

An Appraisal of Fiscal Policy Measures and its Implication for Growth of the Nigerian Economy: 1970-2009

Imoisi Anthony Ilegbinosa¹

Abstract

This research examines problems surrounding procedures of fiscal policy and their influence on economic growth in Nigeria from 1970 - 2009. Theory envisage that fiscal policy can impinge on economic growth by changing motivation for investment and labour as well as by altering after-tax proceeds across sectors. It is clear that economists have different analysis concerning the effect of government spending and tax on economic growth in any nation. The research was conducted using an Ordinary Least Squares (OLS) technique of multiple regression models using statistical time series data from 1970-2009. The estimated result shows a positive relationship between the dependent variable (real gross domestic product) and the Independent variables (Government Expenditure and Taxes). This implies that the government expenditure is a strong determinant of economic growth especially when properly directed towards the provision of adequate basic infrastructural facilities to stabilize investment activities. The regression result also shows that tax was not properly signed and this could largely be credited to poor tax administration in Nigeria and over dependence of government on earnings from crude oil in funding her projects. Accordingly, the result agreed with the Keynesian theory, which supports that government involvement through the use of fiscal policy could accelerate economic activities hence growth. Based on the results, it was therefore suggested that there should be a total renovation of the tax system in Nigeria and the federal government of Nigeria should intensify her spending especially in the productive sectors of the economy that has the capability to contribute to economic growth in the country.

¹Department of Economics, College of Social and Management Sciences, McPherson University, Lagos Ibadan Expressway, Seriki Sotayo, P. M. B. 2094, Abeokuta, Ogun State.

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1 Introduction

Nigeria is a country enormously gifted with both natural and human resources. The pool of resources from one end to the other is immeasurable to such an extent that given a vibrant and perceptive fiscal policy, economic growth, development and prosperity would have been long achieved. Fiscal policy as a tool for macro-economic management according to Akpapan (1994) is a purposeful use of government revenue (mainly from taxes) and expenditure to manipulate the level of economic activities in a country. It can also be referred to as part of government policy relating to the raising of revenue through taxation and other means and choosing on the level and pattern of expenditure for the purpose of manipulating economic activities or achieving some needed macro-economic goals (Anyanwu & Ohahenam, 1995). These macro-economic goals include increase in per-capita income, low unemployment rate, positive balance of payments (BOP) position and price stability. The achievement of these goals will definitely lead to economic growth.

Economic growth is a source to advanced living standard; it can be defined as a rise in the gross domestic or national product of a country (GDP/GNP) over time, which ultimately leads to higher per capita income. Despite numerous fiscal policies put in place by the federal government of Nigeria which include, expanded government spending program and improved tax system; an overview of the Nigeria's economy for the past two decades shows that inflation was one of the foremost macro-economic problems. In 1980 the rate of inflation was 9.9%, but by 1981, it had jumped up to an unpredicted high rate of 20.9% and by 1995, Nigeria witnessed the highest rate of inflation when the figure stood at 72.8% which later declined to 6.9% by the end of 2000. In 1980, Nigeria recorded a positive growth in the real GDP which later decline from 4.7% in 1991 to 2.4% in 1998 (CBN 1995). CBN available data shows that there is pressure on the balance of payments, specifically in 1994 when an overall deficit of N7,194.9 million was recorded in the balance of payments compared with the deficit of N5,959.6 million in 1991 (Gbosi, 2000). The balance of payments position further worsened in 1997 with a deficit of N251, 593.1 million from a deficit of N183, 952.6 million recorded in 1996, these perpetually leads to a rise in the average exchange rate of the Nigerian naira against the American dollar causing external sector instability. The rate of unemployment in Nigeria was also on the high side. According to CBN statistical bulletin (2005) and CBN annual report and statement of accounts (2006), the nation's unemployment rate was 2.4 percent by 1970 but by 1980, it has jumped to an extraordinary high rate of 7.4 percent and 10.2 percent in 1983. These can be credited to the neglect of the agricultural sector which was the key source of employment for the Nigerian economy during the 60s and 70s. This paper will look at the extent to which fiscal policy measures have influenced economic growth in Nigeria during the period of 1970 - 2009. In particular, the goals of this study can be stated as follows: to ascertain the level to which government tax has influence on economic growth in Nigeria and to verify the extent to which government expenditure has impact on economic growth in Nigeria

