European Journal of Business and Management
ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online)
Vol.6, No.18, 2014

Public Sector Spending and Macroeconomic Variables in Nigeria

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Abstract

This paper examines public sector activities and macroeconomic variables in Nigeria within a period of forty years (1970-2010). With special focus on the effectiveness in the period of regulation (1970-1985) and deregulation (1986-2010) of the Nigerian economy. A test of causal relationships between government expenditure (GE) and other explanatory variables-GDP, unemployment (UER), inflation (IFR) Balance of payment (BOP) was examined using the following statistical tools – Augmented Dicky Fuller (ADF) stationarity test, Johanson's co-integration test, OLS, multiple regression analysis and Granger causality test. The time series data were found to be stationary in the short-run and a number of co-integrating equations were found to establish long-run relationships among the variables of study. The results include:

1. Public sector was more effective though marginally in stimulating economic growth (measured by GDP) in the period of regulation and more effective in reducing unemployment and enhancing BOP in the period of regulation.
2. With respect to maintaining price stability, the public sector was significantly more effective in the period of de-regulation.

Granger causality test shows causal flow from government expenditure (GE) to BOP no causal flows to GDP, inflation rate (IFR) and unemployment (UER). We therefore conclude that though public sector is generally effective theoretically, yet it has inherent practical limitations (Social, Political, Cultural, Economic and Geographical) that sometimes tend to minimize its effectiveness. The theoretical implication therefore is to integrate public sector policy theory formation for effectiveness, because of the peculiarities of our situation. The paper therefore recommend appropriate policy mix improvement in quality of government expenditure, infrastructural development value – added export, regulated flow of FDI to retail sector, emphasis on import of capital good, and focus on the agricultural sector among others.

Introduction

The phrase public sector may mean different thing to different people but not to those in the field of economic or public policy.

In this paper, by public sector we mean the fiscal policies of government. The Nigerian economy has suffered challenges over the years for reasons that borders on mismanagement, misappropriation, political instability, corruption etc. according to Onoh (2007) "…" apparent lack of integration of macroeconomic plans and the absence of harmonization and coordination of fiscal policies have occasional negative effects on Nigeria's economic and financial policies of the federal government and highlighted poor quality of public spending as a major macroeconomic problem facing the Nigerian economy. Anyanwu (1997) believes that inappropriate and ineffective policies have heightened the economic problems of Nigeria. Even in world social and economic indicators, Nigeria ranks very low when compared with some low income economies especially some Asian countries that were at the same development level by 1960 when Nigeria got her political independence from Britain. The poor state of infrastructural development to cater for the social and economic needs of the people is a good testimony of the effect of poor and bad policies of government; the huge revenue accruing to the nation not withstanding.

The question therefore begging for answer is – What should Nigeria do to adequately manage her macro-economy in line with the now generally accepted view that government must frontally intervene in the economy by way of fiscal and monetary policies to minimize the impact of market failure to optimally allocate societal resources. Though these two policies form the best known macroeconomic policies (Stanlake and Grant, 1995), there are other complementary macro policies such as interventionist and institutional policies (Onoh 2007) such as raising tariff walls or prescribing import Onohs, or an outright ban of item(s) in a country's import list. He added that, institutional policy changes in Nigeria include: the abolition in 1995 of the Nigerian indigenization policy of the 1970, the deregulation in 1986 of the Nigerian economy, the reform and internationalization of the Nigerian capital market, between 1997 and 2000, and the reforms and consolidation in the Nigerian banking sector in 2004 to strengthen and stabilize the financial sector and the overall macro economy.

The fact that there exist a relationship between macroeconomic policies and macroeconomic performance is a well establishes fact; the international Bank for reconstruction fact. The international Bank for reconstruction and development (IBRD), in collaborative studies with the World Bank, established a link between BOP climate, fiscal discipline in Nigeria. Over the years the evidence of ineffective fiscal policies in Nigeria has, amongst other factors manifested in high inflation rates (Addison, 1996), inability to maximize the benefits associated with economic booms (Ekpo, 2003), fiscal imbalances including running into large fiscal deficits (Kwakwa, 2003), unbearable levels of unemployment, decay in socioeconomic infrastructure and repeated failure in service delivery (Agiobenebo, 2003), and unrestrained fiscal dominance exercised by the fiscal authorities (Oyejide, 2003).

