\Delta GDP_{t-i} + \sum_{i=0}^{p} \kappa_{3i}\Delta INF_{t-i} + \sum_{i=0}^{p} \lambda_{3i}\Delta DBT_{t-i} + \sum_{i=0}^{p} \gamma_{3i}\Delta COB_{t-i} + \sum_{i=0}^{p} \eta_{1i}\Delta GDP_{t-i} + \sum_{i=0}^{p} \eta_{2i}\Delta INF_{t-i} + \sum_{i=0}^{p} \eta_{3i}\Delta DBT_{t-i} + \sum_{i=0}^{p} \eta_{4i}\Delta COB_{t-i} + \mu_3 \quad (5)$$

$$\Delta COB_t = \alpha_4 + \sum_{i=0}^{p} \beta_{4i}\Delta GDP_{t-i} + \sum_{i=0}^{p} \kappa_{4i}\Delta INF_{t-i} + \sum_{i=0}^{p} \lambda_{4i}\Delta DBT_{t-i} + \sum_{i=0}^{p} \gamma_{4i}\Delta COB_{t-i} + \sum_{i=0}^{p} \eta_{1i}\Delta GDP_{t-i} + \sum_{i=0}^{p} \eta_{2i}\Delta INF_{t-i} + \sum_{i=0}^{p} \eta_{3i}\Delta DBT_{t-i} + \sum_{i=0}^{p} \eta_{4i}\Delta COB_{t-i} + \mu_4 \quad (6)$$

Where Δ is the first difference operator. μ_t are assumed to be normally distributed whereas white noise is the error correction term derived from the cointegration equation. The hypothesis to be tested is as follows:
H_0: $\eta_1 = \eta_2 = \eta_3 = \eta_4 = 0$, H_1: $\eta_1 = \eta_2 = \eta_3 = \eta_4 \neq 0$

Table 2: Bound test cointegration

	Lag length	F-statistics
F_{GDP}/GDP, INF, DBT, COB	4, 4, 4, 4	19.8062*
F_{INF}/INF, GDP, DBT, COB	4, 4, 4, 4	6.3792*
F_{DBT}/DBT, GDP, INF, COB	4, 4, 4, 4	9.0221*
F_{COB}/COB, GDP, INF, DBT	4, 4, 4, 4	8.4556*
	Critical values N36	
	I (0) bound	I(1) bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Note: The asterisks ***, ** and * shows the significant at 1, 5 and 10 percent levels, respectively. The optimal lag length is determined by AIC.

The calculated F-statistics for cointegration in addition to the diagnostic tests are conveyed in Table 2. In all the cases, the calculated F-statistics are greater than the 1 and 5 percent upper bound critical values provided by Pesaran et al. (2001). This shows that there is four cointegrating equation. Therefore, we can reject the null hypothesis of no cointegration on the basis that a long-run equilibrium relationship exists between GDP, inflation,

debt and current account balance in Ghana. This is true with all the other variables considered as endogenous variables.

4.3 Estimation of the long-run, short-run and error correction mechanism

Given the presence of cointegration, the short- and long-run parameters are estimated to determine the causal relationship between debt, inflation and current account balance and economic performance. The results of the coefficients are presented in Tables 3 and 4.

