DOES PUBLIC SECTOR DEFICIT FINANCING CROWD OUT PRIVATE SECTOR INVESTMENT IN NIGERIA?: EVIDENCE FROM VAR ANALYSIS

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Abstract

The paper investigates the consequences of huge government presence in running the economy and tested the hypothesis that public sector deficit financing crowds-out private sector investment in Nigeria. Using structural vector auto regression (SVAR),corroborated by impulse response function (IRF),the result according to the finding shows that the observed variable(s) private sector investment(PSI),and interest(INTR)gives the expected sign in conformity with the submission of theory, government borrowing and gross domestic product are both positive, which is expected. The negative sign of private sector investment, and interest, shows an indication of a crowding-out effect. However, for the negative sign of interest rate, one should expect that the effect of public sector deficit financing be neutralized, hence stimulating private sector investment in Nigeria. Also the result from the impulse response function agrees with the parametric estimates, as the instrumental variables response in the same direction to the shock introduced to public sector deficit. It is evidence from the results that private sector investment is not only interest sensitive, but as well depends on the extent of government involvement and other important explanatory variables. The study recommends therefore that a holistic policy design geared towards boosting private sector investment be put place, instead of concentrating on the

conventional interest rate sensitive investment. This will guarantee the synergy between the private and public sector activities in an economy.

KEY WORDS: Private sector investment Deficit Financing, Crowding-out, Structural Autogression, Impulse Response
JEL CLASSIFICATION: C32, E22, E62, H12, H70

INTRODUCTION

Deficit financing of public spending remained at the heart of academic debate and policy making in less developed countries (LDCs) throughout the post-colonial era. Public sector deficit is a factor that influences the demand and supply of loan able funds in the economy. Government borrows in order to finance the shortfall between its revenue and expenditure .It may borrow from the banking sector or from the private sector through the issuance of government securities. Borrowing from the banking system usually limits the amount of credit to private sector thus "crowding out" the private sector. The intellectual argument in favour of such an active role for governments was provided by the Keynesians and the socialists who dominated LDCs' policy circles for most of the 1960s and 1970s. In socialist countries the main feature of the intervention took the form of nationalization of key sectors of the economy and it aimed for the eventual replacement of the market by a centrally planned economic system. In contrast, in the capitalist-oriented LDCs, Keynesian-style state intervention took the form of government spending in excess of revenue (deficit financing) aimed at reversing economic decline and/or accelerating economic growth and employment. The 1980s, on the other hand, saw ascendance of neo-classical schools such as those of the McKinnon &-Shaw (1973) tradition to policy forums. This was followed by IMF-World Bank sponsored privatization and

reforms towards the free-market system in almost all LDCs (Badawi, 2002).

Fiscal deficits received much of the blame for the assorted economic ills that beset developing countries in the 1980s: - huge indebtedness and the debt crisis, high unemployment and inflation; and poor investment performance and growth. (Easterly and Hebbel, 1993). Attempts to regain macroeconomic stability through fiscal adjustment achieved uneven success raising doubt about macroeconomic consequences of public deficits and fiscal stabilization or fiscal deterioration. One recurring question is whether large public deficits are always associated with crowding out and inflation?

The Keynesian model offered ample scope for illustrating the significant role that the government can play in influencing the level of overall economic activity. The great debate between the classical and Keynesian Macroeconomics was largely centered on the appropriate role government in an economy. In this connection, the traditional stabilization policy (the use of fiscal and monetary policy) was the popular policy otherwise known as the traditional view of macroeconomic policy (Olofin, 2001). In it government intervention ought to be limited to fine-turning only. That is slowing down the pace of the economy when it is considered hyperactive with the possibility of undesirable effects such as inflation or alternatively to provide some additional stimulus when the economy is considered sluggish (Olofin, 2001).

The government of Nigeria since independence has shown commitment through their increased expenditure as a measure to overcome the fundamental economic problem of unemployment, inflation, poverty, and Balance of Payment (BOP) problems, and the

desire to be the heart of Africa in the sphere of Socio-Political and economic activities. This has made the government sector directly or indirectly influences the way resources are utilized in the private sector. (Njiforti & Muhammed, 2010).The fiscal rule during the colonial era was at least to realize surplus, or balance budget. But after 1960, coupled with reduction in the growth rate of tax revenue, and greater acceleration in government expenditure, deficit resulted,(Akpakpan 2003).Between 1965-1970,budget deficit increased from 48 million Naira to 465.6 million Naira, decreased to 58.8 million Naira in 1972,mainly financed through domestic borrowing (24.7% in 1962;44.1% in 1968).Foreign financing for the first time became significant in 1968(69.3%).Domestic financing relative to other sources of financing rose from 27% in 1965 to 66.5% in 1969,and 49.8% in 1970.In six years (1969-1970), it financed almost 80.0%of budget deficit in Nigeria (CBN 2007).