In addition, collier (2003) described this economic situation in Nigeria as a state of fiscal crisis, adding that it "… has indeed been a feature of Nigerian economic history to date". While emphasizing the centrality of fiscal discipline to the health of any economy, the minister of finance (2003) opined that "… governments' power to tax and to spend affects the disposable income of citizens and corporations as well as the general business climate". She however describes the fact that "fiscal policy and fiscal discipline has been an enduring challenge in Nigeria … because it has been difficult to strike the needed balance in fiscal management". Reckless fiscal policy and poor macroeconomic performance (BRD/World Bank 1998). The Oversea Development Institute (ODI) established the fact that increased government expenditure towards poverty reduction enhances poverty alleviation (ODI, 2003). IRIN, the humanitarian news analysis service of the UN office for the consolidation of Humanitarian Affairs, established a relationship between frontal government intervention and enhanced macroeconomic growth (IRIN, 2007).

In Nigeria, Tom-Ekine (2006) in the impact of fiscal policy on monetary aggregates in Nigeria (1980-2006) found out that "… expansionary fiscal policy puts inflationary pressure on the economy and raises interest rates.

Ogwuru (2007) observed a positive impact of public expenditure on macroeconomic stability in Nigeria. Amaechi, (2004) discovered on inverse relationship between BOP on the one hand and both domestic price level and foreign exchange rate on the other in a multivariable analysis involving the relationship between BOP and selected macroeconomic aggregates.

According to (Onoh, 2007) it has been difficult to achieve the main macroeconomic objectives of high level of employment, stability in prices, rapid and substantial growth of GDP, favourable.

Also there has been declining quality of public expenditure in view of the diminishing proportion of capital expenditure and the commensurate growth of recurrent and overhead of government grew from N124 billion in 1998 to N493 billion in 2002, while capital expenditure shipped from 63% of total spending to 32% during the same period.

In the light of the above, this paper intends to examine the effects of public sector spending on macroeconomic performance under two different economic regimes tagged- period of regulation and period of deregulation from 1974 – 2010. Due to the above objective, the paper intends specifically examine the following:

I. The extent of difference/causal relationship between the effects of public sector measures on GDP in both economic regimes.
II. The extent of difference/causal relationship between the effects of public sector measures on price stability (inflation rate) in both economic regimes.
III. The extent of difference/causal relationship between the effects of public sector measures on unemployment rate in both economic regimes.
IV. The extent of difference/causal relationship between the effects of public sector measures on BOP in both economic regimes.

Literature Review:

Though the price mechanism assumes a smooth functioning market where there is effective resource allocation (Iyoha and Ekanem, 1999) and a guaranteed economic freedom to all and sundry, with built in flexibity that negates the need for conscious government planning and intervention, yet, it has certain limitations and inefficiencies resulting in a condition referred to as "market failure".

Though the advocates of free market mechanism saw no need of government intervention in directing the economy, the Grant Depression of the 1930s became the last nail on the coffin which fundamentally altered economists' perception of the need to manage the economy and assist/strengthen the invisible hand.

To achieve macroeconomic goals (rapid and sustained growth, price stability, high level of employment and BOP equilibrium) many countries across the global one keying into Keynesian doctorine of government intervention to help and strengthen the invisible hand.

Amadi (2004) emphasizes the need for government intervention by asserting that macroeconomic policies are critical for the economic growth and development of any nation. The words of Musgrave and Musgrave (1989) "beyond the budgetary function, public policy influences the course of economic activity through monetary regulatory and other devices", clearly indicate that he is favourably disposed to government intervention in the economy.

Ekpo (1994) examined the contributions of public spending (particularly capital spending) to growth in Nigeria 1960-1990. He observed that infrastructural spending crowded in private investment and the spurs growth.

Amin (1998) analysed the relationship between public and private expenditure on infrastructure had enormous returns and thus enhanced growth.

Deverjan (1996) researched on the structure of government expenditure vis-à-vis economic growth and discovered that while some components of government expenditures were productive, others were unproductive.

Fuente (1997) also investigated the impact of public expenditure and taxation on economic growth using panel data for a sample of 21 DECD countries during the period 1965-1995 and discovered that fiscal policy impacts on growth in three main ways:

1. Government contributes directly to factor accumulation by way of public investment in infrastructure and other assets.
2. Public expenditure tends to crowd-out private investment through reduction in disposable income and savings.
3. Government fiscal operations tend to exert some negative externality effect on the level of productivity.

Furthermore, Bose (2003) examined the growth effects of government expenditures and their major components of aggregate and sectorial levels.

