FISCAL ACTIONS AND PRIVATE EXPENDITURES IN NIGERIA: ANY EVIDENCE OF 'CROWDING-OUT' EFFECT?

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ABSTRACT

The paper recognizes the connection between government's fiscal actions and the macro economy. In certain situations, government's fiscal actions compliment those of the private sector. In others they tend to substitute one another. Private consumption and public consumption especially have been noted as capable of exhibiting any of the two forms of relationship. Using a single equation model, this paper seeks to determine this relationship in Nigeria. The estimates of the regression equation indicate that public consumption expenditures tend to substitute (crowd-out) private consumption, especially when additional public sector consumption expenditures are financed by deficits. The major policy implication is that to step-up private consumption (in the face of the enormous resource constraints), public expenditures (especially, the deficits) have to be kept within sustainable limits.

INTRODUCTION

The performance of any economy is closely linked to what government chooses to do or not to do. The strength of the association between the public sector budget programme and the macroeconomy however depends on the relative size (role) of the state and also the efficiency of the budget instrument in any given situation. For Less Developed Nations (LDCs) especially, this association tends to be stronger because the role of the state could hardly be limited to the provision of enabling environment (including defense, legal and infrastructure) only. In such economies, governments more commonly occupy the economy's commanding heights by operating key industries, allocating credit and foreign exchange, trade controls, for example. A key justification for the great involvement of the government in economic activities in many developed countries and in Nigeria especially, has been that the private sector itself is technically weak and somehow unable to perform expanded roles with enough efficiency to justify government disengagement (Komolafe 1996). Government therefore has continued to be the main initiator and sponsor of economic growth. The consequence of this has partly been that the expenditure side of the government budget often outgrows the revenue side. Except in 1995 and

1996, fiscal operations of the federal government since 1986 persistently resulted in deficits (see Appendix). Deficits exceeded sustainable limits in many years, and have been pointed to as partly responsible for the macroeconomic imbalance in Nigeria (Ndebbio, 1998; Okpanachi, 2002).

One way in which deficits might be bad for growth is if (overall) they cause an erosion of the private sector of the economy (Mitchell, 1974). This possibility is referred to in the Literature as 'crowding out' effect. Simply explained, the financing of excess expenditure of government (deficits) through domestic debt especially, are said to drive up interest rates (in a deregulated economy essentially) and therefore constrain private investment and consumption (CBO, 1984). In an economy with financial controls, the mechanism differs slightly as shall be espoused in the next section.

If increased expenditures of government are a response to macroeconomic conditions (especially, recession), then the attendant macroeconomic consequences could be argued as balancing out. This is because interest rates may in the short-run be a necessary price of output expansion in a Keynesian sense, and thus expedient form the point of view of a developing economy with production constraints on many fronts. If however, expansion in government expenditure is unaccompanied with commensurate real growth, then upward movement in interest rates resulting from such fiscal actions or the substitution that occurs could further limit domestic output and employment. In this paper, we examine the Nigerian economy for any evidence of crowding out of private consumption by government's fiscal actions (especially, public consumption).

Section (ii) of this paper addresses theoretical and empirical issues in some details. A model of private consumption for the Nigerian economy is presented along with estimates of the model in section (iii). The main finding of the study are presented and discussed in section (v). The paper is concluded in chapter (v).

II. Theory and Empirical Evidence

The theoretical positions on the effects of government spending on private expenditures are summarized in the analysis of crowding-out effect. Fiscal policies affect private consumption and savings through two primary channels. They are: disposable income and real interest rate (Easterly and

Shmidt-Hebbel, 1994). Tax-cut-induced deficits would increase people's disposable income and boost private consumption. An Increase in real interest rate occasioned by a fall in government savings (increase in deficit) forces private consumption down and increases private savings. This second possibility is termed 'direct crowding-out hypothesis' (Easterly and Schmidt-Hebbel, 1994).

Both the Keynesians and the monetarists recognise the possibilities of government spending crowding-out private consumption and investment through increased cost of credit (higher interest rates). Keynes himself subtly recognised this possibility in his earlier works prior to the publication of the General Theory and more visibly in the General Theory of Employment, Interest and Money (1936). It is worthy of note however, that the 'crowding-out' thesis pre-dates the Keynesian revolution. As a matter of fact, what has come to be known as the monetarist crowding-out of private spending is actually an off shot of the old classical tradition.