Table 3: Short-run coefficients and error correction mechanism

Variable	Coefficients	Standard error	t-statistic	Probability
$\Delta(GDP_{(t-1)})$	1.0191*	0.2308	4.4138	0.0047
$\Delta(GDP_{(t-2)})$	0.6284***	0.1886	3.3309	0.0795
$\Delta(GDP_{(t-3)})$	0.5582**	0.1286	4.3401	0.0492
$\Delta(COB)$	-0.5976**	0.1231	-4.8530	0.0399
$\Delta(COB_{(-1)})$	-0.1166	0.1140	-1.0227	0.4440
$\Delta(COB_{(-2)})$	0.3930***	0.1041	3.7716	0.0637
$\Delta(COB_{(-3)})$	0.3711	0.1892	1.9611	0.1889
$\Delta(DBT)$	-0.1517***	0.0358	-4.2314	0.0516
$\Delta(DBT_{(-1)})$	-0.0970	0.0530	-1.8313	0.2085
$\Delta(DBT_{(-2)})$	-0.0571	0.0491	-1.1634	0.3647
$\Delta(DBT_{(-3)})$	0.1397**	0.0320	4.3547	0.0489
$\Delta(INF)$	0.0794	0.0402	1.9743	0.1870
$\Delta(INF_{(-1)})$	0.1259***	0.0345	3.6419	0.0678
$\Delta(INF_{(-2)})$	0.0212	0.0280	-0.7565	0.5283
$\Delta(INF_{(-3)})$	-0.0831	0.0448	-1.8536	0.2050
$ECT_{(-1)}$	-0.8297**	0.3378	-6.5989	0.0222

Note: *, ** and *** shows significance of the variables at 1, 5 and 10 percent significance level

In the short-run, GDP inertia contributes positively to itself from first to the third lagged period. This indicates that previous period of GDP is a major enhancement of economic performance. Current account balance is negatively related to economic growth in the short run while previous period current account balance positively influences economic growth. The current negative relationship between current account balance and economic growth is due to the deficit. Debt profile has a negative relationship on economic growth. A 1 unit change in debt results to a 0.1517, 0.0970 and 0.0571 units decrease in economic growth in the short-run, one and two lagged period respectively. An indication that borrowed funds both internally and externally are not channeled into productive use, the building of resilience and infrastructural development that are self-liquidating. Inflation is positively related to economic growth. A 1 unit increase in inflation all things being equal leads to 0.070, 0,1259 and 0.0212 increase in economic growth for short, one lagged and two lagged period of inflation. Business ventures seize the opportunity of higher profits due to higher prices and engage in more production thereby leading to increase in economic growth.

Table 4: Long-run coefficients

Variable	Coefficient	Standard error	t-statistic	Probability
COB	-0.5273***	0.1247	-4.2280	0.0516
DBT	-0.0466***	0.0118	-3.9398	0.0588
INF	-0.0133	0.0295	-0.4519	0.6956
C	5.5067***	1.4911	3.6930	0.0661

Note: *, ** and *** shows significance of the variables at 1, 5 and 10 percent significance level

4.4 Vector error correction mechanism Granger causality test

The causal relationship between the series is investigated by the application of the Granger procedure within the VECM. The existence of cointegration suggests a causal relationship in at least one direction. (Engle and Granger, 1987) signaled against using the Granger causality test in first difference through vector autoregression (VAR) method due to the possibility of misleading results in the presence of cointegration. The enclosure of an error-correction term aids in

capturing the long-run relationship. The Granger causality test is improved by an error-correction term which is formulated as a bi-variate path order vector error-correction model (VECM) as follows:

$$\begin{pmatrix}\Delta GDP\\ \Delta INF\\ \Delta DBT\\ \Delta COB\end{pmatrix}=\begin{pmatrix}K_1\\ K_2\\ K_3\\ K_4\end{pmatrix}+\sum_{i=1}^{p}\begin{pmatrix}d_{11}\ldots d_{1n}\\ d_{21}\ldots d_{2n}\\ d_{31}\ldots d_{3n}\\ d_{41}\ldots d_{4m}\end{pmatrix}+\begin{pmatrix}\pi_1 ECM_{t-1}\\ \pi_2 ECM_{t-1}\\ \pi_3 ECM_{t-1}\\ \pi_4 ECM_{t-1}\end{pmatrix}+\begin{pmatrix}H_1\\ H_2\\ H_3\\ H_4\end{pmatrix}+\begin{pmatrix}\eta_1\\ \eta_2\\ \eta_3\\ \eta_4\end{pmatrix}\quad\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(7)$$

Where Δ is a variance operator, ECM signifies the error-correction term resulting from long-run cointegrating relationship through ARDL model; Ci (i = 1…4) are constants; and η_i (i =1…4) are serially uncorrelated random error terms with zero mean. The VECM gives directions for Granger causality. Long-run causality is captured by a significant lagged *ECM* terms, using a t-test, while F-statistic or Wald test captures short-run causality. Table 5 presented the result of VECM granger causality test.