Their findings include that;

1. The share of government capital expenditures in GDP is positively and significant.
2. Sectorially, government investment and total expenditures in education are the only expenditures that is significantly associated with growth.
3. Public investments and expenditure in transport, communications, and defense in a significant association with growth.
4. The share of private investment in GDP was associated with growth in a significant and positive manner.

Also, aregbeyen (2007) while researching on the growth effects of government expenditures for a panel of 40 African countries concluded that;

1. Government expenditures (Capital, Current, Investment and Consumption) were significantly associated with economic growth. Particularly he emphasizes that capital and public investments of government were key to economic growth, but in most African countries, these forms of government expenditures was in less proportion of government total expenditure than expenditures on current and consumption components.
2. There was a very negligible contribution of high government budget deficit to economic growth. That is to say that the magnitude of government budget deficits produced has that proportionate increase in economic growth.

Aregbeyen believed that though government expenditures were keys to economic growth. The quality of such expenditure is very important. This he believed was an obvious policy lesson from the study. By quality, of government expenditures, he opined that it is the distribution of government expenditures between capital current consumption, and public investment expenditures that spurs economic growth and not the growth in government budget deficits.

Ariyo (1993) evaluated the desirability of Nigeria's fiscal deficit profile between 1970 and 1990 are discovered that government expenditure is inherently unsustainable by the country's resource profile due to the phenomenal increase in government expenditure financed through both internal and external dest. The study also revealed that the structural adjustment program (SAP) which was introduced in 1986 could not remedy the problem to any substantial degree.

Easterly and Rebolo (1993) analysed the impact of fiscal policy on economic growth using cross-section time series data drawn from both developed and developing countries. The result showed that private sector saving does not completely neutralizes public sector dissavings.

In Ivory Coast, Kouassy and Bohoum (1993), investigated the impact of public investment cuts and tax rate manipulation on fiscal deficit over the short and medium terms. The result revealed that public investment is positively linked with fiscal deficits. Also, Kouassy and Bohoum (1994) used a growth model and analysed the relationship between fiscal adjustment and growth in Cote d' Ivoir and came up with the fact that public investment had a net crowding in effects on the private sector and a positive impact on economic growth.

Ekpos (1994) study in Aregbeyen (2007:4) was captured in detail in Adeoye (2006:31).

Ekpo (Ibid) examined the impact of government expenditure on economic growth in Nigeria (11960-1992). The study emphasized the contribution of government capital spending to analyzing the relationship between private and public expenditure. The result showed that government spending on infrastructure and investments in Agriculture crowd-in private investment while government expenditure on manufacturing and construction crowed-out private investment. The study concluded therefore that public sector investment in infrastructure complements the private sector and thereby fire growth. It should however, be noted that Ekpo's study was based on the assumption that variables that affected private investments would affect growth. By assuming that all factors affecting private investment would automatically affect growth, implies a direct link between private investment and growth.

However, Adeoye (Ibid) suggested that a more direct approach to linking fiscal policy with growth is to link growth variable (GDP growth) with fiscal policy variables.

But a cross-country study conducted by Jeppeli and Meana (1994) revealed that public expenditures on investment and consumption impacted differently on economic activity. They found public investment to stimulate output thereby increasing government revenues which there enhances government power to spend. It was also discovered that specific spending promotes growth (i.e. specific revenue sources can be allocated to specific expenditure which in turn promote output growth). It is interesting to note that such assignment of revenues from specific taxes to specific activities is justified by economic theory (Adeoye, 2006).

Aimn (Ibid) examined the effects of fiscal policy on growth in Cameroon by focusing on the relationship between public spending and growth through private investment. The result revealed that expenditures especially on education and health crowded in private investment and enhanced growth.

Also, Lin and Liu (2000) examined the effect of fiscal decentralization (introduced in China in the mid-1980s) on the growth rate of per capita GDP. The estimated results from the study showed that fiscal decentralization significantly contributed to economic growth. In conclusion, the study stated that fiscal decentralization enhanced China's growth rate mainly through efficient resource allocation rather than by inducing additional investment.

On the other hand Adeoye (2007) examined the effects of fiscal policy on growth of the Nigerian economy (1970-2002) and found that capital expenditure as a ratio of GDP (as proxy for public investment) exerted a negative impact on output growth by having a crowding-out effect on private investment.

However, the American economy analysis by Anderson and Jordan (1968), Hafer (1982), Saunders (1995), did not give empirical support to the efficacy of fiscal policy in economic stabilization.