In spite of several fiscal measures established since independence and given the importance of fiscal policy in macroeconomic management in Nigeria, economic growth has not accelerated. Hence, it's very important to analyze the effectiveness of fiscal policy measures on several macro-economic indices in Nigeria (such index include; per capita income, inflation rate, balance of payments and unemployment rate) to see the impact on these macro-economic indices, which are responsible for economic growth in the Nigerian economy. Fiscal policy is still widely recognized as a strong tool for improving economic growth in most economies of the world, though the Nigerian experience is tending to suggest otherwise. Several studies such as Barro & Martin (1990); Glomm & Ravikumar (1997); Genetski & Chin (1978); Eusterly and Rebelo (1993) have examined the relationship between fiscal policy variables (taxation and public expenditure) and economic growth. The statistical result from these studies are uncertain; while some studies found out that taxes have long term influence on growth rate, others found no significant effect. Hence, this paper will try to find out if taxation and government spending have any substantial impact on Nigeria's economic growth.

2 Review of Related Literature

When most economists are inquired to elucidate the growth performance of any particular economy, they are liable to refer to fiscal policy as being an important determinant of growth. This deep-seated principle that taxation, government expenditure, and other aspects of fiscal policy can be a factor to economic growth of an economy has been expressed in the context of growth models during the past three decades. There are various empirical works and theories that have been proposed to describe the relationship between fiscal policy and certain macroeconomic aggregates such as economic growth, inflation, balance of payments and level of employment. We shall now evaluate some of the various economic growth theories and see how fiscal policy has played a key role in these growth theories.

2.1 The Classical Theory of Economic Growth

When Adam Smith wrote his famous 1776 treatise called "*An Inquiry into Nature and Causes of the Wealth of Nations*". Some academics pointed out that he was involved predominantly with economic growth. Smith hypothesized a supply-side determined model of growth. According to him, population growth was endogenous: it depends on the accessibility to carry on and have capacity for the increasing workforce; Investment was also endogenous: established by the rate of savings (mostly by capitalists); land growth was reliant on invasion of new lands (e.g. colonization) or technological enhancement of fertility of old lands. Technological advancements could also add to overall growth. Smith's renowned thesis that the division of labour (specialization) enhances growth was an essential argument. Smith also saw developments in machinery and international trade as engine of growth as they aided further specialization. He also assumed that "division of labour is restricted by the degree of the market" - thus speculating an economies of scale dispute. Thus, he argued that growth was self-fortifying as it demonstrates increasing returns to scale. Lastly, because savings of capitalists is what

generates investment and hence growth, he saw the allocation of income as being one of the most significant determinants of how fast (or slow) a nation would grow.

Smith's model of growth remained the main model of Classical Growth. David Ricardo (1817) adjusted it by incorporating diminishing returns to land. Output growth demands growth of factor inputs, but, unlike labour, land is "variable in quality and fixed in supply". This means that as growth continues, more land must be taken into development, but land cannot be "produced". This has two consequences for growth: firstly, raising land owner's rents over time (due to the limited supply of land) cut into the proceeds of capitalists from above; secondly, earnings from goods (from agriculture) will be rising in price over time and this then cuts into profits from below as workers require higher wages. This, then, brings in a quicker limit to growth than Smith allowed, but Ricardo also asserted (at first) that this fall off can be freely curbed by technological advancements in machinery (albeit, also with diminishing productivity) and the specialization brought by trade, although he also had static states. Ricardo's description is somewhat more cynical than Smith's. The decisive depressing picture, however, was painted by T.R. Malthus (1796) with his famous assertion that if population growth was not curbed, it would rapidly surpass growth and cause rising depression all around. John Stuart Mill enhanced little upon Ricardo, perhaps only to highlight the necessity for management of population growth to put a brake on declining growth and his view of stationary states as magnificent things to achieve.