Thus, the oil boom of 1970,impacted positively on government expenditure as the critical tool for translating the oil revenue into the bases of economic growth and development in Nigeria ,accounting for over 20% of Gross Domestic Product (GDP),and hence government spending decision become major key macroeconomic stability. (Olofin 2001).

Akpakpan (2003) noted that Nigeria's deficit situation resulted from government inability to invest in capital project over the years. Other causes are:

i. Distortions and gross misallocation of resources towards white elephant project.
ii. The growth of bureaucratic cost of democratic system recently adopted.

iii. Inadequate and often inefficient tax administration and generation

iv. Lack of follow-up guidelines, inadequate monitoring, technical and incompetence and other forms mismanagement of public funds.

v. Gross neglect of the real; sector as agriculture, manufacturing and other serving sector.

The fiscal operations of the federal government of Nigeria since 1970 have been largely in deficits (Adenikinju, Busari & Olofin, 2009). In the early 1970s fiscal operation recorded surpluses for a short while. The overall budget surplus as a percentage of GDP ranges from 1.5 percent in 1973 to 9.8 percent in 1974. In 1978, the overall deficit to GDP ratio stood at 7.8 percent following a drop in the international oil market. By 1980s government expenditure both capital and recurrent were further fuelled by the execution of such programs as state creation, wage increase and the construction of new universities. These new public institutions needed take-off. This resulted in overall deficits to 5.7 percent GDP in 1986 and 9.3 in 1993.

The inception of democratic administration in 1999 ushered in another era of bogus spending normally associated with frivolous promises. As a result, the deficit of GDP ratio hit 9.7 percent in 1999 before falling to 5.9 and 1.5 percent in 2000 and 2005 respectively. Large and persistent budget deficits and the substantial amount of government borrowings required to fund such deficits often crowd-out private borrowings not only by putting pressure on interests' rates but also left little or no resources available for private investment. As a result decline in economic activity leads to slower economic growth

which invariably leads to further lower budgetary revenues and thereby increases the possibility of future deficit spending and it becomes a vicious cycle (Khan, & Gills, 2009).

Now, the question to ask is "Does Nigeria experienced a crowding- out or crowding-in effect?" Also a similar question to ask in regard, is whether public sector and private sector investment are substitute or a complement to each other? According to free market followers they advocate that government intervention in economy affairs should be at minimum. Classical argued that public sector (government) activity competes with private sector for scarce resources and drives their prices higher. Especially in case where public sector investments are financed through borrowing this leads to increase in market interest rate and raise the cost of capital on going private sector businesses. As a result of this is crowding out private sector investment by public sector investment. Since it is generally believe that private sector investment accelerate more economic activities because they can focus efficiency and profit maximization, on other hand, an increase in the size of government spending at the expense or cost of private sector can adversely affects the private investment.

The purpose of this paper is to investigate the Nigerian case with aim of providing answer(s) to the above inquiry. The remainder of the paper is structured into section II literature review, section three be the methodology of the study while section four will present and discuss the result of findings in the study. Section five is the summary and conclusion.

2. CONCEPTUAL AND THEORETICAL LITERATURE

This section provides an expository discussion on some important concepts, and also provides a theoretical basis that would shed more light into the foundation and depth of the issue.

2.1 THEORETICAL FRAMEWORK OF CROWDING-OUT EFFECT

There are two different views about the impact of government expenditure on private investment. The classical economists argued that an increase in government expenditure can cause an increase in the rate of interest, and can also push to crowd –out private investment. On the other hand, Keynesians economists argued that increase in government expenditure can be used to better infrastructure, health, education, and as a result stimulate private investment because these expenditure can reduce the cost of production of firms, and consequently crowd-in private investment. Thus, according to Keynesians, private investment is an important channel for the effectiveness of fiscal policy in terms of development enhancement for an economy. (Hussain, Mohammed, Akram, & Lal, 2009).Policy makers used government expenditure as aggregate demand management tool. Public sector investment used as counter-cyclical economic policy measure can smooth the business cycle fluctuation and stabilized private investment. The crowding-out argument according to Hussain, et'al (2009), is based on the assumption that an economy is operating at the point of production possibility frontier (PPF), in other words, at full employment level, which shows that it has a well developed and efficient market system.

