

## **ANALYSIS OF THE IMPACT OF FISCAL POLICY ON INVESTMENT IN NIGERIA**

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### **Abstract**

*This study is on “the impact of fiscal policy on investment expenditure in Nigeria. It covers the period of 1970 to 2010. A multiple regression model is specified in the study to assess the impact of fiscal policy on investment, using government expenditure, gross domestic product and corporate income tax. The estimation technique employed in this paper is the ordinary least squares (OLS) method. The study reveals that fiscal policy has a significant impact on investment expenditure in Nigeria. Government expenditure and gross domestic product have significant impact on investment, but corporate income tax has a positive, instead of a negative, impact on investment expenditure in Nigeria. Based on the findings, it is therefore recommended that the government should use an expansionary fiscal policy to encourage increase in investment in Nigeria and government spending should be channelled to capital projects and social overhead capital that will encourage investment, such as constant electricity supply and good road networks.*

*Keywords: Nigeria, Fiscal Policy, Investment, OLS Analysis, GDP, Poverty, Structural Adjustment Programme, Debt Management, Tax*

## INTRODUCTION

Since the late 1970's, fiscal (budget) policy has become a major tool in Nigeria. The reasons for this are not inconsiderable. First is the dominant role of the public sector in major (formal) economic activities in Nigeria. This can be traced to several factors. Among them are the oil boom of the early 1970s, the need for reconstruction after the civil war, the industrialization strategy adopted at the time (import substitution industrialization policy) and the militarization of governance. The second reason for the increasing dominance of fiscal policy in the management of the economy is the fall in the international price of oil in the late 1980s, furthermore, the persistent fiscal deficit since the early 1970s (and given the decline in oil revenue) requires a new fiscal focus that saw the emergence of the public sector in major economic activities.

The socio-economic dimensions of the collapse of oil prices and the general mismanagement of the economy in the 1980s brought the issue of poverty sector was going extinct, economic activities as measured by aggregate output, industrial production, non-oil exports e.t.c., were all showing distress signs. Above all, there was strong, widespread evidence of pervasive and massive poverty in the land in spite of growing public expenditure and fiscal deficit. By 1986 all major socio-economic indicators were pointing downwards. The rate of unemployment was (and is still) high, purchasing power of the people was down, poverty was becoming entrenched and economic growth became negative. In sum, there was severe macroeconomic imbalance-domestically and externally. It was apparent that the economy required major adjustment.

The structural adjustment programme (SAP) was introduced in 1986 to correct the perceived imbalance in the economy just immediately after the introduction of the structural adjustment programme, it was observed that social indicators were not responding positively to the return measures. They were getting worse. Hence, several measures were introduced to reduce the social cost of adjustment. In fact, it was a common feature of fiscal behaviour to observe that before the end of the second quarter of any particular year, actual fiscal activities of the government were totally at variance with budget proposals. The government regularly finds itself engaging in extra- budgetary expenditure that is occasioned largely by the observed suffering of the majority of the people. Looking at various fiscal measures in the last two decades in Nigeria, one would observe that attention has been focused on the rural poor.

Poverty is not an exclusively rural phenomenon, but it a fact that it is largely rural in Nigeria, the majority of where people are in the rural area engaging primarily in subsistence agricultural activities. To reduce the poverty of the rural poor the government introduced a variety of programs, such as the Directorate of Food, Roads and Rural Infrastructure (DFRRI),

the Better Life/Family Support Programmes, Family Economic Advancement Programme (FEAP), National Directorate of Employment (NDE), people's Bank, community banks, the Petroleum Trust Funds (PTF), and others. All these programmes involved some budget policy or the other. The concern of researchers now is why fiscal policy has failed to ameliorate poverty in Nigeria. There are two apparent reasons. The first encompasses factors associated with the policy itself (in term of poor targeting, poor policy mix and poor implementation. The second broad reason has to do with non-budget policy factor (such as institutional factors). The reasons complement one another.

Iyoha (2002), fiscal policy involves the use of changes in government expenditure and tax revenues to influence the level of economic activity. Also, Afolabi in (1999) saw fiscal policy as direct policies of government which involves the manipulation of parameters that will directly affect government revenue and expenditure. He went further to say that the components of fiscal policy are taxation, planning, government budget and debt management. Fiscal policy is concerned with decisions about certain variables such as total surplus or deficits in terms of their effect on national income, total employment and the general price level. This definition presupposes that fiscal policy deals with how government generate revenue through taxation and other means and deciding on the level and pattern of expenditure for the purpose of influencing economic activities.

Despite the several fiscal measures introduced since 1986, and given the prominence of fiscal policy in macroeconomic management in Nigeria, growth has not accelerated and poverty remains widespread and pervasive, particularly in the rural areas. Fiscal policy is still widely recognized as a potent tool for enhancing growth, redistributing income and reducing poverty (though the Nigeria experience is tending to suggest otherwise).