Adam Smith had argued that government labour was unproductive and therefore condemned the transfer of resources from the private sector to the government. To him such transfers amounted to destruction of capital. Other classical economists Like J.S. Mill and J.B. Say later saw the light in Adam smith's view and argued further, that government spending was not necessary as a stabilization tool, because private investment was enough to utilize the funds provided by private savings. The Say's law "supply creates its own demand" has some rudimentary crowding-out notion implied in it. In a typical Say's economy, increased government spending via tax increase or domestic debt merely induces relative price changes so as to locate the same level of real output as would still be achieved automatically in the absence of the government through adjustments in prices (Mitchell 1974).

More technically, it is argued, in the absence of the government private propensities to spend the full-employment level of real income for either consumption or investment sum to one. With government spending, the private propensity to spend is reduced by the magnitude of the government propensity to spend so as to maintain total propensity to spend equaling one (Culbertson 1968).

Klein (1968) noted R.G. Hawtrey's lack of faith in government spending as contained in the Hawtrey's business cycle theory. Whether such spending is financed from taxes or from loans from savings since it is bound to be a

replacement of private investment. Spending out of new bank credit the theory maintains would be inflationary, apart from forcing bank rates up and causing credit contraction.

Mitchell (1974) puts it in this way:

> *If for example, the Government were to borrow from banks to finance its investment spending, the increased purchasing power of the government would allow it bid resources away from other sectors and ..... drive up the price level. The higher price level would serve as a deterrent to "real" consumers or private investment spending which would otherwise have taken place.*

The strict classical position on crowding-out presupposed that the economy was closed to external sources of capital and operated at full employ equilibrium.

Keynes recognition of fiscal crowding out was made explicit in his hypothetical analysis of an increase in government expenditure by expanding its work force. He admitted that aggregate employment may not increase in the manner suggested by the multiplier due to possibilities of price rise coupled with interest rate increase (depending on the method of financing), militating against investment in some other sectors. Apart from the limitation of the multiplier, Keynes recognised that government spending could crowd-out private investment expenditure through the confused psychology (households feeling wealthier) usually accompanied by increasing liquidity preference or decreased marginal efficiency of capital (Smith 1939).

Other post Keynesian writers (Like Musgrave, 1959) acknowledge the possibilities of bond-financed changes in government expenditure crowding-out interest sensitive sectors of the economy. He (Musgrave) however argued that this depends on whether interest rates respond or not to the increase in government bonds supply.

Although Keynesian economics denies the existence in practice of full employment equilibrium, it generally does not rule out the possibilities crowding-out of private investment by government deficits financed by

bonds even under less than full-employment equilibrium. At any rate, complete crowding out in the strict classical sense is not implied. The complete crowding-out of private investment implied in the classical theory derives essentially from the consideration that the economy is closed and operating at full employment equilibrium, to the extent that the level of private saving out of which both federal government deficit and private investment must be financed cannot be further increased. The acquisition of additional federal debt must come at the expense of private investment and/or consumption. The federal government induces this substitution by bidding up rates of interest and thereby crowding-out interest sensitive private spending. With less-than-full employment, budget deficits lead to output expansion, which typically increases the demands for money and raise interest rates. As a result, interest sensitive private spending falls (CBO, 1985).

A complete opposite of the views discussed so far is the contention that debt-financed federal deficits may not raise real interest rates at all. This view forms the centre piece of the theory, "Ricardian equivalence". Led by Barro (1974), some economists have argued that interest rates may not rise in response to debt-financed deficits if the deficits are generated by tax-cuts. They argue that current tax-cuts imply increased disposable income to consumers, who will save more in anticipation of future higher taxes, at which time the government will be paying both the interest on debts incurred and the principal (Barro, 1974).

Bond financed deficits can crowd-out private investments if only and only if individuals under estimate their future tax obligation and therefore increase their consumption today which implies a reduction in investment as the bonds are erroneously substituted for investment. If consumers are able to assess their future tax liability by effectively, discounting future tax payments against present cuts, then no crowding out effects are to be expected of increased public spending financed by bonds (Bryant 1985) overwhelmed by this same consideration, Freidman (1985) remarked:

> Deficits are bad-but not because they necessarily raise interest rates. They are bad because they encourage political irresponsibility. They enable our representatives in Washington to buy votes at our expense without having to vote explicitly for taxes to finance the largesses.