Table 5: VECM Granger causality

Variable	Direction of causality				
	Short-run causality			Long-run causality	
	Partial F-statistic			t-statistic	
	$\Delta\Sigma GDP_{t-i}$	$\Delta\Sigma COB_{t-i}$	$\Delta\Sigma DBT_{t-i}$	$\Delta\Sigma INF_{t-i}$	ECT_{t-1}
ΔΣGDPt	-	3.7716***	4.3547**	3.6419***	-0.8297**
		[0.0637]	[0.0489]	[0.0678]	[-6.5989]
ΔΣCOBt	4.8530**	-	0.9148	2.0084	-0.7026***
	[0.0399]		[0.4569]	[0.1824]	[-3.1160]
ΔΣDBTt	4.2314***	3.7004***	-	2.6007	-0.6544**
	[0.0516]	[0.0659]		[0.1215]	[-5.2140]
ΔΣINFt	1.4205	3.3130***	2.3417	-	-0.1788
	[0.2913]	[0.0803]	[0.1052]		[0.8194]

Note: The asterisks ***, ** and * indicate the significance at the 1, 5 and 10 per cent level, respectively.

With the fact that the variables are cointegrated, the bearing of causality can be segregated into the short- and long-run causality. The one period lagged error-correction term ECT_{t-1} of the t-significance signifies the long-run causality, whereas the joint significance of LR tests of the lagged dependent variables signifies the short-run causality. Beginning with the long-run causality; the empirical results show that the ECT_{t-1} coefficients are negatively signed and statistically significant in all VECMs. This implies that there exists a bi-directional causality in the long-run among the variables of interest. Again, the significance ECT_{t-1} also shows that the system's exposure to shock will subject it to convergence in the long-run equilibrium at a relatively slow speed for GDP (–0.8297), inflation (-0.7026), debt (-0.6544) VECMs comparing to the convergence speed of economic growth (–0.1788), VECMs.

The short-run results are of interest; there exists a unidirectional causality from inflation to GDP, from current account balance to both debt and inflation indicating growth hypothesis. While a bi-directional causality exists among GDP and current account balance variables as well as between GDP and debt indicating feedback effects. All causality tests, in the long run, survive a 1% level of significant excluding current account balance.

5. Conclusion and Recommendation

This study examines the effect of government spending on economic growth for the period between 1980 and 2015 in the economy of Ghana. The empirical analysis, following the variant of Magazzino, C. (2012), shows evidence of co-integration for the existence of a long-run relationship between GDP, inflation, debt and current account balance in Ghana including all the other variables considered as endogenous variables. However, the confirmation of this cointegrating vector does not inevitably imply the presence of a cause-effect relationship. This births the initiative to investigate the short and long-run parameters to enable us to determine the causal relationship between debt, inflation and current account balance and economic performance of Ghana.

The Granger causality test, in addition, reveals that in the long-run there exists causality among the variables. Adversely, in the short-run, it shows the existence a unidirectional causality from inflation to GDP, from current account balance to both debt and inflation indicating growth hypothesis and a bi-directional causality existing between GDP and current account balance and between GDP and debt indicating feedback effects in the economy of Ghana.

Our result supports the first of the three opining views of government spending and economic growth following the theories of Wagner (1883) and therefore, concludes that government spending in effect propels economic growth in the case of Ghana. To further enhance growth, the study recommends that public funds should be channeled into full use, a building of resilience and infrastructural development that are self-liquidating. Government spending should be directed largely to current productive economic activities, in order to invigorate activity in the economic sectors. Again the government should focus more on current investments in order to enhance economic growth in the long-run and propel economic activities in the short-run.

Acknowledgement

The authors of this study would like to express their sincere gratitude to the various reviewers for their invaluable remarks on the scholastic ideas of this calligraphy. Our intellectual debt which is evident through this study goes to all the professors and other prominent sources of stimulation, inspiration, and support.

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