2.2 The Keynesian Theory of Economic Growth

The Keynesians are the twentieth century economists who embraced and also broadened John Maynard Keynes's principle in the existence of incessant unemployment equilibrium, dissimilar to the classical economists idea on say's law of market arguing that market economy are self adjusting therefore there is no need for the government involvement in the economy. They believe that fiscal policy and not monetary policy is the most powerful policy measure to make the economy stable and move it forward. They are sometimes referred to as 'Demand-side Economists. Keynes accepts that the forces of demand and supply could not attain full employment condition.

Keynesians therefore insisted that only government interference (public sector) through the use of unrestricted policy measures would take the free enterprise economy out of depression and ensure steady growth. Variations in savings and investments are responsible for modifications in business activities and employment in an economy.

2.3 The Neo-Classical Theory of Economic Growth

It is not far wrong to say that the father of a modern neo-classical growth theory is Robert Solow. Solow's (1956) idea was to clarify economic growth by taking into account technological advancement, i.e. permitting it to decide growth outside the previous, so called post-Keynesian theory, where the interference taken by public sector is seen as the main engine for economic growth. Beginning from the classical economists, it has been under examination for a long time to scrutinize why growth rates differ in various countries and what are the fundamental issues in constructing economic development. The essential postulation is that the step up of factors of production is the simplest way to attain better economic growth. Traditional factors of production are: natural resources, physical capital and labour.

In neo-classical growth theory models the postulation is, that in the long run, with diminishing returns to capital, a nation's per capita growth rate tends to be inversely related to its initial level of income per person (Barro, 1989). In other words, this would mean that countries should come together over time and thus, inequality between countries should reduce. However, empirical data does not support this assumption. According to Barro (1989), after the post-war period per capita growth rates in 100 countries are uncorrelated with the starting level of per capita product. In neoclassical growth theories, the major dilemma is the linear ways of reasoning about how the world is being formed. If input is about to multiply, it has a direct influence on output and the impact is also positive. The fundamental rule is more resources, more outcomes. However, it is not as easy as that. There are excess literature asserting that the production procedure cannot be moved from one place to another with total ease and flexibility. This is also the elucidation for why the meeting between countries, as neoclassical theories would propose, does not happen. In every case, the observable fact is associated to its environment, such as people, infrastructure, political atmosphere etc. Neo-classical growth theories also emphasized the position of technological change as an exogenous factor. Especially in Solow's expression, technological change is an act of economic growth, but it is an exogenous factor and hence it is called a "public good". Besides the exogenous nature of technological alteration, Solow and neo-classics have many postulations, such as perfect markets, perfect knowledge in the markets, utility maximization, no spillovers, and positive and reducing marginal revenue (Solow, 1956). One could simply argue in opposition to a number of these assumptions, for example, perfect markets and perfect knowledge in the markets, but such assumptions are basic to this model of study. Solow's neo-classical growth theory has been able to practically give details on two thirds of countries economic growth. Nonetheless, more recently, the center on studying economic development and growth, both on a national and regional level, has been more on knowledge, spillovers and innovations.

2.4 The Endogenous Growth Theory

Due to the fact that Solow's theory could not give details on all models of economic growth, new theories were developed. One of these is the new theory of growth, also known as endogenous growth theory, developed by Paul Romer. Romer's (1986, 1987) key line of reasoning is that technological alteration is not "a manna from heaven" and its trends and degree can be directed. If this is the case, technology can then be made endogenous to growth, rather than being an exogenous factor as in Solow's model. In addition to this, human capital and investments in innovations can then be perceived to be vital in the process. The new growth theory views knowledge as a public good (Romer, 1990). In general, the new growth theory exists in complete difference to the law of diminishing returns, due to the fact that the law of diminishing returns implies that output reduces if we increase the inputs. However, over the last 100 years, output in developed countries has increased and the new growth theory attributes this to an overflow of knowledge and innovations.

3 Method of Study

In this section, the research methodology used for the study will be discussed. Emphases were laid on the sources of data, model specification, apriori expectation of variables, etc.

