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The Crowding Out Effect of Budget Deficits on Private Investment in Nigeria

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Abstract
It is an obvious fact that Budget Deficit has become a recurring decimal in the Nigeria's economy. Nigeria's budget has recorded up to thirty - nine years of fiscal deficit without really considering the impact it will have in the rate of investment among the private sector. The bone of the contention is on where we can get the money to cover the difference between expenditure and revenue. Will it be borrowed from external forces or will it be raised internally through the increase in tax rate or the sale of fiscal instruments? It is in the light of this that this study emerged. Hence, the study shows the crowding out effect of budget deficits on private investments in Nigeria's economy. It evaluates private investment and budget deficits by adopting an analytical framework that employs the ordinary least squares(OLS) and Granger Causality test. The analysis confirms that budget deficits crowds out private investments and that private investments granger cause budget deficit with feedback. Following the findings, it was recommended that stakeholders should reduce recurrent expenditure and increase its capital expenditure in order to encourage and make conducive environment for private investment to thrive which will ensure economic growth. The financing of budget deficits should be done through money creation, since over the years according to McConnell and Brue (2003), the expansionary effect of fiscal policy is greater when the budget deficit is financed through money creation rather than through borrowing.
Keywords: Crowding out, Budget, Deficits, investments, Fiscal, Monetary.

Introduction

The growth and the persistence of budget deficits in both the industrialized and developing countries in recent times brought the issue of budget deficits into sharp focus. The issues surrounding budget deficits are certainly new, but the economic development of the past decade has rekindled interest in policy issues. In the advanced countries, the growth of the United States' budget deficit spearheaded the impetus for a reassessment of the crowding out effect of budget deficit on private investment. In the less developed countries including Nigeria, budget deficits have been blamed for much of the decrease in private investment that retarded economic activities in the 1980's, the financing of budget deficit through the sale of bonds which increased public debt and caused the debt crisis in the 1980s; high inflation and the poor economic performance. Whether the borrowing is external or internal, it has both beneficial and catastrophic effect on certain macroeconomic variables and the overall economic performance. This twin effect makes budget deficit a major issue of strident concern to both developed and developing nations. (Rock 2001)

The crowding out effect of budget deficit on private investment has been fuelled to a large extent by government policies that have resulted in a persistent overshooting of the budget deficits and also by the measures employed to finance the growing deficits. For example, in a bid to increase the economic, social and basic infrastructural amenities in Nigeria, the pursuit of budget deficit have led Nigerian government to finance those deficits through the sale of bonds in the stock exchange market, these sale of bonds decreased the amount of loanable funds available for private investors by the increase in the interest rate, hence leading to a decline in private investment and poor economic growth in the short run.

Nigeria does not have an impressive record of fiscal prudence and stability. Nigerian government has been addicted to budget deficits since the early days of independence. Nigeria has witnessed a high ratio of budget deficit as expressed in percentages in table 1.

Table 1: Percentage of budget deficit to GDP

Years	Budget deficit (% of GDP)
2009	10.4
2010	3.62
2011	4.2
2012	2.85

High budget deficits in Nigeria over the years have decreased the amount of loanable funds available for private investors for investment in the financial market through the increases in the interest rate. The increase in the interest rate caused by the sale of government securities in the financial market which was of high value due to

the loan repayment ability of the government. The increase in interest rate reduced the loanable funds (i.e. savings of the household available in the commercial banks). Due to the fact that the Nigerian economy is characterized mostly by private firms, the increase in interest rate led to reduction of the size of some firms causing retrenchment of some workers, inflation (if the budget deficit is financed through the minting of money), low rate of industrialization, low aggregate demand and low economic growth.

Objective: The broad objective of this study is to examine the crowding out effect of budget deficits on private investment with a view to using the benefits to guard against pitfalls. The specific objectives of the study are:

(i) To evaluate how the financing of budget deficit through government securities has affected the performance of private investment in Nigeria;

(ii) To trace the causal relationship between budget deficit and private investment in Nigeria.

(iii) To determine the relative impact of fiscal policy on private investment in Nigeria.

Significance of the Study: This work explains the relationship between budget deficit and private investment in Nigeria. This study will be beneficial to investors, development planners, economic planners, students, policy makers, institutions, government agencies and researchers. It stimulates further study and research in this area. Also, since recurring budget deficits and decrease in private investment inevitably affect the consumption behaviour, which in turn would affect the economy as a whole; it will be beneficial to policy makers in analyzing the aggregate economy.