Model specification:

In order to adequately establish both the impact and causal relationship between public sector spending and the major macroeconomic variables in Nigeria, growth model is adopted as also used by many of the research are already cited. In this paper, we have attempted to incorporate more objectives of fiscal policy other than economic growth which was the focus of the earlier studies. In other words we have studied the extent to which public stability (meared by inflation rate, IFR), full employment (measured by unemployment rate UER), (Balance of payment position BOP) and economic growth (measured by GDP). Formed modules have been specified to capture these relationships. We have also attempted to capture the two economic regimes by the use of dummy variable- (O) for the period of regulation and (1) for the period of deregulation.

Model 1: GDP Model.

GDP= F (GE, PI, IFR, CIF, X)

$= a_o + a_1GE + a_2Pi + a3/FR + a_4CIF + a_5 x + a_6 DUM + U_1$

$Log GDO = Log a_1 + a_1 Log GE + a_2 Log PI + a_3 Log IFR + a_4 Log CIF + a_5 Log x + a_6 Log DUM + U_1$

$a_o + a_1GE + a_2P1 + a_3IFR + a_4 CIF + a_5 X + a_6 DUM + U_1$

$Log GDP= log a_1 + a_1 logGE + a_2 logP1 + a_3 log IFR + a_4 log CIF + a_5 log X a_6 log DUM + U1$

Where (a_1, a_2, a_4, a_5 >0 and a_3 <0)

- GE = Government Expenditure
- IFR = Inflation rate
- CIF = Capital inflow
- X = Export
- PI = Private Investment
- DUM = Dummy Variable
- U_I = Error term.

Model 2: Inflation Rate Model.

IFR = F(GE, BOP, EXR, COF, CIF)

$= bo + b_1 GE + B_2 BOP + b_3 EXR + b_4 Cof + b_5CIF + b_6 DUM + U_2$

Where (b_3, b_4>0 and b_1, b_2, b_5 <0)

GE = Government Expenditure

BOP = Balance of payment

EXR = Exchange Rate

COF = Capital Outflow

CIF = Capital Inflow

Dum = Dumming Variable

U_2 = Error term

Model 3: Unemployment Rate Model:

UER = F(GE, P1, CIF, COF, GDP, X, M)

$= Co + C_1 GE + C_2P1 + C_3 CIF + C_4 COF + C_5GDP + C_6X + C_7 M + DUM + U_3$

Where C_1, C_2, C_3, C_5, C_6 < 0 and C_4, C_7 >0)

GE = Government Expenditure

PI = Private Investment

COF = Capital Outflow

CIF = Capital Outflow

GDP = Gross Domestic Product

X = Export

M = Import

DUM = Dummy Variable
U_3 = Error term

Model 4: Balance of Payment Model.

Bop = F(GE, P1, XM, CIF, COF)
= $d_o + d_1GE + d_2 P1 + d_3XM + d_4CIF + d_5COF + d_6DUM + U_4$

Where (d_1, d_2, d_3, d_4,>0 and d_5 <0)
GE = Government Expenditure
P1 = Private Investment
XM = Net Export
COF = Capital Inflow
DUM = Dummy Variable
U_4 = Error term

Data Presentation.

Model 1: GDP Model

Log GDP = 3.92 + 0.13log GE – 0.13 log P1 - 0.020 log FIR
(0.00) (0.079) (0.016) (0.385)
- 0.01 log CIF + 012log x + 014 log DUM
(0.655) (0.010) (0.067)
$R^2 = 0.89$, $\acute{R}^2 = 0.87$, F = 0.00

The log linear showed better values for R^2 and adjusted R^2 (appendix 1) indicating a good fit.
The overall model is also significant with the P-value of the F- statistic being less than 0.05.

Model 2: Inflation Rate Model.

IFR = 32.08 – 0.07GE + 0.001 BOP + 0.48EXR – 3.01 COF +
(0.00) (0.002) (0.244) (0.027) (0.009)

1.25 CIF – 15.39 DUM
(0.00) (0.034)

$R^2 = 0.55$, $\acute{R}^2 = 0.46$, Prob (F-statistic) = 0.0003

Briefly, the result shows that the model is a good fit as about 55% of changes in Inflation Rate is accounted for by changes in the explanatory variables. The overall model is also significant as shown by the P value and the F - test.

Model 3: Unemployment Rate Model.