The theoretical elegance of the Ricardian equivalence proposition notwithstanding, it has been observed that when extended to developing countries, quite a number of the basic assumptions tend to fail. With respect to Nigeria, it has been noted that debt/deficit policy may not be neutral as implied by the Ricardian equivalence after all (Okpanachi, 2000). He (Okpanachi) argued: 'the household liquidity limitations in Nigeria involve both credit rationing and differential borrowing rates, which is contrary to a major assumption of the theory'. In low income economies, tax cuts are generally perceived as signifying some kind of relief geared to wards improving the already low household disposable income, rather than some surpluses to be saved in anticipation of any future rise in taxes.

If interest rates are controlled (as was the case in Nigeria) the implicit tax on financial assets could be a hidden source of revenue. The effect of government deficit spending, on private investment in this case follows a fairly indirect channel. Domestic Credit squeeze occurs as financial institutions try to allocate (ration) credit and explore cozier investment outlets abroad. Overall, the volume of credit in the economy declines and so also private consumption and investment. In a cross-country study it was observed;

There are large differences in domestic private credit stocks between countries with deregulated financial markets - where private credit reaches an average of 30 percent of GDP - and those with stringent financial controls, where the corresponding average ratio hovers' around 10 percent (Easterly and Schimdt-Hebbel 1994)

Among the countries sampled in this study were Ghana, Mexico and Zimbabwe. These countries experienced terrible domestic credit declines in the 1980s during which period interest rates were largely fixed by their respective monetary authorities. The argument here is that whether interest rates are fixed or market determined, government deficits are capable of eroding domestic private investment, if they are financed by domestic debt. In a related study on Nigeria, Ekpo and Egwaikhide (1998) obtained contrary evidence. The results of their study of the determination of private investment in Nigeria did not find any evidence of crowding-out of private investment by public investment. Rather, the two were found to be complimentary. They submitted that in Nigeria, public investment directly influences private investment behaviour. In the section that follows we explore a simple private consumption model for Nigeria for any evidence of the direct crowding-out hypothesis.

III. A MODEL OF PRIVATE CONSUMPTION FOR NIGERIA

The private consumption model used to assess the impact of government deficits on private consumption draws explanatory variables mainly from two separate studies conducted for Colombia (Easterly 1994) and Ghana (Islam and Wetzel 1994). The study on Colombia used as explanatory variables, government consumption (GCE), disposable income (GDI) Government savings (GDD), real interest rates (RIR) and lagged dependent variable (PCE-1). The study on Ghana (Islam and Wetzel 1994) used GDI, GDD, foreign savings (FS) proxied by the difference between exports and imports; liquidity constraint (proxied by domestic credit to the private sector, PSC); RIR; and GCE. Through step-wise regression we propose GCE, PCE, GDI, RIR and PCE $_{t-1}$ as explanatory variables of private consumption in Nigeria. In this formulation, private consumption (PCE_t) is expressed as being functionally related to public consumption (GCE_t), government savings, 'proxied' by deficits (GDD_t), gross disposable income (GDI_t), real interest rate (RIR_t), and an autoregressive component, one period lagged private consumption (PCE_{t-1})

$$PCE_t = \alpha_0 + \alpha_1 GCE_t + \alpha_2 GDD_t + \alpha_3 GDI_t + \alpha_4 RIR_t + \alpha_5 PCE_{t-1}$$
$$\qquad\qquad (-) \qquad (-) \qquad (+) \qquad (-) \qquad (+)$$

Using TSP 4.1c, the parameter estimates of the private consumption model above were obtained. The estimates have been presented on the table below.

Table. Results of Estimated Private Consumption (PCE) equation

PCE	**Coefficient**	**T**	
Constant	-47769	-2.5	$R^2 = 99$
GCE_t	-2.49	-2.38	DW = 1.5
GDD	-1.46	-3.3	$t/_2 = 2.28$
GDI_t	0.96	16.5	
RIR_t	262	0.5	
PCE_{t-1}	0.386	7.1	

IV. DISCUSSION OF RESULTS

The estimates of our consumption model have been set out in table 1 above. All variables other than the real interest rate (RIR) are statistically significant and appropriately signed. In Nigeria, financial markets are weak, and majority of Nigerians patonise informal credit outlets rather than the banks for their credit needs. It is therefore not surprising that the real interest rate (RIR) is unrelated to consumption behavior.