In addition, the lofty place of fiscal policy in the management of the economy, the Nigeria economy is yet to come on the path of sound growth and development. Studies by Agiobenebo (2003) Gbosi (2002) and Okowa (1997) indicate that the economy is still marred by chronic unemployment, rising rate of inflation, dependence on foreign technology, monoculture foreign exchange earnings from crude oil, low private and foreign investment and many more. Nigeria is endowed with economic potential for investment, growth and development with her vast oil and gas resources, rich and expensive agricultural land, solid minerals and abundant human resources.

furthermore these factors, since 1960 when she got her independence from Britain, the successive governments have not done enough to put the nation's resources to effective productive use as to chart the path of both private and foreign and growth and development.

The net result is that the Nigerian economy is now performing below her potential as the “crown prince of the Gulf of Guinea” (Gbosi, 2002).

The problem faced in the country is the lack of assessment of what form of fiscal policy rules will perform better in reducing debt accumulation and promote investment and the necessary medium term budget deficit stability. Can fiscal policy curb the problem of economic growth and development in Nigeria? The study has become a necessity due to the deteriorating state of the public funds, in the area of revenue generation, allocation and implementation of fiscal policies in Nigeria.

Also, to promote the understanding of public officers and efficient ways of managing financial resources in order to drastically reduce unemployment or underemployment and promote economic activities and development. The researcher is of the view that this work will also contribute to the bulk or stock of existing basis for further research by other researchers, such as Banks, students, public organisations and government agencies. Consequently, the main objective of this study is to investigate the impact of fiscal policy variables on investment between 1970 and 2010.

This paper is structured into five sections. Section one provides some background on fiscal policy and investment. The components of fiscal policy and investment were also treated in this section. Section two reviews the existing literature on fiscal policy and investment. Section three focuses on the methodology of the study and model used. Section four entails the presentation of results and discussion of findings. It also provides the framework for drawing appropriate conclusions. Lastly, section five contains the summary, recommendations and conclusions.

## **LITERATURE REVIEW**

Over the last decade, the growth impact of fiscal policy has generated large volume of both theoretical and empirical literature. However, most of these studies paid more attention to developed economics and the inclusion of developing countries in case of cross-country studies were mainly to generate enough degrees of freedom in the course of statistical analysis (Aregbeyen, 2007). There is a popular assertion in the empirical literature that public spending is negatively correlated with economic growth due to inefficiency of the public sector especially in the developing countries where large proportion of public spending is attributed to non development expenditure like defence and interest payments on debt (Husnain, et al., 2011) and Nigeria is not an exception.

However, current trends in fiscal administration have introduced various way in view to reducing such expenditure that contributes little to the development goals of national economy. Alongside this through is the adoption of MTEF (1998) as part of broad package of budget reforms to encourage cooperation across various government arms in planning and strategy for reducing wasteful expenditure. The weakness of fiscal policy in Nigeria can be traced to the fact that the country is yet to develop. There is predominant poverty, an extreme difference between absolute poverty and great wealth, and an extreme minority holds the wealth and a huge majority are in objective poverty (which is 25% of the minority holds 75% of the wealth while the other 75% of the majority share the remaining 25% of the country's wealth).

In Nigeria, the major fiscal policy instruments include changes in taxation rate (on personal income, company income petroleum profits, capital gain, import duties, export duties and excise duties as well as mining rents, royalties an NNPC earning) and government expenditure (recurrent and capital). These taxes along with interests and repayments, licenses and fees constitute government revenue on the other hand, government expenditure constitutes on instrument for direct resource allocation while generating employment opportunities and influencing the government price level as well determining the extent of fiscal deficit or surplus each fiscal year (Anyanwu, 1995).

After 1986, emphasis was on reducing government regulation, subsidies, and distortions, increasing efficiency, and allowing the free market to determine prices, including the foreign exchange rate. The growth in government expenditure, both in absolute terms and relative to GDP, was particularly pronounced between 1975 and 1980 (Iyoha, 2002).

With the collapse of the crude oil prices in the world market as a result of glut in the world oil market, the Nigeria economy took a dive into depression in the early 1980's. The impact of oil shock on the fiscal variables was more direct as there was fiscal crisis of the state. The federal collected revenue dropped to N15.3 billion in 1983 (CBN). Through the total expenditure of the government declined, it was still greater than the total revenue of the government. This led to enlarge budget deficit and more public borrowing. In order to control the level of government fiscal operations, the economic stabilization Act of April 1982 containing several counter depression measures was enacted. Some of the fiscal measures adopted include increases in the tariff rates on important goods, public sector wages. Were frozen and the upward revision of existing allowances was also not permitted. Spending was limited to ongoing and viable projects in order to reduce capital outlay and therefore the overall budget deficit.

The implementation of the structural adjustment programme (SAP) in 1986 and three- years rolling plans thereafter with the objectives of achieving economic development and bringing about significant improvement in the living conditions of the people, led to another face of fiscal policy in the country (CBN, 2000). The major instruments of fiscal policy have been taxation, government expenditure and borrowing from domestic and external sources of financial budget deficit when the fiscal operations resulted in budget gaps.