Literature Review

Contemporary monetarists view the vertical LM curve as a requirement for the existence of crowding out effect. James Tobin (1973), In order for government spending to stimulate economic activity, it must either foster increases in the money stock or increases in the rate at which the existing money stock turns over. Because the former possibility does not involve net debt purchases by the private sector or increases in taxes, there is no reason to think that private spending would be crowded out. However, if the money stock does not increase, government spending must be financed by debt issuance or increased tax revenue, either of which could result in a reduction in private spending. If private spending is not curbed by such actions, total spending rises, which implies a rise in velocity. It is an axiom of classical economists that velocity of money is virtually constant and cannot be increased by government actions. In particular, the rise in interest rates, which is associated with the issuance of government debt, does not induce private sector to attempt to hold less money balances because the demand for money is not sensitive to interest rate changes (Keith and Spencer, 1975). The LM curve is vertical in the classical case, reflecting a zero interest elasticity of the demand for (and supply of) money. Thus an increase in government spending which shifts the IS curve to the right can only increase the interest rate, but does not stimulate velocity. Consequently, aggregate demand does not shift. One or more component of private investment spending is crowded out by an amount equal to the amount of government spending increase. As a result, with aggregate demand failing to shift in response to the increase in government spending, crowding out occurs in both real and nominal terms (Carlson Keith and Roger Spencer, 1975).

The Neoclassical school of thought believed that budget deficit (i.e. an increase in government expenditure) means that aggregate demand increases which will set the multiplier process in motion. The resultant increase in income leads to an increase in the demand for money. If the supply of money remains constant in real terms, the excess demand for money causes interest rates to increase. Higher interest rate dampens private investment and thus aggregate expenditure. This reduction in aggregate demand dampens the initial multiplier effect, resulting in a lower new equilibrium level of income than would have applied if interest rate had remained unchanged. Such a fiscal policy therefore dampens the rate of private investment in the economy. Hence, the dampening of the rate of private investment by the budget deficit according to the neoclassical school of Thought is called the Crowding out effect. It is the dampening of private investment on account of increases in interest rate associated with an increase in debt financed public expenditure. This happens when government through its borrowing competes with the private sector for funds. The Ricardian Equivalence Hypothesis points out those changes in government spending will induce changes in private spending, independent of any effect on the deficit, when private and public spending are substitutes (Black et al, 1999).

Adeboye (2003) used non-parametric methodology in his study of the long run relationship between budget deficit and economic growth incorporating saving and investment. He grouped 64 developing countries, Nigeria inclusive into three A, B, and C based on the level of their interest rate (countries with small deficit, moderate fiscal deficit and wide fiscal deficit respectively). He then computed economic ratio among which were gross savings-income and investment-income for the countries to enable him elicit the long run impact of their fiscal deficit on GDP. He came out with the conclusion that 70% of the long run impact of the fiscal deficit of the countries involved goes to investment as economic growth indicator. Thus fiscal deficit is an investment poison Therefore he opted that interest rate volatility overtime could be traced to fiscal deficit as a source of distortion in growth model.

With the use of a dynamic general equilibrium of an open economy to assess the quantitative long run effects of fiscal shocks on the trade balances in West African States, Soludo and Chidozie (2002) examines the effect of two alternative fiscal shocks: a rise in government consumption, and a reduction in the labour income tax rate. They found that a fiscal deficit has a relatively small effect on the West African trade balances, irrespective of whether the source is a spending increase or a tax cut. The study further indicates that a 1% point of fiscal deficit induces the trade balance (X-M) to deteriorate by 0.2% point. Noticeably, larger effects are only likely to be elicited under implausibly high values of the short run trade price elasticity, or of the share of liquidity-constrained households in the economy. From a policy perspective, the analysis suggest that even reducing the current West African Fiscal deficit (0f 3% of GDP) to zero would unlikely narrow the escalating trade deficit significantly.

Ekpo (1999) using Nigeria's data observed that fiscal deficit crowds-out private investment leading to a possible hike in interest rate. If the government gathers a higher share of the borrowing from interest rate, the private sector will consequently have a lesser share. This will lead to a rise in interest rates and higher cost of capital for private investors. On the inflation front, a high fiscal deficit enhances the inflation of an economy. The reason is that government's borrowings lead to a rise in the money stock in the economy without a consequent growth in productivity. This is said to have an inflationary deficit as few goods are chased by more money. This is especially so, if the borrowings of the government are utilized for the financing of the deficit rather than for accelerating the output.

