22

Crowding Out Hypothesis: Does the Federal Government Expenditure Crowd Out State and Local Government Expenditures in Nigeria?

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Abstract

The study examined the crowding out hypothesis with the objective of ascertaining whether federal government expenditure crowds out state and local government expenditures in Nigeria. Annual data covering the period 1999-2017 were collected from secondary sources. The study estimated simple regression models using the ordinary least squares (OLS) method. However, before model estimation was carried out, stationarity test of the time series variables was first reported. Findings from the unit root test revealed that time series variables were integrated of different orders. Findings from the estimated regression models showed that federal government expenditure crowds out state and local government expenditures during the period investigated. Based on these findings, it was recommended thatthe vertical fiscal imbalance in Nigeria therefore needs be addressed with proper institutions so that all tiers of

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government face hard budget constraints within which to decide allocations. States and local governments should be granted more autonomy to raise their own revenues in order to reduce their dependence on federal transfers and ensure that expenditure decentralization is matched to a larger extent with revenue decentralization.

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JEL Classification: H50, H62, H77

INTRODUCTION

The role of government in the development of modern society cannot be overemphasized. For any society to sustainably grow and develop, it needs to have a government to run its affairs. The government helps to sustain the social contract that binds every member of the society through its spending powers among others. Thus, the price that is paid for a society to be prosperous is for it to have an established government that enforces the social contract at all levels through effective and efficient revenue generation and expenditure system. Nigeria is a federal country with a three-tier sub-national government system (i.e., federal, state and local governments), made of 36 States, one Federal Capital Territory and 774 Local Governments (Afeikhena, 2007).

The federal government takes charge of expenditures on exclusive matters of national interest such as defense, foreign policy, currency regulations, etc. State government expenditures are mainly concentrated in the sectors of general public services and administration; economic affairs including primarily agriculture, road maintenance and transportation; education; and to a lesser extent housing and community utilities and health. The 1999 constitution sets out the following functions of local government in Nigeria: provision and maintenance of health services; agricultural and national resource development; provision and maintenance of primary, adult and vocational education; and other functions as may be conferred on it by the state house of assembly. The states rely heavily on the federal government and the relationship between the two levels remains one-sided. Recently, state governors demanded for a paradigm shift in the national practice of federalism, and for dual sovereignty between federal and federating states (Fajingbesi & Odusola, 2009).

In Nigeria, most resources are owned and managed by the federal government, and almost all states and local governments rely on allocations or shares from federal revenues (Ekpo, 1995). Around 75% of federal revenues are derived from oil and gas, making all three tiers of governments vulnerable to international fluctuations. Besides, since the year 2000, each state maintains a special account, the State Joint Local Government Account, gathering funds from the Federation Account and from the government of the state that is to be used to pay all allocations to local government councils. Yet this system is not operating well and funds rarely reach local governments (Afeikhena, 2007).

In terms of resource allocation in Nigeria, the Federation Account Allocation Committee at the federal level meets monthly for revenue sharing among the three tiers of government. At the state level, the Joint Local Government Account Allocation Committee for each state ensures that allocations made to local government councils are promptly paid into the Joint State-Local Government Account and distributed to the councils based on provisions under the laws enacted

by each state's house of assembly. The federal government can sometimes undertake projects on behalf of state governments and thereafter make deductions at source from the statutory allocations of the concerned state. There are also instances when the federal government and state governments embark on joint projects. In effect, both state and local governments depend on the flow of funds from the federation account. The observation is that the internally generated revenue (IGR) mechanism at both state and local levels is not strong enough to achieve consistent fiscal objectives. At the local government level, the fiscal policy mechanism is particularly poor (Ekpo, 1995).

Nigerian fiscal federalism is distinguished by the overwhelming concentration of tax jurisdiction and collection at the level of the federal government. All the major sources of government revenue –petroleum profits tax, import duties, excise duties, mining rents and royalties, and company income tax– are controlled by the federal government. State and local governments have jurisdiction only over minor and low-yielding revenue sources, with the exception of personal income tax at the state-level and property tax at the local level (Abu & Abdullahi, 2010). The intergovernmental fiscal relationships in Nigeria are currently a subject of intense controversy and irrepressible conflict. The major areas of concern have been the inherent inequities, imbalances in the interplay of inter-jurisdictional forces, and inability of the seeming fiscal unitarism to contribute significantly to social, political, and economic development (Abu & Abdullahi, 2010).