During the review years, the result of government role in economic activities and the achievements in economic performance in Nigeria have been mixed. The economy experienced growth in real output in some years and decline in other. but the overall picture is that of low scoring for the country's development efforts. The economic crisis from the 1980s and early 1990s brought out vividly the distinction between growth and development. A country may achieve growth of GDP without economic development the experience in Nigeria, as in many other sub Saharan African countries has also proved that public sector intervention in an economic can result in failure, just as the rationale for government intervention is based on the inherent failure of price mechanism to achieve a stable equilibrium in the market economy.

As trade liberalization was one of the core policies of SAP, import taxes were generally reduced. Most of the changes in the tax system under this era were designed to provide relief to tax payers as well as to simplify revenue collection in order to encourage investment. This period witnessed the introduction of the value Added Tax (VAT). VAT was introduced in 1994 to shore up the revenue profile of the government most especially the non- oil revenue.

There is the period of unrestrained use of fiscal policy in Nigeria. This period started in 1998 before and after the demise of General Sani Abacha. Government expenditure rose astronomically during this period. This was due to increase in public sector wages and salaries. With the return to democratic rule on May 29, 1999, government expenditure has continued to be on the increase over revenue. This upsurge in government expenditure can be attributed to increase in administrative cost. Through there was some growth in the government revenue, it could not match the expenditure profile of the government.

The main policy focus of the 1999 federal budget was to establish and strengthen the frame work for public sector intervention in the economy. Owing to revenue short falls in the proceeding year from drops in oil prices, fiscal policy was geared towards promoting greater budget discipline. The total federally collected revenue for the year was N949.188billion made up of N724.765 billion. The fiscal operations resulted in a current account surplus of N212.923 billion representing 6.3% of GDP. However, there was an overall deficit of N285.105 billion or 8.4% of GDP, which was mostly financed by borrowing from domestic economy and the banking system.

The policy objectives of the year 2000 budget were designed to foster growth in the real sector of the economy and maintain macro-economic stability. The fiscal policy measures included a low income tax regime, generous tax incentives and relieves. The total federally collected revenue for the year was N1, 906.2billion made up N1,591.7billion as oil revenue and N314.5 billion non-oil revenue representing 3.8% of GDP. The fiscal operations resulted in a current account surplus of N135.7billion. However, there was an overall deficit of N103.8billion or 2.9% of GDP which was largely financed by borrowing from the banking system.

The policy thrust of the 2001 budget were restructuring of the Nigeria economy to make it market oriented, private sector led and technology driven, reducing unemployment and raising productivity, improving the performance of major infrastructures and enhancing transparency and accountability in government to ensure value for money in public expenditure. Fiscal measures induced tax relieves and allowances, a low income tax regime and exemption of public provision from taxation, and exemption of locally produced basic food items from the value Added Tax (VAT) to encourage for the year was N2, 231.5 billion made up N1, 707.6 billion revenue and N903.5 billion as non-oil revenue. The fiscal operations resulted in a current account surplus of N217.6 billion representing 4.6% of GDP. However, there was an overall deficit of N221.0 billion or 4.7% GDP which was largely financed by borrowing from banking system to the tune of N136.7billion and credit from the domestic economy N118.7billion.

The fiscal policies of the 2002 budget were derived from the macro-economic framework of the 2001-2003 rolling plan which sought to maintain disciplined fiscal and monetary policy, continue the liberalization of the economy to attract support from the international community and the multilateral institutions as well as sustain transparency, accountability and obtained value for money in government expenditures. The specific fiscal policies in the 2002 budget were the continuation of privatization of government investments and public utilities, striving towards a Gross Domestic Product (GDP) growth rate of at least 5%, minimizing budget deficit and eliminating. Extra budgetary expenditure, targeting a moderate inflation rate, reducing the level of unemployment, through increased capacity utilization and encouragement of self-employment, diversifying the revenue basic on the economy through appropriate fiscal incentives and investment in agro-allied industries, gas and solid mineral. In 2002, the government realized a total of N1, 731.8 billion, made up of N1,230.9 billion in oil and N501 billion in Non-oil revenues. Federation account revenue was N1,899.5 billion, while federal government retained revenue was N716.8 billion. Actual expenditure was N1,018.2 billion, leading to a current account surplus of N20 billion and an overall deficit of N301.4 billion. This was 3.9% of GDP and was financed mainly by the Central Bank of Nigeria (CBN). The main fiscal policy thrusts of the 2003 federal government budget were to pursue a growth strategy

government budget were to pursue a growth strategy that would achieve fiscal stability, improve non-oil sector competitiveness, reduce inflation, maintain a fiscal deficit of not more than 2.5% of Gross Domestic product, deeper and broader fiscal incentive to further encourage industrial and manufacturing sector, attract foreign investment. In order to achieve the above goals, the gross revenue budgeted by the federal government for 2003 was N685.4 billion and expenditure of N765.1 billion.

However, the total government revenue during 2003 was N2,575.1 billion, made up of N2,074.3 billion from oil and N500.8 billion non-oil sources, respectively. The fiscal operations of the federal government resulted in a current account surplus of N3.9 billion and an overall deficit of N202 billion which was financed mainly from the domestic banking system. The deficit of N202.7 billion was 2.05% of the Gross Domestic Product (GDP).