The intellectual debate on the effectiveness of fiscal policy made wide use of the IS-LM model as an analytical framework

(Buiter, 1983). Keynesians used it to demonstrate the role of government spending (financed by taxation, borrowing and printing money) in stimulating aggregate demand and thereby achieving policy targets set by the government. However, the same model was also used by monetarists to demonstrate the role of deficit financing in 'crowding-out' private consumption and investment. Furthermore, the advent of the financial repression literature due to McKinnon & Shaw (1973) presented an additional challenge to the Keynesian deficit-financing arguments and the state-control of financial institutions by the socialist-oriented LDCs.

Basically, because of the controversies in macroeconomics right from the great debate and the different thesis from the Keynesian and the classical economics, there has been confusion on the particular role of government and the use of the orthodox (classical price mechanism). Arising from this, economies particularly of the developing world often are engulfed in this confusion and as such would tend to embrace one framework to the extreme in conjunction with the other. Though, it has always been the 'mixture' of the two, however, ideological beliefs and the maturity of the economy bear an important influence on the choice between the two.

Countries with more inclination to the liberal ideology and are at the 'infant' stage will always allow more of the role of government and little of the market mechanism thereby resulting in a continuous government spending and borrowing for the purpose of institutional and infrastructural development. Another reason as noted by Levacic and Rebman (1993) and Olofin (2001) described as analysis of Keynesian general equilibrium model where fiscal policy is assumed to be effective in the determination of output and employment. In the current "new consensus framework" there is the proposition of a

reinstatement of the role fiscal policy from the hitherto shift to evade monetary policy at the expense of fiscal policy. (Udoh, 2009).

By budget deficit we mean that the government set out a budget in which expected expenditure during the budget period exceeds anticipated flow of government revenue. Deficit must be financed by borrowing or high powered-domestic credit explanation. In the closed economy or an open economy with freely floating exchange rate, high powered domestic credit expansion equals the rate of change of money base.(Buiter,1993).If deficit are finance by printing money, this will fuel inflation. If they are however financed by borrowing, this will put upward pressure on interest rates leading to crowding-out of interest sensitive spending. Even at given interest rates, crowding-out could occur with bonds displacing claims of private capital portfolio. Usually when a deficit in relation to GDP has grown well above 6%, the economy is likely to resort to borrowing option. (Adenikinju, 2009). According to Nnanna (2002) Fiscal expansions and the concomitant large fiscal deficits have been one of the major constraints on the effectiveness of monetary policy in Nigeria. Government fiscal operation especially inflationary financing of large budgetary deficits and the monetization of deficits has continued to pose serious challenges to monetary management in Nigeria.

According to the economists view (2008) large budget deficits discourages investment and therefore retard growth of the nation's capital stock. Conversely, budget surpluses speed up capital formation. The mechanism according to them is that budget deficits tend to raise interest rates and this will stifle private investment. By the same logic budget surplus tend to reduce interest rates thereby encouraging investment because interest rate is assumed to be one

of the major determinants of investment. The value of investment made today will in turns determine how much capital we have tomorrow and thus influence the size of our potential GDP. This according to the economist is the true sense in which a large national debt may be a burden to future generations and a smaller national debt may help them. To quote them further:

> *"Large national debt may lead a nation to bequeath less physical capital for future generations if they inherit less plant and equipment, these generation will be burdened by a smaller productivity capacity, lower potential GDP; in other words, large deficits may retard economic growth. By same logic budget surpluses can stimulate capital formation and economic growth" (p.33)*

Phrasing this point in another way explains why this is often called crowding out or sometimes is known as real direct crowding-out (Blinder and Solow 1973; Buiter, 1990). The issue of crowding out has remained a much debated topic contemporary macroeconomics. In the classical view, public borrowing authority accumulates resources for its own use leaving private sector lesser part; this Majumder (2007) termed it as crowding-out of private sector. In the same vein, according to the classical, the expansion in the government expenditure after relatively short transition period displace or crowd-out an equivalent magnitudes of private expenditure. The bulk of impact is alleged to fall on investment by forms in plant and equipment. Firm compete against the government in the bonds market for a limited quality of funds.