The conventional wisdom about deficits crowding out private investment is strongly reaffirmed by the studies conducted by World Bank (2004) observers using case studies of 10 countries. According to the observer, the private credit in high deficit financially repressed economy have even worsened effects than the increase in interest rates in high deficits unrepressed economies as the quality of investment as empirically confirmed in countries as diverse as Argentina, Cote d'Ivoire, and Thailand. Further studies conducted that deficits due to high public investment is positive for example, Morocco, Pakistan, Thailand, and Zimbabwe. While in countries as Chile, Columbia, Ghana, Mexico, it is negative. However, what matters most is the type of government and public investment. If public capital compliments private capital, greater private capital formation is likely.

The Model

Basically, specification of economic model is based on economic theory and on the available data relating to the crowding out effect being studied. The study has employed and modified the model formulated by Isah Imam Paiko (2012), Mankiw (2003), and Egwaikhide (1997). The model of economic analysis will follow the conventional method, and this is in reference to the variables of interest in the model.

$$PINV_t = \beta_0 + \beta_1 BD_t + \beta_2 EDS_t + \beta_3 INF_t + \beta_4 PDS_t + \beta_5 NX_t + \mu_t \quad \ldots \quad \ldots \quad \ldots \quad 1$$

Where: $PINV_t$ = Private investment at Time t.
BD_t = Budget deficit at Time t.
EDS_t = External Debt Stock at Time t.
INF_t = Inflation rate at Time t.
PDS_t = Public debt servicing at Time t.
NX_t = Net Export at Time t.
μ_t = Stochastic error term

The model for the granger causality is stated below.

$$PINV_t = \sum_{i=1}^{n} \alpha_i BD_{t-i} + \sum_{j=1}^{n} \beta_j PINV_{t-j} + U_{1t} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad 2$$

$$BD_t = \sum_{i=1}^{n} \lambda_i PINV_{t-i} + \sum_{j=1}^{n} \delta_j BD_{t-j} + U_{2t} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad 3$$

Results

Ordinary Least Squares (OLS) and Granger Causality are employed in the model. As shown in Gujarati & Porter (2009), the model gives parameter estimates that are best linear, unbiased, asymptotically efficient, consistent and normal and the analogue of the regression t-test can be applied; in fact, the Ordinary least squares models are known to produce statistically sound results if the error term is normally distributed. The Ordinary Least Squares model for this study is specified as follows:

$$PINV_t = \beta_0 + \beta_1 BD_t + \beta_2 EDS_t + \beta_3 INF_t + \beta_4 PDS_t + \beta_5 NX_t + \mu_t \quad \ldots \quad 4$$

The Granger causality test that measures the causal relationship between the two variables: private investment and budget deficits has been stated above.

The estimated result is presented below:

PINV = 6457.998957 - 0.5401546092BD - 0.1361038716EDS + 2.161957767PDS - 0.06436325571NX - 482.9642914INF … … … … … … 5

The pre-estimation test (i.e. stationarity test and cointegration test) conducted showed that two of the variables in the model i.e. private investment and inflation rate were stationary at level form while other variables were stationary at first differencing. Also the cointegration test conducted showed that there exists a long run equilibrium relationship among the variables in the model which means that the Ricardian Equivalence Hypothesis is prevalent in the Nigeria's economy. Thus an error correction model was used to correct for the short run disequilibrium. Other tests conducted in this study include: t –test, F-test, Autocorrelations test, Multicollinearity test, Heteroscedasticity test, Normality test and Granger Causality test.

It is worthy to note that the result of the Granger Causality test shows that there exist bidirectional causality between budget deficits and private investments in the Nigeria's economy i.e. private investments granger causes budget deficits and budget deficits granger causes private investments.