UER = 8.89 + 0.01GE - 0.02P1 - 0.001CIF + 0.21COF
(0.001) (0.0096) (0.0053) (0.9704) (0.009)

– 0.043GDP + 0.004 X - 0.006M + 0.089DGM
(0.1579) (0.0006) (0.0054) (0.9277)

$R^2 = 0.55$, $\acute{R}^2 = 0.44$, Prob (F-stat) = 0.0008

Briefly, the above result shows that the model is a good fit as about 55% of changes in unemployment Rate is accounted for by changes in the explanatory variable. The overall model is also significant as indicated by the P-Value and the F-test

Model 4: Balance of Payment Model:

BOP = 17.11 – 5.17GE + 12.03 P1 + 0.23XM + 12.01 CIF – 49.83 COF
(0.93) (0.039) (0.0444) (0.69) (0.70) (0.70)

- 72.61 DUM
(0.94)

$R^2 = 0.74$, $\acute{R}^2 = 0.69$, Prob (F-stat) = 0.00

From the result above, we can say that the model is a good fit as about 74% of the variation in BOP is explained by changes in the explanatory variables. The overall model is also significant Discussion of Regression Results.

1. GDP Model (Appendix 1, Model 1)

From the estimated equation, the effect of GE on GDP is not significant as shown by the P-value (0.079) which is greater than our level of significant ($\infty = 0.05$). This may not be unconnected with the misappropriations and misallocation of public funds which has resulted in the channeling of public funds to non productive non growth promoting projects around the

country. Over the years and over up till this moment, the proportion of public funds that go into infrastructural development in the overall public spending is usually for less than what is spent on current consumption in expenditure. The coefficient (+ 0.13) satisfies apriori condition. This goes to show that if both quality and direction of public spending is directed at production and growth promoting projects, it would ceteris paribus stimulate economic growth.

The negative sign of the coefficient of private investment (PI) does not satisfy apriori expectation. This could not be unconnected with the deplorable condition of the level of infrastructural development in the country which has tended not only to undermine the potentials of the private sector but has killed the entrepreneurial spirit in Nigerian and rendered non existent a private sector in Nigeria.

The effect of Inflation rate (IFR) on GDP is not significant as P-value (0.385) is greater than (∞ 0.05). This may not be unconnected with the fact that Nigeria is a heavy importer of all kinds of products (finished, semi-finished and even those in the raw state). It is sad to know that Nigeria is today the heaviest importer of grains in the world. The negative coefficient of IFR (- 0.020) agrees with apriori expectation as untamed inflation distorts the price system and renders calculations of businesses unreliable.

Capital inflow (CIF) exerted a non significant (P-value, 0.655 > ∞) effect and negative coefficient (-0.01). This is so probably because of lack of sufficient foreign capital inflow investment due to the unfriendly nature of Nigerian business environment. By international standardization, Nigeria is a high risk business destination because of the unstable, political, economic environment coupled with lack of needed infrastructural development and transparency in government circle. In addition, existing CIF in the form of grants and foreign aids are large mismanaged rather than channeled into productive growth enhancing ventures. The negative sign recorded by the coefficient contradicts the theory as it is expected that CIF, if properly and judiciously channeled should help to boost GDP growth.

Export (X) exerts a significant and positive effect on GDP (P-value, 0.0096), (+0.12) which satisfies theory. However, this marginal impact can be improved by policies that diversify the economy and encourage value added export. The dummy variable captures the relative effects of regulation and deregulation of the economy on government spending. The positive coefficient (+ 0.14) indicates a relatively marginal increase in GDP during deregulation than in the period of regulation, though the difference is not significant.

IFR Model: (Appendix 2)

GE exerted a significant impact on IFR. The negative coefficient (-0.07) indicates an inverse relationship and satisfies apriori condition. This is probably because GE has not been growth friendly in Nigeria. Not until GE is channeled to productive activities to create jobs and increase output of goods and services to satisfy both domestic and external demand or directed to stimulate the private sector into productive and investment actions the desired impacted of government expenditure on inflation will be an illusion.

From the estimated result, BOP exerted a positive (+0.0015) but significant impact on IFR. The positive sign of the coefficient negatives theory because we expect an inverse relationship between a favourable BOP position and IFR. No doubt, the external sector performance of the domestic economy favours import over export thereby weakening domestic production and supply of goods and services. This has practical implication on the level of prices and income generations inflation will further aggregate the situation managing inflation under this condition becomes an up till task. EXR administration could minimize inflation backed by other direct and indirect measures. The current EXR management without adequate domestication of our productive activities and enhancement of value added export and reduction in import of consumption goods will continually put pressure on EXR and by implication IFR.