The increase in government expenditure in the absence of any change in the money supply raises output, income and the transaction demand for money. Given a constant money supply, the increase in the transaction demand for money and increase supply of debt in the market pushes interest rate upward. The increase in interest rate chokes back business firm spending on plants and equipment. The net implication of the crowding out hypotheses is that expansion in the federal government sector inevitably comes at the expense of the private sector. Unless according to Thomas (2000) money supply is expanded during the process.

The channel of investment can also be viewed in terms of economic growth,this according to Nnanna, Englana, and Odoko,(2004).there is positive relationship between investment and economic growth,and this has been established theoretically and empirically in the literature through the combined effect of accelerator and multiplier forces. However, it has also been established that human capital without the appropriate human capital, policies and a conducive macroeconomic environment may not lead to economic growth. On the other hand, an economy could experience growth without any visible increase in investment due to the usage of idle capacity to increase output.

The Keynesian view on the other hand assumes that if there is unemployment in the economy and interest rate sensitivity of investment is low, the expansionary fiscal policy will lead to little or no increase in the interest rate and increase output and income. In addition, it assumes that government spending increases private investment due to positive effect of government spending on the expectations of investors. Therefore there is a crowding –in rather than crowding-out. (Khan & Gill, 2009). Keynesian agrees with

monetarists on the crowding-out hypothesis only when the economy is operating at the full-employment level. The neoclassical view assumes full employment and advocate competitive market against government intervention.

Economic literatures are flooded with empirical studies. Atukeren, (2005); Rashid (2005); Erden and Holcombe (2006), have examine the long run stable association between public and private investment and found an impressive results. According to Khan and Gill (2000) crowding-out can be avoided if the deficit in financed by simply printing money, but it carried the concerns of creating inflation.

The empirical works of Chakorborty (2007) used VAR model to estimate the effect of fiscal deficit, capital formation and crowding-out in India his finding reveals an empirical evidence of crowding-out of interest–sensitive private capital formation induced by a fiscal deficit. In a separate study of the long-run association between private investment and government expenditure (Fiscal policy), Hussain, Muhammad, Akran & Lal (2009) provided a convincing empirical result that current expenditure- Like defense and debt servicing cause crowding-out of private investment, while development expenditure like infrastructure, health, education cause crowding – in private investment. Easterly & Hebbel (1993) used inflation and fiscal deficits (Seignorage) in developing countries. Chadra & Sandilanda (2002) using various concepts of investment such as private investment, government investment, total investment, and fixed investment to investigate the issue of causality, and came up with the basic conclusion that capital accumulation is the result rather than the cause of growth. Studies on Nigeria are still very scanty.

SECTION III: RESEARCH METHODOLOGY

The study uses secondary data collected from monthly bulletins of National bureau of Statistics of Nigeria ranging from1980-2010. Because of the long term effect of public investment on the economy generally, and also as result of dynamic nature in the economy, coupled with expectation, the methodology suitable for this work shall follow the dynamic model to be augmented by an impulse response function (IRF). One of the dynamic model is the recent used of the structural vector auto regression model (SVAR), this is yet another version of the VAR model that places restriction on the specification, and the cognisance of the submission from the theory.

Svar is one of the most reliable tools commonly used in econometric literature to estimate the structural relationship among variables of interest. The advantage of the structural vector autoregression (SVAR) models is that it has a better empirical fit than other classes of vector regressive model. (Brooks 2002).This is because it allows one to identify structural shocks with respect to economic theory, thereby making it possible to analyse the net effect of unexpected change in one variable, hence budget deficit.

The compact form of the model is given below

$B*Yt = \Gamma_0 + \Gamma_1 * Y_{t-1} + \Gamma_2 * Y_{t-2} + \epsilon_t$ ---------- *(1)*

The reduced form is stated as

$Y = B^{-1}\Gamma_0 + B^{-1}\Gamma * Y_{t-1} + B^{-1}Y_{t-2}\, B^{-1} + \epsilon_t$ ---------- *(2)*

We can further simplify the notation of the above equation by the following definitions

$A0 = B^{-1}\Gamma_0$, $A_1 = B^{-1}{}_1$, $A_2 = B^{-1}\Gamma_2$, *and* $\epsilon_t = B^{-1}\sum$ ----------*(3)*

Where μt is the vector of residuals, hence the simplified form of our model becomes

$Y = A0 + A_1 Y_{t-1} + A_2 Y_{t-2} + \mu t$ ---------- *(4)*

Where Yt is the vector of our five endogenous variables,
µt, is the vector of residual which is used to estimate the structural restriction.