The fiscal policy thrust of the 2004 budget was designed to underpin and support the perform program, focus on job creation and employment generation from youths through supports for an enabling environment for the private sector to create job. The reforms were in the areas of accelerated privatization liberation and private sector development. The budget also continued with fiscal discipline through narrowing fiscal deficit to 2% of the GDP, while financing the deficit from the domestic bond market. The projected revenue was N2,160 billion, made up of N1445 billion from oil and N615 billion from non-oil sources, the actual revenue earned in 2004 was N3,920.5 billion out of which oil accounted for N3,354.8 billion and non-oil revenue was N565.7 billion. Federation account revenue was N2,438.8 billion while federally retained revenue was N7,253.6 billion. Actual expenditure was N1,426.2 billion, made up of N1,032.7 billion recurrent expenditure was N1,426.2 billion, made up of N1,032.7 billion recurrent expenditure and N351.3 capital spending. The operations of the federal government resulted in a current account surplus of N220.8 billion and an overall deficit of N172.6 billion or 1.51% of GDP. This deficit was financed through the non-bank public and draws from the excess crude account.

The main thrust of the 2005 budget was to build the physical and social infrastructure necessary for job creation and maintain fiscal discipline. The government sought to maintain fiscal deficit of 2.9% of GDP, pay contractor debt arrears and complete on-going projects. The budgeted total revenue was estimated at N304 billion. Total estimated expenditure was N1,618 billion, which resulted in a projected deficit of N314 billion. The actual gross revenue earned by the country was N5,547.5 billion, out of which oil accounted for N4,762.4 billion (85.89%) while non-oil revenue was N785.1 billion (14.15%). Federation account revenue was N2,657.2 billion, while federal government retained revenue was N1,660.7 billion. total expenditure was N1,822.1 billion, made up of N1223.7 billion for recurrent and N519.5 billion for capital



expenditures respectively. The fiscal operations of the federal government led to a current account surplus of N437.0 billion and overall deficit of N161.4 billion or 1.1% of GDP. This deficit was financed through domestic non-bank sources.

According to the United Nations, Nigeria has been undergoing explosive population growth and fertility rates in the world. By their projections, Nigeria is one of eight countries expected to account collectively for half of the world's total population increases from 2005-2050. By 2100 the U.N. estimates that the Nigerian population will be no less than 730 million. In 1950 Nigeria had only 33 million people. According to current data, one out of every four Africans is Nigeria presently, Nigeria is the seventh most populous country in the world, and even conservative estimates conclude that more than 20% of the world's black population lives in Nigeria. 2006 estimates claim 42.3% of the population is between 0-14 years of age, while 54.6% is between 15-65, the birth rate is significantly higher than the death rate at 40.4 and 16.9 per 1000 people respectively.

Health, health care, and general living conditions in Nigeria are poor. Life expectancy is 47 years (average male/female) and just over half the population has access to potable water and appropriate sanitation the percentage of children under five has gone up rather than down between 1990 and 2003 and infant mortality is 97.1 death per 1000 live births. HIV/AIDS rate in Nigeria is much lower compared to the other African nations such as Kenya or South Africa whose prevalence (percentage rates are in the double digits). In 2003, the HIV prevalence rate among 20 to 29 years old was 5.6%. Nigeria suffers from periodic outbreaks of cholera, malaria, and sleeping sickness. It is the only country in Africa that has never eradicated polio which it periodically exports to other African countries. A 2004 vaccination drive, spear headed by the W.H.O. to combat polio and malnutrition with some.

Education is in a state of neglect. After the 1970s oil boom, tertiary education was improved so that it would reach every sub region of Nigeria. Education is provided free by the government but the attendance rate for secondary education is only 29% (32% for male, 27% for females). The education system has been described as "dysfunctional" largely because of decaying institutional infrastructure. 68% of the population is literate, and the rate for men (75.79%) is higher than for women (60.6%).

## **THEORETICAL REVIEW**

Investments are of the main components of aggregated demand and this plays critical roles in the determination of equilibrium income. This is true not of only Keynesian and past Keynesian theories but also of business cycle theories Lyoha (2002), investment can be seen as an new physical goods to be used in further production. Investment in this sense does not refer to

financial investment, which is a purchase of existing securities. It also excludes purchases of newly issued stocks because this only amounts to an exchange of money for a claim against future earnings of the corporation. Investment is said to have only occurred if new physical goods to be used to increase productive capacity and hence future total output.

Classical theory of investment tried to estimate decisions based on profit motives by firms. They argued that investment is work while if the market rate of return on investment is greater than or equal to cost of capital that is the rate of interest. Keynes, while building on the classical theory of investment, posits that the market rate of interest is the cost of investment. As a result of this, an investor who has to finance a project with borrowed funds must therefore pay interest. Also, if the investor is going to use his own fund, he would consider what he would have earned in terms of interest if he had used the money to buy financial asset. This yield on the bond is the opportunity cost of using his money to buy capital goods (Orebiy, 2000).