Generally, the crowding out hypothesis has been seen by the private sector as one of the latent investment risk it faces from government in business expansion. It is the shrinking of investment capital as a result of shortage of credit occasioned by expanded debt-funded expenditure by government (Akpere, 2014). Anytime government engages in fiscal expansion through increased debt funding, it muzzles up a proportionate private sector access to credit for investment in a capital competitive environment. Since government debt pricing serves as reference for private sector interest rates, private investment is left with no option than to borrow at a premium above government interest rates and this has the potential to crowd out-private investment and affect economic growth in the medium to long term (Atukeren, 2005). The novelty of current study is to extent the crowd out effect to inter-governmental expenditure relations in Nigeria. Therefore, objective of this study seeks to find out the extent to which federal government spending crowds out state and local governments spending in Nigeria.

The rest of this paper is organized as follows. Section 2 is the literature review while Section 3 presents the methodology. Section 4 consists of results and discussion, and Section 5 comprises of conclusion and recommendations.

LITERATURE REVIEW

This section reviews relevant literature on the subject matter. It consists of the following sub-sections: conceptual review, empirical review and theoretical framework.

Conceptual Review

Conceptually, crowding out hypothesis or effect is a situation when increased interest rates lead to a reduction in private investment spending such that it dampens the initial increase of total investment expenditure is called crowding out effect. Sometimes, government adopts an expansionary fiscal policy stance and increases its expenditure to boost the economic activity. This leads to an increase in interest rates. Increased interest rates affect private investment

decisions (Martins & Lewis, 2004). A high magnitude of the crowding out effect may even lead to lesser income in the economy. With higher interest rates, the cost for funds to be invested increases and affects their accessibility to debt financing mechanisms. This leads to lesser investment ultimately and crowds out the impact of the initial rise in the total investment expenditure. Usually the initial increase in government expenditure is funded using higher taxes or borrowing on part of the government (Becker, 2015).

Government expenditure entails expenditure on real goods and services. It includes payment of salaries, pension, unemployment benefits, spending on subsidies and grants. Other forms of government expenditureare payments of interest on debt and investment projects, etc. (Atukeren, 2005). In Nigeria, government expenditure is classified into capital, recurrent, non-debt recurrent expenditure and statutory transfers. Capital expenditures are funds used by the government to acquire or provide physical assets such as property, industrial buildings or equipment for public usage with a life span of more than a year. This includes expenditure on roads construction, building of hospitals, communication systems, public research spending and the provision of basic education and medical services etc. It can also be described as government investments on productive channels of the economy (Ekpo, 1995).

Recurrent expenditures that are recurring in nature and do not result in the creation or acquisition of fixed assets. It is also described as an expenditure of government on the provision of goods and services consumed by the public within a fiscal year. This spending is recurrent because of the need for sustenance in the provision of these services (Afeikhena, 2007). In Nigeria, recurrent expenditure includes of domestic and foreign debt service as well as non-debt related expenditure. Non–debt recurrent expenditures are recurrent expenditures that are not debt related. They include payment for overheads, salaries, pensions, social security benefits, miscellaneous expenses, etc. salaries and overhead are payments that are periodical in nature, e.g., monthly quarterly, annually. Statutory transfers are funds transfers (enabled by law and backed by the constitution) that must be made to certain institutions every budget year for specific purposes. Some of the institutions that receive statutory transfers in Nigeria include: Niger Delta Development Commission, Universal Basic Education Commission, National Assembly, Independent National Electoral Commission, Public Complaints Commission, National Human Rights Commission, etc. (Fajingbesi & Odusola, 2009).

Empirical Review

Several attempts have been made by previous studies to examine the crowd out hypothesis especially with respect of the impact of government borrowing on private sector investment in both developed and developing economies. Few of these studies are reviewed in this section. Hassan (2016) analyzed impact of public debt burden on economic growth in Nigeria by specifically looking at domestic and external debt effects on the economy. He applied Johansen co-integration test, error correction model and vector error correction model to establish the association between each set of variables. The study revealed that a significant positive relationship exists between total public debt & investment and between total public debt Government's reserves. The empirical outcomes of their study also revealed that domestic debt has a negative relationship with domestic investment in both short-run and long-run. On the other hand, findings showed that a negative relationship exists between total public debt and manufacturing sector and government subsidy. However, no strong statistical evidence has been found regarding the negative impact of domestic debt and external debt on the GDP growth rate.

Becker (2015) examined the effects of public debt on private investments using GDP growth rate, interest rate, public debt and public interest as independent variables for 1967–2007 period. He found out that there exists a negative relationship between domestic public debt and private investment. Algan (2012) studied 17 OECD countries during the period 1960–2001. The empirical results revealed that the creation of one public job destroys approximately 1.5 private jobs, increases the number of the unemployed by 0.3, and slightly decreases participation in the labour market. On the one hand, the crowding-out effect is larger in countries where the public sector's production is highly substitutable to that of the private sector and where, on the other hand, the secure incomes in the public sector are high.