Capital outflow shows an inverse relationship (-3.01) to IFR. Contrary to apriori expectation. The expectation is that COF should result in scarcity of economic resources need to generate goods and services. However its effects on IFR are significant as shown in the result.

On the other hand CIF exerts a positive (+ 1.25) and significant impact on IFR.

Because of the components of CIF, if not channeled to productive activities to generate added goods and services, it will exert inflationary pressure through increase in say Money supply in the economy. The positive sign negatives theory deplored should increase output of goods and services and damper inflation. The negative sign of the dummy variable and its significance, suggest a significantly more effective public sector spending in the period of deregulation than in the period of regulation, fiscal policy measures in Nigeria during the period of deregulation (1986 - 2006). This period saw government spend colossal amount on salary increments. For government workers, monetization, government involvement in political campaigns at all levels, spending in military peace-keeping in Africa, so-called investments of billions of dollars on infrastructure etc.

UER Model (Appendix 3)

Government expenditure (GE) exerted a positive (+0.01) and significant impact on unemployment ratio (UER) the positive sign of the coefficient suggest that there is direct relationship between the two variables which negates theory because the

reverse is the expectation as more GE in infrastructure and productive activities will help to create jobs and boost the private sector, contrary to expectation, the result suggests that increases in GE may have been in non productive sources or non growth ventures which may not have created jobs but worsen unemployment conditions.

Private investment (PI) shows an inverse but significant relationship with UER. This imply that the more private investment we have, the resulting private sector-led economy would create jobs and by implication incomes, and output. This result conforms to apriori expectation. The CIF coefficient shows a negative but not significant effect on UER. That is, increase in capital inflow directed at growth friendly productive activities would create jobs and reduce UER, but the potential of this variable to achieve the reduction of UER has not been frontally harnessed by the Nigerian government in their effort to address the problem of unemployment. Capital inflow in the eyes of the ruling class in Nigeria is a gift that must be shared and spent on luxury goods. On the other hand, COF shows a positive but non-significant relationship with UER. That is when more jobs are created to enhance GDP, it has a reducing effect on UER. This result is supported by staiger (2001). Export (X) shows a positive and significant relationship with unemployment rate (UER) that is, as X increases, UER also increases which negates apriori expectation. The result suggests that despite the enormous economic resources exported from this country, that sector has done little to help the unemployment problem. Most of the resources both from the mining and agricultural sector are exported in their raw form with no value added such exports help to create incomes jobs and output in the importing country at the detriment of the domestic economy. A case in port is the petroleum sector with so much export and high foreign labour content with little or no addition of local labour content in the finished product brought back to this country for the final consumer. On the other hand, import (M) shows an inverse relationship with UER.
That is, as M increases, UER decreases which negates theory or apriori expectation of a positive relationship due to its negative impact on local production which may not be able to compete in the market place. However, we cannot rule out the usefulness of imported capital goods for productive purposes and of critical foreign raw material needed by local industries. The dummy variable in the BOP model shows a positive (+ 0.088) though not significant relationship. This suggests that public sector spending has been more effective, but only marginally, in controlling UER in the deregulation era than the regulation era.

BOP Model (Appendix 4)
The result shows that GE is inversely related to BOP. This is contrary to apriori expectation of a positive relationship which would have suggested that increase in public investment should enhance output growth, limit import of consumption and non-essential goods and give the country a healthy BOP position. Private investment shows a positive and significant relationship with BOP. This satisfies apriori expectation which suggests that the more private investments the economy on muster, more jobs would be created and this will enhance growth thereby reducing the economy's dependence on imports especially consumption goods in favour of more capital goods to boost the productive capacity of the economy. This supports the need for private sector-led economy (Adeoye, 2006).
On the other hand, Net export (XM) shows a direct and positive (0.23) relationship with BOP. This agrees with apriori expectation which suggests that as XM rises BOP position improves.
This relationship is not significant though. The reason may not be far fetch- this is a one commodity export economy with so much of import of finished consumption goods. A diversification of our export portfolio will do the economy a whole lot of good domestically and in the international arena.
Capital inflow (CIF) shows a positive (12.01) with BOP. This agrees with theory which suggests that an increase in CIF should kind to an improved BOP position. The relationship is not significant (P-value, $0.686 > \infty$). This may not be unconnected with the fact that capital inflow into the country may not have been channeled into growth promoting activities. Infact a lot of them cannot be accounted for in this economy.
In line with apriori expectation, COF bears an inverse (- 49.82) and non-significant (P-value, $0.70 > \infty$) with BOP. The dummy variable included to capture the two economic regimes shows a negative and non significant coefficient (-72.61), (P-value, $0.94 > \infty$) which implies that fiscal policy has only been marginally more effective in enhancing the BOP position in the period of deregulation than in the period of regulation but that this difference is not significant.