Duesenberry's theory is known as cash flow theory. The theory integrates the profit theory and accelerator theory of investment. His emphasis was on aggregate cash flow as the main determinant of investment. His theory is based on the following prepositions.

- a. Gross investment starts exceeding depreciation when capital stock grows.
- b. Investment exceeds saving's when income grows.
- c. The growth rate of the income and the growth rate of capital stock are determined entirely by the ratio of capital stock to income.

Therefore, investment is regarded as a function of income, capital, stock, profits and capital consumption allowances.

$$I_t = f (y_{t-1}, K_{t-1}, P_{t-1}, P_t)$$

Where  $I_t$  is investment at time,  $Y_t$  is income in the previous period,  $K_{t-1}$  is capital stock in the previous period,  $P_{t-1}$  is profit in the previous period, and  $R_t$  is capital consumption allowance at time.

Aggregate investments in poor countries have been very low over the years. Less developed countries do not have the pleasant problem of raising full-employment, budget surpluses and fiscal drag. Rather, the problem in the typical less developed country is the existence of budget deficit that inevitably lead to inflation, balance of payments deficits and escalating external debt. Budget policy, as a broad fiscal variable in term of the size of expenditure relative to revenue, has occupied centre stage in recent policy deliberations in many developing and transition economics. Fiscal dimensions such as high unemployment inadequate national savings, excessive budget deficits and public debt burdens have intensified in many developing countries over the years. Hence issues relating to the appropriate scope, nature and conduct of budget policy, in the content of both fostering growth and alleviating

poverty (while ensuring macroeconomic stability) have naturally come to the fore in policy debates.

Of course the relevance of considering the growth effects of fiscal policy must be predicated on the basic proposition that policy matters for long-run growth. However, a clear and direct link between budget policy and growth has traditionally been associated with tax policy. One link is built on the idea that taxes are non-neutral (interim- if private-economic agents allocative decision). Hence, distortions are introduced into the economy.

A second link is via the impact of taxation on factor accumulation, particularly capital. It relaxes to the excess burden of taxation in a dynamic sense. Another channel usually suggested on the literature is the provision of tax incentives for promoting investment and research and development activities (Tanzi and Zee, 1997). The basic ideas are that the structure of taxation could have important implications for growth. This consideration is actually not limited to simply the area of capital income taxation or even to income taxation. In general, it has broad significance for the overall structure of the entire tax system. It should be noted that the empirical evidence of the impact of various aspects of tax policy on growth has so far been mixed, Easterly and Rebelo, 1993, and Mendoza, Razin and Tesan, 1994). A major difficulty in isolating the impact of taxation on growth arises because key non-tax variables such as public expenditure that are often not independent of tax policy can also affect growth. Also, the complex interactions among the fiscal and other macroeconomic variables among the fiscal and other macroeconomic variables create difficulties.

On the expenditure side, it is usually suggested that the net impact on growth (as measured by aggregate output) of the crowding-out effect of public expenditure clearly depends on the relative marginal productivity of the public and private sectors. The externality effect of public expenditure enhances growth by raising private sector productivity. Here, a higher level of such expenditure could achieve a high growth rate. The opposing natures of the crowding-out and externality effects rest on the proposition that the structure of public expenditure rather than merely its level, would be of considerable importance. In analyzing the composition of public expenditure, the traditional approach has been to divide it broadly into the categories of public consumption and public investment. This classification is important in a dynamic framework because it focuses attention on the impact of public expenditure on private savings and investment and hence, capital accumulation. Another area of interest has to do with the complementarity or substitution between public and private expenditure as they affect private savings. Like the case of taxation, the empirical evidence of the growth effects of public expenditure (as a share of GDP) is inconclusive Ram, 1986, Levine and Renelt, 1992, Barvo and Salai-Martin, 1995). One reason for this inconclusive evidence is that the direction of

causation is usually difficult to ascertain. It is sometimes suggested that another reason for this inconclusive evidence is that the relationship between growth and fiscal variables may not be particularly monotonic over the levels of these variables or over income, or both. It can be argued that increasing levels of public expenditure would first raise and then reduce growth (Tanzi and Zee, 1997).

The combined effect of taxation and expenditure (budget balance) is usually referred to as budget policy. It is usually argued that budget policy may have growth effects that are separate from those related to the absolute level of either taxation or public expenditure, as discussed above (Tanzi and Zee, 1997). This is usually the case if one considers the stability implications of budget imbalance. A related but distinct case is the possibility of behavioural response from the private sector based on such imbalance). In other words, the issue is whether there is neutrality between debt and tax financing of budget imbalance.