Cavallo and Daude (2011) used the panel data of 116 developing countries over the period 1980–2006 to analyze the effect of public debt on the private capital. They find that, on average, the crowding-out effect dominates. In addition, they note that this crowding-out effect is mitigated (or even reversed) in countries equipped with better institutions (where the marginal productivity of public investment is higher in theory) and which are open to international trade, and where financial flows such as financing constraints are less.

Gregoriou and Ghosh (2009) utilized a heterogeneous panel technique to into take account of heterogeneity effects of the average levels of government debt on selected macroeconomic variables including private sector investment in developing countries like Brazil, Sudan, Thailand and Zimbabwe. Findings showed that government debt has a negative and significant effect in these countries.

Dramani and Laye (2008) analyzed the determinants of private investment in Senegal. They found that public borrowing had a marked incidence on private sector investment and slightly significantly on growth. The "low" causality can be explained by the fact that investments in infrastructure, health and education attracted renewed attention around the middle of the 1990s. Their results strengthen the conviction that there is a retroactive loop between public investment and private sector investment.

Devarajan (2006) examined the effect of the growth of government borrowing and private sector growth. He found a negative (positive) and significant relationship between the government borrowing and private sector growth for 43 countries over the period 1970–1990.

Theoretical Framework

The theoretical discourse on the government borrowing-private sector investment nexus has bordered on two key theories, viz.: the Ricardian equivalence hypothesis and the Keynesian proposition. The Ricardian equivalence hypothesis developed by David Ricardo in 1863 states that for a given path of government consumption, the timing of taxes, or equivalently, the accumulation and de-accumulation of public debt, does not affect private consumption. In a closed economy, it therefore also leaves the interest rate, investments and output unchanged. If this proposition holds, the scope of fiscal policy as a stabilization tool of the economy will be very limited. This is in a sharp contrast to the basic Keynesian perspective as propounded by John Maynard Keynes in 1936. From the Keynesian viewpoint, a tax reduction/public debt accumulation in one period increases private consumption and therefore affects other macroeconomic variables such as output and unemployment (Devarajan, 2006).

Following the famous work of Barro (1974), the equivalence proposition received a renewed consideration. Barro argued that the private sector's holding of government bonds does not represent net wealth to the households, and therefore has no effect on private consumption. This stand has received support by other papers displaying the equivalence result, but there are also contributions to the literature which favor the Keynesian prediction.

The conventional view of public debt holds that in the short-run output is determined by demand and fiscal deficits (or higher public debts) have a positive effect on disposable income, aggregate demand, and overall output. This positive effect experienced in the short-run is likely to be large when actual output is far below capacity. Elmendorf and Mankiw (1999) stated that things are the same in the long-run. If Ricardian Equivalence does not hold, the decrease in public savings brought about by a higher budget deficit will not be fully compensated for by an increase in private savings. As a result, national savings will decrease, resulting in lower total investment, either at home or abroad. Lower investment at home will have a negative effect on GDP, as it will lead to a smaller capital stock, higher interest rate, lower labor productivity and wages. Lower foreign investment (or higher foreign inflows), instead, will have a negative effect on foreign capital income and will thus lower the country's future GNP. This negative effect of an increase in public debt on future GDP (or GNP) can be amplified by the presence of distortionary taxes. The present study therefore adopts the Keynesian theoretical perspective which holds that government borrowing affects macroeconomic variables such as private sector investment and other segment of the economy.

METHODOLOGY

This study adopts *ex-post facto* research design which uses secondary data to establish the relationship between the dependent variable and independent variable(s). A sample size of 20 years covering the period 1999 to 2017 is considered. The rationale for choosing this period is it marked the era when Nigeria has witnessed over a decade democratic dispensation with greater emphasis of public expenditure management.

The data for this study were collected from the Central Bank of Nigeria (CBN) statistical bulletin and the National Bureau of Statistics (NBS) annual publication. Given the nature of required data, test of stationarity is conducted using the augmented Dickey-Fuller (ADF) unit root test method. The essence is to check whether the time series variables have unit root in order to avoid obtaining spurious regression results (Dickey & Fuller, 1981). The ordinary least squares (OLS) method is used to estimate the specified regression models.

To empirically examine the crowding out hypotheses in Nigeria, the following regression models are specified:

Simple Regression Model for Federal and State Government Expenditure Nexus

$$TSGE_t = \alpha_0 + \alpha_1 TFGE_t + \varepsilon_t \quad (1)$$

Simple Regression Model for Federal and Local Government Expenditure Nexus

$$TLGE_t = \beta_0 + \beta_1 TFGE_t + \varepsilon_t \quad (2)$$

Where:

TFGE= Total Federal Government Expenditure

TSGE= Total State Government Expenditure

TLGE= Total Local Government Expenditure

α_0, β_0= Constant Terms

α_1, β_1= Slope Coefficients
ε= Error Term
t= Time
The a priori expectation is such that federal government respectively crowds out state and local governments in Nigeria if the following holds: $\alpha_1, \beta_1 < 0$, i.e., if the slope coefficients are negative.