$\mathbf{A_0}$, is the vector of constant, and
$\mathbf{A_1}$, and $\mathbf{A_2}$, are vector of coefficients which are to be estimated, thus the implicit function becomes

Y = f (PSD, INTR, PSI, GDP, GOVTB) ---------- (5)

Where

PSD = Public sector deficit

INTR = Interest rates

PSI = Private sector investment

GDP= Gross domestic product

GOVTB = Government borrowing or preferably Government debt

Since VAR models particularly SVAR are suited to tract and identify structural shocks with respect to underlying economic theory, it is necessary to impose some restriction on the system of equation to retrieve the structural shock of the model. This means that we must use the underlying theoretical expectation to identify the parameters and the shocks of the structural model and also apply the impulse response function **(IRF).**

Table 1.THEORETICAL EXPECTATION

VARIABLE	EXPECTED SIGN
PSD	POSITIVE
INTR	NEGATIVE
PSI	NEGATIVE
GDP	POSITIVE
GOVTB	POSITIVE

***Source**: Author's computation*

The various signs of the variables are in relation to public sector deficit, interest rates, and private sector investments are control variables.

SECTION.IV: RESULT OF FINDING

Prior to the estimation of the VAR results, the common practice when dealing with macroeconomic time series, is to present the stochastic properties of the variables. In this case, unit root and cointegration tests will be conducted. The various results are presented in the table 2 below

TABLE 2: AUGMENTED DICKEY FULLER (ADF) UNIT ROOT TEST

VARIABLE	ADF	CRITICAL VALUE	ORDER OF INTERGRATION
PSD	-5.479	1% = -3.724 5% = -2.986 10% = -2.634	I(d)***
INTR	-4.271	1% = -3.769 5% = -3.004 10% = -2.642	I(0)***
PSI	-9.789	1% = -3.788 5% = -3.012 10% = -2.646	I(d)***
GDP	-4.149	1% = -3.699 5% = -2.976 10% = -2.627	I(d)***
GOVTB	-2.640	1% = -3.699 5% = -2.976 10% = -2.627	I(0)*

Source*: Author's Computation*

*Note: 1% = ***, 5% = **, 10% = *.*

Government borrowing or debt and interest rate are stationary at levels. while the rest of the variables exhibit unit root and are only

stationary at either first or second difference, hence I(d). To investigate if there is a long run relationship, we then carry out a cointegration test, by this we want to infer whether the variable will converge in the long run, if they diverge in the short run. Thus, cointegration arises out of the need to integrate short run dynamics with long run equilibrium between economic variables. Because attempting to achieve stationary when differencing will result in the loss of valuable information about the long run equilibrium relationship between the variables. This test based on Johansen Cointegration,the result is presented in table 3 below

Table: 3 Johansen Cointegration Test

Hypothesis No of CE(s)	EIGEN Value	Trace Statistic	Maxi-Eigen Value	Critical Value =0.05%	Remark
r = 0	0.8159	92.564	40.618	69.818	rejected
r <= 1	0.6054	51.946	22.322	47.856	rejected
r <= 2	0.5221	29.797	17.722	29.797	Rejected

Source*: Author's Computation*

The result from the above computation indicates that only the trace statistic shows at least two cointegrating equations in the system. Therefore there exist a long run relationship between public sector deficit and the identified variable in this work. The beauty of cointegration is that it incorporate variables both at first difference and at levels.

SECTION V: RESULTS AND DISCUSSION

Table 4: Result from Vector Autogression Analysis

VARIABLE	LAG INTERVAL	COEFFICIENT	STANDARD ERROR	T-STATISTIC
PSD	1	0.424	0.282	1.503
	2	-0.189	0.230	-0.660
GOVTB	1	0.043	0.057	0.770
	2	0.067	0.059	1.131
INTR	1	-597.0	0.266	-1.399
	2	-884.4	0.256	-0215
PSI	1	-0.011	0.025	0.457
	2	-0.019	0.031	-0.621
GDP	1	0.040	0.259	0.170
	2	0.016	0.457	-0.621