On the income distribution side, it is generally agreed that there seems to be a trade-off between the allocative and distributional roles of budget policy. The trade-off is seen from the disincentive effects of distortive taxes that are required to finance direct or indirect transfer payment from the rich to the poor. Studies have demonstrated that under fairly general assumptions about (heterogeneous) individual preferences regarding income and work effort, the efficiency cost of pursuing an egalitarian policy could be prohibitively high (Sinn, 1996). In this traditional view, policies effecting a redistribution of income toward equality would exact an increase in the price of (aggregate) output loss that is likely to be larger than the reduction in income inequality achieved by such policies. Hence, in a dynamic framework, such a view leads to the conclusion that there is an increasing marginal cost, in terms of growth forgone, of income redistribution, on account of the saving – depression effect of taxation.

This view has been challenged by some strand of researches which argue that redistributive taxation and the expenditure that it finances are a form of social insurance over an economic agents lifetime against certain types of risk for which private insurance may not be available. Consequently, redistribution policies could stimulate production risk taking and output growth, although such behaviour does not necessarily result in greater equality in the after-tax distribution of income (Sinn, 1995 and 1996). Another view emphasizes the importance of various aspects of financial market imperfections for growth. The point here is that the potential productivity of the poor cannot be fully realized unless they are given the opportunity to participate in financial.

The role of fiscal policy differs between advanced economy and developing economy. Jlingha (2001). In advanced economy, the role of fiscal policy is to stabilize the role of fiscal policy is to stabilize the rate of growth. But in developing economics such as Nigeria, the role of

fiscal policy is the accelerate the rate of capital formation or investment. This is achieved by the government checking actual and potential consumption and by raising the saving ration.

Obadan (1999), in his study on “savings, investment and growth connection is observed that the Nigeria investment climate has been unattractive and characterized by macroeconomic instability. The conclusion from the above assertions is that fiscal policy being one of the tools of achieving macroeconomic stability has failed in its attempt. One the some view. Egwaikhide (2003) in his empirical study on the effect of fiscal policy using government expenditure as the variable of fiscal policy in the model found out that the effect of government on output cum investment to be negative. Government expenditure did not exert a strong impact on private investment because government expenditure in Nigeria had rather been wasteful.

Corporate income tax tends to affects investment. High corporate profit taxes translate to low retained earnings by firms. From observation on investment behavior in firms, the size of the firms retained earnings largely determines the scope carryout investment decision. Anyanwu and Oaikhenan (1995). Levacic and Rebman (1982), contend that fiscal policy can influence that level of private sector investment through two distinct channels. On the demand side it may affect the level of future expected demand for output while on the cost side, tax changes can alter the cost of capital services. They went further to state that the latter case had been the main instrument which government have used to influence the level and composition of investment.

Private investment in Nigeria is low. This is because government determines the economy and this explains why total investment in Nigeria economy is how, Orebiyi (2002). He concluded that for investment to be increased in Nigeria economy, the government should continuously monitor and fine-tune the macro economic variables such as aggregate government expenditure and aggregate tax revenue. Campbell and Stanly (1996), while looking at the policy options to adopt during inflation and recession in the economy (Nigeria), it its by using either government expenditure or taxes contend that the size of the public sector will determine the option to use. This will be extended to analysis of investment.

During recession, if the size of public sector cum investment is perceived to be small, investment can be stimulated by the increase in the level of aggregate government expenditure. But during inflation investment could be contained by raising taxes where the public investment is perceived to be too much, investment can be increased during recession by tax cuts and during inflation by reducing government spending.

Anware (1995), while writing for the World Bank observed that fiscal incentives adopted in developing countries could not stimulate investment because of structural and institutional features prevalent in these countries. The above statement tends credence to the fact that for

fiscal policy on any policy to be adopted, to achieve its desired objectives, the institutional and structural rigidities in such economics must be minimized if not totally removed.

Government plays an important role in determining the level of investment and consequently aggregate demand in the economy. This is usually done by the government varying either its expenditure or tax revenue. This effect of increase in government expenditure on investment can be felt in the following ways.

- i. By increasing expenditure, reduces the cost of production through the reduction in past production overheads. This will lead to increased investment because firms can now invest what they could have used to acquire these overheads. If the government did not provide them.
- ii. Increase in government expenditure will lead to an increase in payment to factors, this increase payment to factors expenditure and this investments also increases.

The opposite will occur if the government decreases its expenditure. In the case of taxes, if the tax rate falls, it affects both individual and corporate bodies. On the individual the disposable income will be increased and this will lead to increase in consumption expenditure. On the firms, a reduction in tax means more internal funds available and in the content of the profit theory of investment more investment will occur.

## METHODOLOGY

### Research Framework

The Keynesian analysis of fiscal policy is applicable to both advanced economics and developing economics. Kirkegard, et al. (2007) said that the use of fiscal policy for the purpose of promoting economic growth is of recent origin. Initially, the policy is concerned with the stabilization of growth rates in advanced economics. Presently, it is concerned with the acceleration of the rate of capital formation underdeveloped economies. Kirkegard, et al., (2007) added that the two major fiscal policy instruments are tax and expenditure. They formulated a fiscal model for growth assessment and to measure the effect of fiscal policy on growth as follows:

$$Y_t = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + U_1 + \dots \quad (1)$$

Where  $y$  is gross domestic product (GDP) in real terms,  $X_1$  is tax,  $X_2$  is government expenditure, and  $U$  is stochastic variable.