	Dummy Variable Coefficient & P-value	Regulation Period	Deregulation Period	Significant of Difference
GDP	0.14, (0.067)	—	Slight improvement (+ sign)	non-significant
IFR	-15.39 (0.0336)	—	Decline (- sign)	significant
UER	0.089 (0.926)	—	Marginal improvement (+ sign)	non-significant
BOP	-72.61 (0.9348)	—	Marginal Decline (- sign)	non-significant

Table 1: Comparative Analysis of Public Sector Spending Between the Two Economic Regimes

Table 1, shows that public spending have been marginally effective in achieving macroeconomic objectives (growth, UER, BOP) over the period under consideration but significantly more effective in controlling IFR in the period of deregulation than in regulation.

On the other hand, Granger Causality test shows that there was causal flow from GE to BOP as was also captured by Equwaikhide (2005). This implies that GE have actually been effective in relation to BOP position only and not in respect to GDP, UER and IFR. It is this causal link that actually strongly shows the general level of effectiveness of public spending for the entire period under consideration. The causal relationship between GE and BOP underscore the importance government places on the major and possibly the only source of government revenue and foreign exchange- (the oil sector) to the detriment of the other sectors of the economy. This granger causality test is corroborated by the regression results of GE on GDP, UER, IFR, and BOP.

The factors that may have limited the effectiveness of fiscal policy (GE) in Nigeria in the period under consideration may have been the poor quality of GE, inapriori macroeconomic policy mix, growing budget deficit, graft and deliberate mismanagement of public funds by the political class, improper timing of fiscal policies, delay in the preparations approval and execution of budgets and fiscal measures and above all fiscal recklessness.

Conclusion and Recommendations:

From the results of the regression estimates, we conclude that the level of effectiveness of fiscal measure (GE) in stimulating growth (GDP) is only marginally higher in the period of deregulation that regulation though the difference is not statistically significant. In the area of inflation control, (IFR) the period of deregulation was more effective than regulation and the difference is statistically significant.

Furthermore, the level of effectiveness of GE in reducing UER and maintaining BOP equilibrium was marginally higher in the period of regulation compared to deregulation, though the difference is not statistically significant.

In the light of the above, we may generally hold that fiscal policy (GE) has been more effective in the period of deregulation than in the period of regulation especially in controlling inflation. The causal test shows a high level of effectiveness in the presence of causal flows. Therefore, from the study, we can conclude that though public spending is generally effective theoretically, yet it has inherent practical limitations that more often tend to undermine its effectiveness. It is also concluded that GE applications does not follow a straight jacket kind of approach certain factors such as; political, social, religious which vary from country to country, economy to economy may be necessary for consideration when examining the effectiveness of public sector spending. For example, how does government involvement in Pilgrimage to the holy-lands create jobs or stimulate growth.

Our advice is that government spending should focus more on growth promoting activities based on state, local governments and regional endowments.

1. The economy should be diversified to revive the non-oil sector that holds so much potential for job creation, self-sufficiency in food production to free our foreign reserve and production of agro-raw material to enhance value added.
2. Efforts should be made by government to ensure apriori policy mix to ensure harmony and proper coordination.
3. Government should give priority attention to capital and public investment by making it a high proportion in total government spending to build up productive capacity.
4. Government must harness the favourable fundamentals such as our population and natural endowment to put us among the BRIC nations like Brazil, India, China, South Africa etc.
5. The central government must pursue vigorously fiscal discipline and apriori supervision of state government and local government, funding and to avoid duplication and abandonment of projects, by all levels of administration.
6. Borrowings at all levels of governments (central state) must be project tied with well worked out cost-benefit analysis.
7. To ensure a healthy BOP there should be selective restrictions of imports, especially consumption goods in favour of capital goods for production purposes.

8. Government must endeavour to discourage FDI into the retail sector to avoid undue competition with domestic producers who may not be able to compete with foreign male good.