From our estimates, private consumption relate to current disposable income on a nearly one-to-one basis, which supports the Keynesian consumption hypothesis. In low income countries, where credit markets are far from perfect, consumption is often very closely tied to disposable income (Islam and Wetzel, 1994). As has been observed earlier the prevalence of low household incomes in Nigeria is an added reason why peoples' marginal propensity to consume would be close to one.

Our results also indicate that government consumption is negatively related to private consumption, which supports the crowding-out hypothesis. Within the formal financial sector in Nigeria, the government and its agencies have the first claim on credit, not statutorily though, but for the obvious advantages they have in terms of size, credit worthiness and the ease with which favourable credit and repayment terms can be secured by lending institutions. As a result, public consumption has tended to substitute private consumption.

Equally crucial is the relationship between government savings (deficits-GDD_t) and private consumption. Our results show a negative relationship. The deficits of the government thus have a crowding-out effect on private consumption. This is also not surprising as available statistics show that the banking sector in Nigeria accounts for over 50% of deficit finance for over ten years now (CBN, 1999), a situation that has tended to reduce the economy's credit to the private sector.

V. CONCLUDING REMARKS

This paper set out to investigate the response of private sector expenditures to fiscal actions of government (expenditure in particular). Due to data limitations, econometric examination was restricted to private consumption alone. Official statistics in Nigeria report investment in a composite form, comprising both public and private investment. Statistical separation of the

two is necessary for the estimation of a Nigerian investment function. None-the-less, our literature search indicates that there is a higher tendency of public and private investments being complimentary or at worse unrelated. It is perhaps important to note that the study which provided the major clue in this regard (Ekpo and Egwaikhide, 1998) utilized statistics obtained from unofficial sources. The estimates of our consumption model lend support to the view that fiscal deficits and public consumption crowd-out private consumption in Nigeria. To step up private consumption, people's disposable income must improve given the nearly one-to-one relationship between the two. Also, public expenditures must be controlled. This conclusion, in part, lends credence to the present day discourse on which expenditure path is more efficient in terms of promoting the much needed growth of Ldcs - public or private? Although this question has not been answered here (of course it is outside the scope of the paper), if correctly answered, the choice between more of private spending, less of public expenditures and otherwise or perhaps, indifference, becomes an easy economic policy task.

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Appendix: Federal Government Fiscal Profile, 1970-2000 (NM)

Year	Grow Rates		Balance			
	Revenue	Expenditure	Revenue	Expenditure	Deficit	% of gdp
1980	12,993.3	14,968.5			-1,975.2	3.9
1981	7,511.6	11,413.7	(42)	23.7	-3,902.1	7.7
1982	5,819.1	11,923.2	(22.5)	4.5	-6,104.1	11.8
1983	6,272.0	9,636.5	7.78	(19)	-3,364.5	5.9
1984	7,267.2	9,927.6	15.8	3	-2,660.4	4.2
1985	10,001.4	13,041.1	37.6	31	-3,03.7	4.2
1986	7,969.4	16,223.7	(20.3)	24.3	-8,254.3	11.3
1987	16,129.0	22,018.7	102.3	35.7	-5,889.7	5.4
1988	15,588.6	27,749.5	3.35	26	-12.160.9	8.4
1989	25,893.6	41,028.3	3.325	47	-15,134.7	6.7
1990	38,152.1	60,268.2	47.3	46	-22,116.1	8.5
1991	30,829.2	66,584.4	(19)	10.4	-35,755.2	11.0
1992	53,264.9	92,797.4	72.7	39.3	-39,532.5	7.2
1993	83,493.6	191,228.9	56.7	106	-107,735.3	15.5
1994	90,622.6	160,893.2	8.5	(15.6)	-70,270.6	7.7
1995	249,768.1	248,768.1	264.9	54.6	+1,000	(0.1)
1996	325,144.0	288,094.6	30.1	15.8	+37,049.4	(1.6)
1997	351,262.3	356,262.3	80.3	23.6	-5,000	0.2
1998	310,174.0	443,563.3	(11.6)	24.5	-133,389.3	4.7
1999	662.58	947.600	113.6	113.6	-285,020.0	8.9
2000	597.2	701,050	(9.8)	(26)	-103,850.0	2.1
2001	796900	1018,020	33.4	45.2	221,120.0	4

Note : figure in parenthesis represent negative growth rates.

Source: i. CBN Statistical Bulletin 1995 & 1999; ii. CBN Annual Report (2001).