3.1 Method of Data Collection

Secondary data were mainly used for this study and were obtained from Central Bank of Nigeria statistical bulletins, National Bureau of Statistical publications, newspapers, magazines and other relevant government publications. Data were collected in areas such as Real GDP, tax receipts, government expenditure and investment for the period under review.

3.2 Model Specification

The model was analyzed using an econometric model of multiple regression analysis to test the relationship between the dependent variable (Real Gross Domestic Product) and independent variables (Government Expenditure and Government Tax Receipts). The model is specified as thus:

$$\text{RGDP} = f(\text{GEX}, \text{GTX}) \quad (1)$$

We can also specify the above equation in an econometric form

$$\text{RGDP} = a_0 + a_1\text{GEX} + a_2\text{GTX} + U \quad (2)$$

While the log-linear function of the model is specified as thus:

$$\text{Log RGDP} = \text{Log } a_0 + a_1\text{Log GEX} + a_2\text{Log GTX} + U \quad (3)$$

Where:

RGDP = Real Gross Domestic Product

GEX = Government Expenditure

GTX = Government Tax Receipts

U = Error term or Stochastic term

3.3 Apriori Expectation

Government Expenditure (GEX): This is federal government's purchase of goods and services, government transfer payments in this model. Government expenditure is positively related to real gross domestic product, meaning that an increase in government expenditure ceteris paribus will increase investment and hence increase income via the multiplier. Apriori theoretical economic expectation is that the regression co-efficient of government expenditure (a_1) would be positive.

Government Tax Receipts (GTX): Tax is a leakage from the economy. A higher tax reduces disposable income, investment opportunities and inhibits growth of the real gross domestic product. From economic theory, the expected sign of the regression coefficient of government tax receipts (a_2) is negative.

4 Data Presentation and Analysis

Table 1: Data on Real Gross domestic Product, Government Expenditure and Government Tax Receipts from 1970 -2009

YEAR	RGDP (N million)	GEX (N million)	GTX (N million)
1970	4219.0	903.90	634.00
1971	4715.5	997.20	1168.80
1972	4892.8	1463.60	1405.00
1973	5310.0	1529.20	1695.30
1974	15919.7	2740.60	4537.40
1975	27127.0	5942.60	5514.70
1976	29146.5	7856.70	6765.90
1977	31520.3	8823.80	8042.40
1978	29212.4	8000.00	7371.00
1979	29948.0	7406.70	10912.40
1980	31546.8	14968.50	15233.50
1981	205222.1	11413.70	13290.50
1982	199685.3	11923.20	11433.70
1983	185598.1	9636.50	10508.70
1984	183563.0	9927.60	11253.30
1985	201063.3	13041.10	15050.40
1986	205971.4	16223.70	12595.80
1987	204806.5	22018.70	25380.60
1988	219875.6	27749.50	27596.70
1989	236729.6	41028.30	53870.40
1990	267550.0	60268.20	98102.40
1991	265379.1	66584.40	100991.60
1992	271365.5	92797.40	190453.20
1993	274833.3	233806.50	192769.40
1994	275450.6	160893.20	201910.80
1995	281407.4	248768.10	459987.30
1996	293745.4	337217.60	523597.00
1997	302022.5	428215.20	582811.10
1998	310890.1	487113.40	463608.80
1999	312183.5	947690.00	949187.90
2000	329178.7	701059.40	1906159.70
2001	356994.3	1018025.60	2231532.90
2002	433203.5	1018155.80	1731837.50
2003	477533.0	1225965.90	2575095.90
2004	527576.0	1426201.30	3920500.00
2005	561931.4	1822100.00	5547500.00
2006	595821.6	1938002.50	5965101.90
2007	634251.1	2450896.70	5715500.00
2008	672202.6	3240818.50	7866590.10
2009	716949.7	3456925.40	4057499.20

Sources: (i) CBN statistical bulletin 2009, (ii) Federal Bureau of Statistics, various issues