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APPENDIX 1
GDP MODEL (LOG - FORM) ESTIMATION RESULTS

Dependent Variable: LGDP
Method: Least Squares
Sample: 1970-2006
Included observations: 36

Variable	Coefficient	Std. Error	t.Statistic	Prob.
C	3.918911	0.106974	36.63432	0.0000
LGE	0.131468	0.072379	1.816379	0.0793
LPI	-0.127102	0.049737	-2.555498	0.0159
LIFR	-0.020253	0.022984	-0.881175	0.3852
LCIF	-0.013331	0.029553	-0.451091	0.6552
LX	0.117253	0.042376	2.766931	0.0096
DUM	0.141159	0.074285	1.900249	0.0670

R-squared	0.889229	Mean dependent var	4.523136
Adjusted R-squared	0.867074	S.D dependent var	0.270978
S.E. of regression	0.098796	Akaike info criterion	-1.622870
Sum squared resid	0.292817	Schwarz criterion	-1.318101
Log likelihood	37.02309	F-statistic	40.13803
Durbin-Watson stat	0.826452	Prob(F-statistic)	0.000000

APPENDIX 2
IFR MODEL ESTIMATION RESULTS

Dependent Variable: IFR
Method: Least Squares
Sample: 1970-2006
Included observations: 36

Variable	Coefficient	Std. Error	t.Statistic	Prob.
C	32.07682	6.565352	4.885773	0.0000
GE	-0.072670	0.021737	-3.343120	0.0022
BOP	0.001452	0.001223	1.187340	0.2444
EXR	0.477077	0.204537	2.332474	0.0266
COF	-3.005140	1.070151	-2.808145	0.0087
CIF	1.247421	0.251418	4.961541	0.0000
DUM	-15.39022	6.912546	-2.226418	0.0336

R-squared	0.551803	Mean dependent var	20.33243

Adjusted R-squared	0.462164	S.D dependent var	16.74918
S.E. of regression	12.28340	Akaike info criterion	8.023032
Sum squared resid	4526.457	Schwarz criterion	8.327801
Log likelihood	-141.4261	F-statistic	6.155813
Durbin-Watson stat	1.610284	Prob(F-statistic)	0.000271

APPENDIX 3
UER MODEL ESTIMATION RESULTS

Dependent Variable: UER
Method: Least Squares
Sample: 1970-2006
Included observations: 36

Variable	Coefficient	Std. Error	t.Statistic	Prob.
C	8.889876	2.540587	3.499142	0.0016
GE	0.010493	0.003776	2.778523	0.0096
PI	-0.019091	0.006318	-3.021864	0.0053
CIF	-0.001281	0.034263	-0.037393	0.9704
COF	0.210306	0.143989	1.460569	0.1553
GDP	-0.042952	0.029600	-1.451063	0.1579
X	0.004340	0.001124	3.860293	0.0006
M	-0.005923	0.001963	-3.018111	0.0054
DUM	0.088661	0.968771	0.091519	0.9277

R-squared	0.550904	Mean dependent var	6.443243
Adjusted R-squared	0.422591	S.D dependent var	2.219427
S.E. of regression	1.686485	Akaike info criterion	4.090944
Sum squared resid	79.63853	Schwarz criterion	4.482789
Log likelihood	-66.68246	F-statistic	4.293437
Durbin-Watson stat	2.130303	Prob(F-statistic)	0.001822

APPENDIX 4
BOP MODEL ESTIMATION RESULTS

Dependent Variable: BOP
Method: Least Squares
Sample: 1970-2006
Included observations: 36

Variable	Coefficient	Std. Error	t.Statistic	Prob.
C	79.04564	837.1673	0.094420	0.9254
GE	-5.174944	2.390668	-20164643	0.0385
PI	12.03452	5.710413	2.107470	0.0435
XM	0.229973	0.990687	0.232135	0.8180
CIF	12.01103	29.38413	0.408759	0.6856
COF	-49.82896	128.4156	-0.388029	0.7007
DUM	-72.60524	880.6157	-0.082448	0.9348

R-squared	0.737935	Mean dependent var	635.8338
Adjusted R-squared	0.685522	S.D dependent var	2762.764
S.E. of regression	1549.311	Akaike info criterion	17.69767
Sum squared resid	72010928	Schwarz criterion	18.00243
Log likelihood	-320.4068	F-statistic	14.07926
Durbin-Watson stat	2.695342	Prob(F-statistic)	0.000000