R^2 =0.63

Adj R^2 = 0.36

S.E =74542.6

Fstatistic=2.39

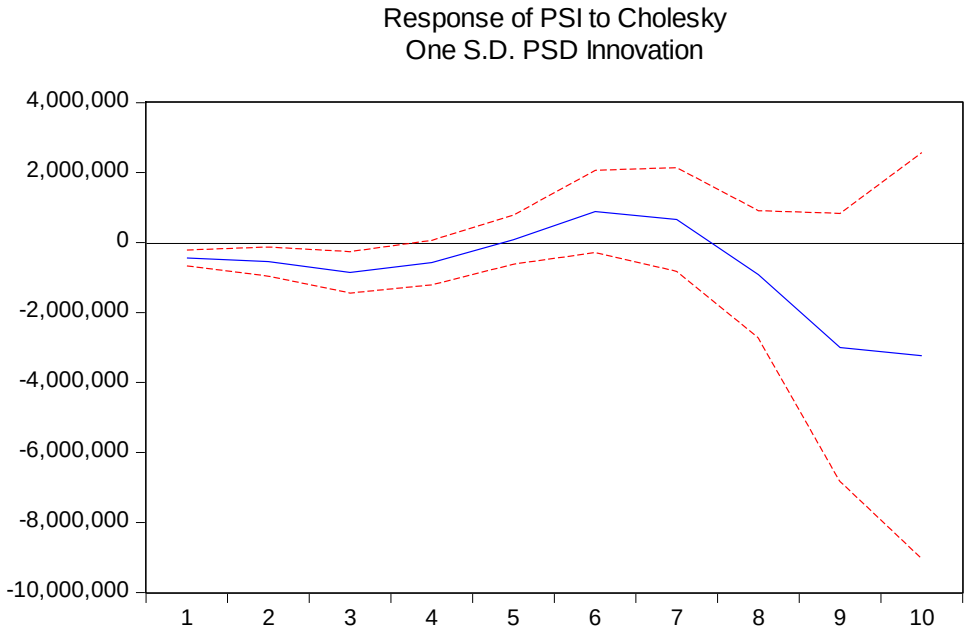
Source*: Author's Computation*

Judging from the results above, the output of the exercise is discussed in relation to the theoretical expectation. Though, the study employs the vector autorgressive model, restriction is however placed on the system to conform to theoretical submission. Basically, our concern here is to see the response of private sector investment (PSI), induce either by public sector deficit itself or interest rate sensitivity to the deviation in the dependent variable. The output on table 4 shows the result of the VAR exercise; the interpretation is in relation to the independent and as well as dependent variables

lagged by two periods is in line with the dynamic features of the technique. Consequently, there is an instantaneous response of private sector investment in the early of the period upon the shock in public sector deficit. Though very weak, but the sign conform to our aprior expectation, that is showing a negative sign private sector indicating that as public sector deficit increases, private sector investment shrink(a sign a crowding- out syndrome).Instead of expecting the contrary, because of the negative sign of interest rate, private investment decreases. The negative is as result of the increase in money supply caused by public sector deficit. The action will mount pressure on the prices of government bonds and hence the fall interest rate. Growth (GDP) and government borrowing (GOVTB) are however positively correlated with the size public sector deficit in the two lagged period.

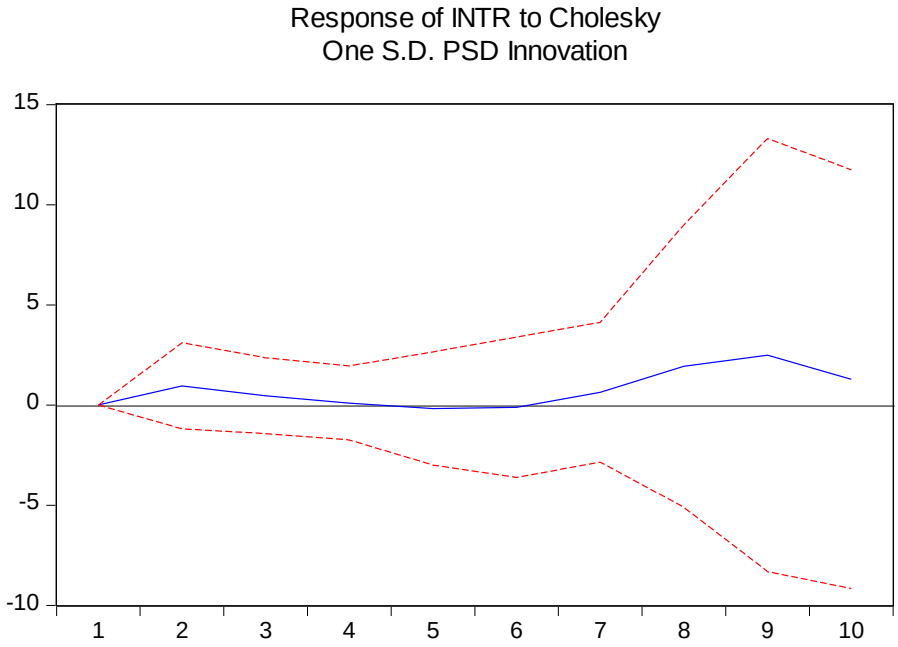
The goodness-fit of the model is very impressive signifying that appropriate determinants of public sector deficit were included. The result shows that 63% captures the variation of the regressant as explained by the regressors. However the adjustment of it to the degree of freedom shows a weak (about 36%), which is also responsible for the non-significance of most of the variables.