The table above shows the data for real gross domestic product (dependent variable), government expenditure and government tax receipts (independent variables) from 1970 – 2009. From the table above we can see that during 1970 – 1977, the federal government of Nigeria increased her expenditure from N903.90 million to N8823.80 million. This increase in the federal government expenditure during this period led to an increase in the real gross domestic product in the country from N4219.0 million to N31520.3 million. This increase in the federal government's expenditure can be attributed to the increase in revenue from the sale of crude oil in the international market. However, in 1978, the federal government's expenditure fell to N8000.00 million from N8823.80 million in 1977 and this consequently led to a fall in the real gross domestic product in the country from N31520.3 million in 1977 to N29212.4 million in 1978. This fall in federal government's expenditure can be attributed to the fall in the price of crude oil in the international market. Also, from the table, we can see that an increase in federal government taxes from N10508.70 million in 1983 to N11253.30 million in 1984 led to decrease in real gross domestic product from N185598.1 million in 1983 to N183563.0 million in 1984. Similarly, an increase in federal government taxes from N12595.80 million in 1986 to N25380.60 million in 1987 led to a decrease in real gross domestic product from N205971.4 million in 1986 to N204806.5 million in 1987. This further supports economic theory that tax is a leakage from the economy. A higher tax reduces disposable income, investment opportunities and inhibits growth of the real gross domestic product.

4.1 Analysis and Interpretation of Regression Result

Table 2: Regression Result (Using OLS Method)

Dependent variable : Gross Domestic Product			
Independent variables: GEX and GTX			
Variable	Coefficients	t-value	Probability
C	11.78177	123.9692	0.0000
Log (GEX)	0.038580	2.220678	0.0361
Log (GTX)	0.049090	5.362327	0.0000
$R^2 = 0.851$, Adjusted $R^2 = 0.839$, F-statistic= 68.554, and DW = 1.0748			

Source: IBM SPSS version 18

$$\text{Log RGDP} = 11.78177 + 0.038580\text{LogGEX} + 0.049090\text{LogGTX}$$

$$t \text{ stat} = (123.97) \quad (2.22) \quad (5.36)$$

$$R^2 = 0.85, \text{ Adjusted } R^2 = 0.84, \text{ F statistics} = 68.55, \text{ Durbin Watson} = 1.07$$

The analysis was estimated both in linear form and log-linear form, the linear estimation gave us a better result and was adopted for our analysis based on the goodness of fit of the regression model. From our result above, the coefficient of autonomous real gross domestic product is 11.78177, meaning that if all the independent variables in the model are held constant; the real gross domestic product in the country will rise by 11.78177.

Government expenditure appeared with the right sign; which is a positive sign and thus conforms to theoretical expectation. This implies that there is a positive relationship between real gross domestic product and government expenditure for the period under review. From our result, we observed that the coefficient of government expenditure is 0.038580, meaning that a unit increase in government expenditure would lead to a

0.038580 unit increase in real gross domestic product in the country. In percentage terms, a 10% increase in government expenditure, will lead to 0.38% increase in real gross domestic product.

Government tax receipts did not appear with the right sign; which is a negative sign; instead it appeared with a positive sign and thus, does not conform to theoretical expectation. Economic theory tells us that there is a negative relationship between government tax and real gross domestic product, but our result is showing a positive relationship between government tax and real gross domestic product. This can be attributed to the following reasons; ineffective tax administrative system, tax evasion by corporations operating in the country, corrupt practices by tax officers and government officials etc. From our result, the coefficient of government tax receipt is 0.049090, meaning that a unit increase in government tax will lead to a 0.049090 unit increase in real gross domestic product, instead of a 0.049090 unit decrease in real gross domestic product.

Our result also showed that the coefficient of multiple regression (R^2) is 0.85, meaning that 85% of the dependent variable (real gross domestic product) is explained by the independent variables (government expenditure and government tax receipts), while the other 15% is explained by factors not included in the model, but are captured by the error term for the period under review (1970-2009). This also indicates that the goodness of fit of the regression result is strong and implies that 85% variation in real gross domestic product is explained by government expenditure and government tax receipts.

The test of significance from our result showed that both government expenditure and government tax receipts were statistically significant for the period under review at 5% level of significance. This is due to the fact that their calculated t value (t_{cal}) in absolute terms is greater than their theoretical value of t (t_{tab}). For instance, the t_{cal} of government expenditure in absolute terms (2.22) is greater than the t_{tab} (1.71), implying that there is a significant relationship between government expenditure and real gross domestic product. Also, the t_{cal} of government tax receipts in absolute terms (5.36) is greater than the t_{tab} (1.71), indicating that the relationship between real gross domestic product and government tax receipts is statistically significant.