There are some specific objectives of fiscal policy, Kirkegard et al., (2007) said that objectives include: to increase the rate of investment, to encourage socially optimal investment, to enhance employment opportunities, to control inflation and promote economic stability.

Therefore, modifying the above model to capture the effect of fiscal policy on investment, it becomes:

$$\Delta K_t = \alpha_0 + \alpha_1 X_{1t} + \alpha_2 X_{2t} + U_{1t} \dots\dots\dots (2)$$

Where  $\Delta k$  is the rate of change in capital stock. It is the addition to existing capital stock. Since  $\Delta k = I$ , equation (2) can be stated;

$$INV_E = \alpha_0 + \alpha_1 X_{1t} + \alpha_2 X_{2t} + U_{1t} \dots\dots\dots (3)$$

Thus, this study will base on the Kirkegard, et al., (2007) framework of assessing the impact of fiscal policy on investment.

### Model Specification

A multiple regression model is used in this study. It is more realistic and reliable than single regression model. Based on the theoretical framework above, the following model is specified in the study:

$$INV = F(CIT, GEX, GDP) \dots\dots\dots (4)$$

Put in linear form, the above model becomes;

$$INV = \alpha_0 + \alpha_1 CIT + \alpha_2 GEX + \alpha_3 GDP + U \dots (5)$$

Where  $\alpha_1 < 0$ ,  $\alpha_2 > 0$  and  $\alpha_3 > 0$

The following symbols are used to represent the necessary variables in the study.

INV	=	Investment expenditure
CIT	=	Corporate income tax
GEX	=	Government Expenditure
GDP	=	Gross Domestic Product (used as a proxy for national income).

According to the Keynesian theory, and increase in corporate income tax will have contractionary effect of investment, while an increase in government expenditure will have an expansionary effect on investment. Also, increase in income (proxied by GDP) enhances the rate of investment.

### Data Estimation and Analytical Approach

The ordinary least squares (OLS) technique is used to estimate the model. The OLS has some optimal properties, such as minimum variance and unbiasedness, which make it the best estimation techniques for linear regression models. However, the efficiency of this technique depends on the fulfillment of certain stochastic assumptions, such as zero mean, constant variance, etc. It have been proved to be the best estimation technique for linear models.

## ANALYSIS & RESULTS

The results obtained from the estimated regression, using the ordinary least squares (OLS) techniques, are presented bellows:

Table 1: Presentation of Regression Results

Dependent variable: INV				
Method: least squares				
Samples: 1970 – 2010				
Variable	Coefficient	Std. Error	t-statistic	Prob.
GEX	0.3835	0.1128	3.3996	0.0016
GDP	0.4303	0.1210	3.5567	0.0010
CIT	0.0374	0.0372	1.0040	0.3219
C	0.5189	0.7094	0.7315	0.4691
R-squared		0.9313		
Adjusted R-squared		0.9257		
t- statistic		167.2564		
Durbin-watson stat.		2.1880		

Three major criteria are used in interpreting the results presented in the table above: A priori criteria, Standard error test and Econometric criteria.

### A Priori Criteria

These are criteria that are based on the signs and sizes of the estimated parameters and analyze them in line with economic theory. The results show that government expenditure, gross domestic product (used as a proxy for income) and corporate income tax have positive impact on investment in Nigeria. This is in line with economic theory, except that of corporate income tax which is theoretically expected to have a negative impact on investment expenditure. Furthermore, a unit rise in government expenditure, gross domestic product and corporate income tax leads to 0.38, 0.43 and 0.03 units increases in investment expenditure in Nigeria, respectively. These criteria include the standard error test, the t-test, the coefficient of determination and the t-statistic.

### Standard Error Test

Using the value of thumb, the standard error values of government expenditure (0.11) and gross domestic product (0.12) are less than half the values of their respective coefficients, which are 0.19 and 0.21. This implies that both government expenditure and GDP are statistically significant in explaining changes in investment expenditure in Nigeria. However, the standard



error value of corporate, income tax (0.03) is greater than half the value of its coefficient (0.01), which implies that corporate income tax is not statistically significant in explaining changes in investment expenditure in Nigeria.

### **T- Test**

The calculated t-statistic values for government expenditure (3.39) and GDP (3.55) are greater than the t-critical value (1.68), at the 5% level of significant. This further buttresses the findings above that both government expenditure and GDP are statistically significant in explaining change investment expenditure in Nigeria. However, the t-statistic value for corporate income tax (1.00) is less than the t-critical value (1.68), at the 5% level of significance, which indicates that corporate income tax is not statistically significant in explaining changes in investment expenditure in Nigeria.

$R / \bar{R}^2$  :

The coefficient of determination ( $R^2$ ) is 0.93. this indicates that 93% of the systematic variation in investment expenditure in Nigeria is as a result of changes in government expenditure, corporate income tax and GDP. Similarly, the adjusted coefficient of determination ( $\bar{R}^2$ ) is 0.92, which does not vary significantly from the coefficient of determination. This shows that the coefficient of determination obtained is very reliable. The result implies that, if the coefficient of determination is adjusted, 92% of the systematic variation in investment expenditure is caused by variations in government expenditure, GDP and corporate income tax.