Figure 1: *Respones of PSI to PSD Variation*



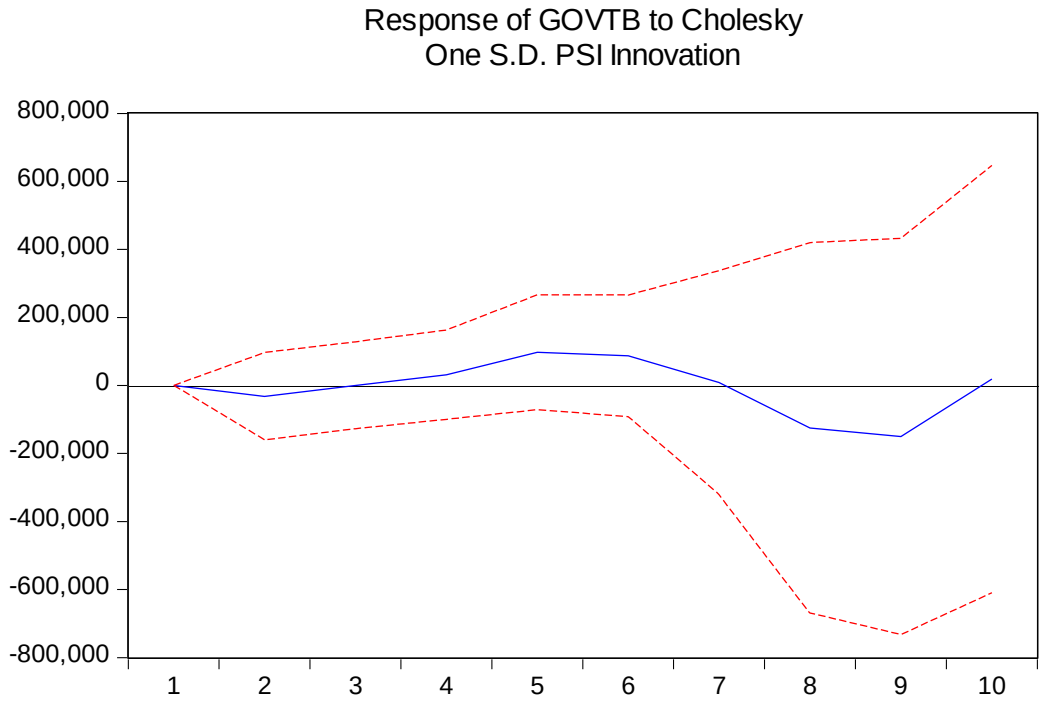
SOURCE*: Author's computation*

Figure 2*: Response of INTR to PSD Variation*



Author:'s Computation

Figure 3: Response of GOVTB to PSD Variation



Source*: Author's Computation*

A clearer picture is seen from the impulse response function (IRF) given by the graph in figures 1, 2, and 3 respectively. The response of private sector investment (PSI) to public sector deficit shock was immediately negative in the first-four years and became positive in the fifth to the seventh period and subsequently maintaining the negative trend with no sign of returning the positive position in the rest of the period. These periods coincides to the period in 1981-1984, 1985-1987, and 1988-2010, respectively. On the other hand, interest rate (INTR), response sluggishly showing a

negative trend at the earlier period, and was positive in the eighth and tending to negative at the end of the observation.

SUMMARY AND CONCLUSION

The study tested the effect of sector deficit financing on private sector investment, and also included the relevant variables that are impossible to be excluded in a discussion of this kind. These are private investment and interest rates. The variables are lagged in a of structural autogressive system to take account of long term effect of deficit financing particularly on investment in the economy. In this paper the result from the study gives an indication of a crowding- out in Nigeria. Thus, public sector deficit financing has a contractionary effect on private investment. Therefore, in order to stimulate private investment, policy makers should specify the appropriate roles for the public and the private sector, in this regard, the public private partnership (PPP),should be strengthen to work so as to raise the dismal level of private investment in Nigeria.