RESULTS AND DISCUSSION

This section presents the empirical results of the study consisting of ADF unit root test results and regression results.

Table 1: ADF Unit Root Test Results

Variables	ADF Statistics			Remark
	Level	First Difference	Second Difference	
TFGE	-3.085329**	-	-	*I*(0)
TSGE	-1.699608	-5.978364**	-	*I*(1)
TLGE	-3.011687**	-	-	*I*(0)

Note: Superscript ** denotes rejection of the null hypothesis of existence of unit root at 5% significance levels respectively.

Source: Computed using E-Views 9 Software (2018).

From the ADF unit root test results in table 1, it can be observed that TFGE and TLGE were respectively stationary at level while TSGE was non-stationary at level but became stationary after first differencing. This means that TSGE is integrated of order one.

Table 2: Regression Results for Federal and State Government Expenditure Nexus
Dependent Variable: **TSGE**

Variable	Coefficient	Std Error	t-Statistic	Probability
C	2016.455	12892.09	0.156410	0.8767
TFGE	-8683.032	1775.894	-4.889386	0.0000
R^2= 0.87				F-Stat= 9.686868
Adj. R^2= 0.82				Prob=0.00099
DW= 1.93				

Source: Computed using E-Views 9 Software (2018).

Table 3: Regression Results for Federal and Local Government Expenditure Nexus
Dependent Variable: **LSGE**

Regressors	Coefficient	Standard Error	t-Statistic	Probability
C	162117.5	57358.48	2.826390	0.0071
TFGE	-9849.823	14527.86	-0.677995	0.5014
R^2= 0.85				D.W=1.74
$\bar{R}^2$= 0.80				F-stat=10.68467 Prob=0.000021

Source: Computed using E-Views 9 Software Package (2018).

From the regression results in tables 2 and 3 above, it can be observed that the coefficient of the explanatory variable (TFGE) was negative; implying that the federal government expenditure crowds out state and local government expenditures during the period investigated. However, while the impact of federal government expenditure impacted significantly on state government expenditure, on the other hand, it had insignificant impact on the expenditure of local government.

The values of the F-statistic from the regression results indicate that the parameters of the estimated model are jointly statistically significant at 5% level of significance. This implies that the estimated model is good for prediction, forecasting and policy purposes. The unadjusted coefficient of determination (R^2) values indicates that the estimated models have good fit. Lastly, the values of the Durbin-Watson (d) statistic suggest the absence of first-order autocorrelation. This implies that the results of the estimated models are valid and reliable.

CONCLUSION AND RECOMMENDATIONS

The study has attempted to determine whether federal government The relative roles of the three tiers of government –the federal government, the state governments, and the local government authorities– in public service delivery has emerged as one of the most important topics of open and vigorous debate in the new democratic climate in Nigeria. There have been increasing calls for intergovernmental fiscal relations to be reassessed in light of a widespread belief that although the state and local governments are assigned primary responsibility for the delivery of basic public services, but are not equipped with adequate revenue resources to fulfill their expenditure obligations because the bulk of government revenues is retained by the federal government.

In Nigeria, local government expenditure has constantly surpassed the potential for revenue sources owing to the great gulf between their needs and their fiscal capacity. This has largely been caused by the incongruous nature of their revenue rights and fiscal jurisdiction with the duties and functions constitutionally allocated to them. In other words, the nature and scope of

Nigerian fiscal system or federalism with reference to tax jurisdiction and revenue allocation are progenies of the constitutional and political developments of the country per se. There is no gain saying the fact that fiscal laws in Nigeria clearly give more tax powers to the federal government than the remaining two lower tiers of government. Given this core internally generated fiscal responsibility, there appears to be a scholarly unanimity on the benefits a country like Nigeria could derive from fiscal decentralism because the negative multiplier effects of fiscal centralism are enormous and, above all, incompatible with the demands of federalism. In line with the findings of the study, the following recommendations are made:

1. The vertical fiscal imbalance in Nigeria therefore needs be addressed with proper institutions so that all tiers of government face hard budget constraints within which to decide allocations.

2. Nigeria should adopt the standard principles of fiscal federalism requiring that state and local governments be granted clearly defined autonomy to raise their own revenues in order to reduce their dependence on federal transfers, that is, expenditure decentralization be matched to a larger extent with revenue decentralization.

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