### **F-Statistic**

The F-statistic value is 167.25, which is greater than the F-critical value of 2.84, at the 5% level of significant. This indicates that the overall fitness of the model is good.

### **Econometric Criteria**

These criteria are based on the Durbin-Watson statistics. From the results presented above, the Durbin-Watson statistic is 2.18. Using the rule of thumb, since this value is approximately 2.00, it implies that there is absence of auto correlation (or first serial correlation) in the model- put differently; the value which the stochastic disturbance term assumed in any one period is independent of its previous values.

## IMPLICATIONS OF FINDINGS

The study reveals that government expenditure has a positive impact on investment expenditure in Nigeria. An increase in government spending or the implementation of a deficit budget will lead to an increase in investment expenditure. The impact of government expenditure on investment is also very significant. From the period of 1970 to 2010, covered in this research work, a unit rise in government expenditure causes 0.38 unit rise in investment.

The study further reveals that goes domestic product, which is used as a proxy for income, has a positive impact on investment expenditure in Nigeria. An increase in gross domestic product or income leads to a rise in investment expenditure. A unit increase in GDP leads to 0.43 unit increase in investment.

Lastly, the study reveals that corporate income tax has a positive, instead of a negative, impact on investment in Nigeria. This may be due to the fact that a large proportion of tax revenues in Nigeria are from petroleum profit tax. This has also made corporate income tax an insignificant variable in explaining changes in investment expenditure in Nigeria. A unit rise in corporate income tax lead to only 0.03 unit rise in investment.

From the findings discussed above, some necessary policy implications could be stated as follows:

1. In order to boast the level of investment in Nigeria, policy makers should lay more emphasis on the use of government expenditure, as a fiscal policy instrument, to promote investment.
2. Corporate income tax is not a reliable fiscal policy tool to stimulate increase in investment expenditure. Consequently, an increase or decrease in this variable does not have significant impact on investment in Nigeria.

## SUMMARY

This study is on “the impact of fiscal policy on investment expenditure in Nigeria. A simple correlation test”. It is a very elaborate study, since it covers the period of 1970 to 2010. A multiple regression model is specified in the study to assess the impact of fiscal policy on investment, using government expenditure, gross domestic product and corporate income tax.

In this study, some relevant literatures were discussed. This was done under three sub-headings, theoretical review, empirical review and methodological review. The data used in the study were obtained from the CBN statistical bulletin, NBS annual publication, and other related journals. The ordinary least squares (OLS) technique was used to estimate the multiple regression model specified in the study. The study reveals that fiscal policy has a significant impact on investment expenditure in Nigeria. Government expenditure and gross domestic

product have significant impact on investment, but corporate income tax has a positive, instead of a negative, impact on investment expenditure in Nigeria. Some policy implications and recommendations were given in the study.

## CONCLUSION

Based on the findings of the study, the following conclusion could be drawn: First, government expenditure is a vital fiscal policy tool to stimulate investment expenditure in Nigeria. Increase in government expenditure is an expansionary fiscal policy, which increases money supply and reduces interest rate. As a result, it leads to increase in investment expenditure. This is because investment expenditure is a function of both income and interest rate.

Second, gross domestic product or income has a significant impact on investment in Nigeria. An increase in income leads to the availability of more loan able funds for domestic investors. This is because increase in income indicates that there is increase in money supply, which lowers the rate of interest and encourages investors to borrow. Also, increase in income enables the government to carryout huge capital projects and to provide social overhead capital, which encourage investment.

Furthermore, corporate income tax is not a significant fiscal policy tool in Nigeria. It does not exert a negative effect on investment expenditure as theoretically expected and the unit impact is very minimal. In order to promote investment, the use of this tool should not be given prominent attention.

Lastly, fiscal policy has a significant impact on investment expenditure in Nigeria. In this study, it was observed that 93% of the changes in investment expenditure is as a result of changes in government expenditure, gross domestic product or income and corporate income tax, while 7% of the changes in investment is captured by the stochastic variable, which represent other variables not included in the model. Simply put, government expenditure and GDP are very vital in promoting investment in Nigeria.

## RECOMMENDATIONS

From the conclusions drawn above, some vital recommendations are given these are;

- Government should use an expansionary fiscal policy to encourage increase in investment in Nigeria.
- Government spending should be channeled to capital projects and social overhead capital that will encourage investment, such as constant electricity supply and good road networks.

- Government should rely more on other forms of tax, such as the petroleum profit tax, that have greater impact on investment than corporate income tax.

## LIMITATIONS

However, this study has some limitations such as lack of comprehensive data that cut across the entire sectors of the economy which would have prompted sector by sector investigation to access the efficacy of fiscal policy thrust. Also institutional weakness and lack of good governance poses set back to attract foreign investment to the country. Quality institutions are attracts both foreign and domestic investment, this call for further study.

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