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Appendix-1

Date: 02/19/12 Time: 12:41
Sample (adjusted): 1983 2007
Included observations: 25 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	PSD	GOVTB	PSI	INTR	GDP
PSD(-1)	0.424307	0.592693	-1.006315	8.37E-06	0.169130
	(0.28219)	(1.46262)	(2.68147)	(1.8E-05)	(0.21183)
	[1.50363]	[0.40523]	[-0.37528]	[0.47543]	[0.79842]
PSD(-2)	-0.189103	-0.977583	0.242751	-1.80E-06	0.245565
	(0.28384)	(1.47121)	(2.69721)	(1.8E-05)	(0.21307)
	[-0.66622]	[-0.66448]	[0.09000]	[-0.10184]	[1.15248]
GOVTB(-1)	0.043990	0.158685	0.105339	2.71E-06	0.031365
	(0.05706)	(0.29575)	(0.54221)	(3.6E-06)	(0.04283)
	[0.77095]	[0.53655]	[0.19428]	[0.76226]	[0.73227]
GOVTB(-2)	0.067518	0.114773	-0.427218	-4.39E-06	0.032458
	(0.05965)	(0.30915)	(0.56677)	(3.7E-06)	(0.04477)
	[1.13199]	[0.37126]	[-0.75378]	[-1.17998]	[0.72492]
PSI(-1)	-0.011858	-0.066892	1.110125	-1.04E-06	-0.040823
	(0.02590)	(0.13426)	(0.24614)	(1.6E-06)	(0.01944)
	[-0.45781]	[-0.49824]	[4.51018]	[-0.64580]	[-2.09949]
PSI(-2)	-0.019490	0.121817	-0.186216	1.31E-06	0.109184
	(0.03138)	(0.16266)	(0.29821)	(2.0E-06)	(0.02356)
	[-0.62105]	[0.74891]	[-0.62445]	[0.67094]	[4.63468]
INTR(-1)	-5976.552	4686.774	12219.78	0.269801	-2002.441
	(4270.68)	(22135.5)	(40581.8)	(0.26653)	(3205.89)
	[-1.39944]	[0.21173]	[0.30112]	[1.01226]	[-0.62461]
INTR(-2)	-884.4804	-128.9295	15892.35	0.466310	2729.639
	(4103.81)	(21270.6)	(38996.0)	(0.25612)	(3080.62)
	[-0.21553]	[-0.00606]	[0.40754]	[1.82067]	[0.88607]

GDP(-1)	0.040732	0.593879	-11.83865	-3.93E-06	0.742962
	(0.23954)	(1.24156)	(2.27619)	(1.5E-05)	(0.17981)
	[0.17004]	[0.47833]	[-5.20109]	[-0.26259]	[4.13181]
GDP(-2)	0.016163	-0.773483	16.68010	-1.10E-05	-0.917744
	(0.43795)	(2.26994)	(4.16155)	(2.7E-05)	(0.32876)
	[0.03691]	[-0.34075]	[4.00815]	[-0.40236]	[-2.79157]
C	76697.72	58458.99	-651232.6	7.512578	69944.35
	(82431.9)	(427256.)	(783301.)	(5.14459)	(61879.4)
	[0.93044]	[0.13682]	[-0.83140]	[1.46029]	[1.13033]
R-squared	0.630805	0.417568	0.915033	0.429710	0.941374
Adj. R-squared	0.367094	0.001545	0.854342	0.022360	0.899498
Sum sq. Resids	7.78E+10	2.09E+12	7.02E+12	303.0049	4.38E+10
S.E. equation	74542.66	386364.7	708334.4	4.652226	55957.22
F-statistic	2.392031	1.003714	15.07700	1.054890	22.48008
Log likelihood	-308.7039	-349.8392	-364.9925	-66.65938	-301.5343
Akaike AIC	25.57631	28.86713	30.07940	6.212750	25.00274
Schwarz SC	26.11262	29.40344	30.61571	6.749056	25.53905
Mean dependent	-79356.74	309540.2	1478413.	18.75080	163255.9
S.D. dependent	93699.05	386663.5	1855974.	4.705126	176509.6

Determinant resid covariance (dof adj.)	5.32E+42
Determinant resid covariance	2.93E+41
Log likelihood	-1370.889
Akaike information criterion	114.0711
Schwarz criterion	116.7527