The result of the estimated model shows that the coefficient of the constant is -6457.999. It indicates that when other variables are held constant, the mean value of the private investment will be 6457.999. The sign of the coefficient of the budget deficit is negative and conforms to a priori expectation which says that the higher the budget deficit overtime, the lower the rate at which private individuals will embark on investment ventures. The result also shows that the budget deficit in Nigeria is statistically significant i.e. it is an indispensable variable in the determination of private investment in Nigeria. It is clear from the coefficient of the budget deficit (-0.540155) that a one percentage (1%) increase in budget deficit would lead to a 54% decrease in private investment. This proves that recurrent budget deficits crowds out private investment which imparts negatively in the Nigeria's economy. This conforms to Isah (2012). The sign of the coefficient of the external debt stock is negative which conforms to a priori expectation. The coefficient of the external debt stock is -0.136104. This suggests that a one percentage (1%) increase in the external debt stock leads to a 13% decrease in private investment. This is because external debt stock is a very important and indispensable variable affecting private investment in the Sub-Saharan Africa, as the government of Sub- Saharan Africa borrows continually to finance their expenditure, the rate at which private domestic investment and private foreign investment are ventured into in these countries would decline. This thus provides a reason for the negative relationship of the external debt stock. The sign of the net exports is negative which does not conform to a priori expectation. The coefficient 0.064363 shows that over the study period, on the average, a one percentage (1%) increase in net exports will lead to 800.766 decreases in the private investment. This is not true because an increase in the net exports will encourage both domestic and foreign private investors to invest in our economy, much quantity of goods and services will be produced thereby making local industries not to be competing with foreign countries that sell highly standardized goods and services because this competition discourages private investors from entering into the market to invest in the economy. Thus, net exports are expected to impact positively on the private investment in the Nigeria's economy.

The sign of the public debt servicing is positive and conforms to a priori expectation. The coefficient of 2.161958 indicates that holding other variables constant, a one percentage (1%) increase in the servicing of public debt will lead to a 21% increase in private investment. This is in line with theory, because over the years, studies conducted in Sub-Saharan Africa countries and also in the Medium Term Expenditure Framework and Fiscal Strategy Paper (MTEF&FSP) of 20122015 has shown that the public debt servicing encourages private investment and discourages public investment. As the government of Nigeria fulfils her financial obligation by paying dividends to the holders of the bonds issued, more funds is made available for private individuals for them to use it for investment purposes. On the other hand, according to MTEF&FSP (20123015), the public debt servicing of 2011 discouraged the government from providing infrastructural facilities such as roads, water, pipe-borne water e.t.c. Hence, this suggests that public debt servicing impacts positively on the private investment in the Nigeria's economy. The sign of the coefficient of the inflation rate is negative and does not conform to a priori expectation which states that the higher the inflation rate, the higher the rate of investment, hence it is expected that there should exist a positive relationship between the inflation rate and the private investment. The coefficient of 482.9643 shows that over the study period, on the average, a one percentage (1%) increase in the inflation rate would lead to a 482.9643 decrease in private investment which is not in line with theory. As the general rice level in the economy rises, business men try to exploit that opportunity by producing more goods and rendering more services to the members of the public in other to accumulate more money which would be used for reinvestment. Thus, the coefficient of the inflation rate is not in conformity with theory and also not significant.

Conclusion and Recommendation

The study has shown the crowding out effect of budget deficit on private investment in the Nigeria's economy which has significant impact on the economy's output, the level of employment, the standard of living,

e.t.c. Therefore, the government should put adequate measures in place to reduce its recurrent expenditure and increase its capital expenditure in order to encourage and make conducive environment for private investment to thrive which will ensure economic growth in the short run and economic development in the long run. The financing of budget deficits should be done through money creation since over the years according to McConnell and Brue (2003), the expansionary effect of fiscal policy is greater when the budget deficit is financed through money creation rather than through borrowing. By so doing, a reduction in external debt stock and a decrease in public debt will occur; this will encourage private sector investment in Nigeria's economy Lastly, there should be a periodic evaluation of budget deficits by the independent non-governmental organizations and government parastatals like the Bureau of Public Procurement (BPP), Budget Monitoring and Price Intelligence Unit (BMPIU) or the Joint Economic Council of the National Assembly in order to ensure that the government do not embark on spending that are frivolous for efficient service delivery.

In conclusion**,** despite the fiscal actions taken by the stakeholders on the level of fiscal prudence, there are still some crucial actions needed to be taken by the government in order to build an effective and sustainable expansionary fiscal policy framework that can launch Nigeria to greater heights in the short run by reevaluating the major components of Nigeria's budget deficit (i.e. embarking on more capital expenditure), providing more private sector – led creation of employment opportunities for the growing labour force, increasing economic growth of the country in the short run and economic development in the long run.

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