The F test, which shows the significance of the entire regression model from our result, was significant. This is due to the fact that the observed F-cal ratio (68.554) is greater than the theoretical value of F (3.40) and this further confirms the value of the R^2 .

4.2 Discussion of Findings

For this research, econometric tools were employed to verify the impact of fiscal policies on growth of the Nigerian economy for the period under review (1970-2009). From our result, we discovered the following:

1. Government expenditure which is the overall spending made by the federal government of Nigeria including on consumption of goods and services and on investment activities in the economy contributed significantly to the economic growth in the country. This is revealed by the positive value of the coefficient of government expenditure. Hence, the federal government of Nigeria has been relying on policies regarding the manipulation of her spending as one of its fiscal policies in ensuring growth of the economy. This means that if the total spending by the federal government especially on productive activities is increasing in Nigeria, there would be an increase in the real gross domestic product in the country for the period under review. When there is an increase in government's

expenditure in the country, especially on productive activities it would lead to an increase in investment opportunities. This increase in investment opportunities will lead to an increase in the demand for labour and through the transmission mechanism will lead to an increase in incomes and aggregate demand and this will stimulate the Nigerian economy and lead to economic growth.

2. Government tax receipts which is a levy by the federal government of Nigeria on products, incomes or economic activities in the country and also constitutes part of the revenue by which federal government of Nigeria finances her expenditures did not contribute significantly to the growth of the Nigerian economy. This is revealed by the wrong sign of the coefficient of government tax receipt. The coefficient of government tax receipt is supposed to appear with a negative sign; instead it appeared with a positive sign. This means that during the period under review in the country, federal government taxes on products, incomes and economic activities in the country were not effective. Thus, taxes were not an adequate source of revenue to the federal government of Nigeria; the major source of revenue for the federal government of Nigeria was from the sale of crude oil in the international market. In other words, it means that most individuals and corporate organizations in the country were not paying their taxes as at when due and this prevented the federal government of Nigeria from providing public goods and services for her citizens. Some of the factors responsible for the ugly situation include: ineffective tax administrative system, tax evasion by multinational and local corporations operating in the country, corrupt practices by tax officers and government officials etc

5 Conclusion and Recommendations

This research sets to investigate empirically the relationship between fiscal policy measures and economic growth in Nigeria from 1970 - 2009. The study shows that over the years, federal government's expenditure and tax are viable fiscal measures that ensure economic growth in Nigeria. When the federal government of Nigeria wants to stimulate growth in the economy, it increases her expenditure on investment activities and reduces taxes. From our results using the ordinary least square method of multiple regression analysis, we discovered that the federal government of Nigeria expenditure was rightly signed with real gross domestic product whereas her tax receipts were not rightly signed. The inability of federal government of Nigeria tax receipts to be rightly signed with real gross domestic product shows that the federal government of Nigeria is not getting adequate revenue from taxes. In order to correct the ugly situation, the following recommendations were suggested: there should be an overhaul of tax administration in Nigeria and regular awareness and sensitization should be done by the relevant tax authorities for Nigerians on the need to pay taxes regularly in order to generate more revenue for the economic growth; there should be a continued and sustained re-direction of more of government expenditure to productive activities in the country and to providing and creating a conducive and enabling investment environment i.e. provision of better infrastructural facilities to compliment local investment which should impact on economic productivity; strict monitoring and supervision should be enforced to ensure compliance by executors of capital projects so that funds meant for such projects are not diverted or mismanaged; the economy should be subjected to probity and accountability, consequently there should be increased surveillance and monitoring of government projects; corrupt government officials and tax officers that aid in the support of tax

evasion should be punished so as to serve as a deterrent to other government officials and tax officers. It should however be noted that for fiscal policy to have its desired impact on the Nigerian economy, it should be complemented by an effective monetary policy in the Nigerian economy.

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