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IMPACT OF GOVERNMENT EXPENDITURE ON ECONOMIC GROWTH IN NIGERIA.

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ABSTRACT: *This study investigates the effects of public expenditure in education on economic growth in Nigeria over a period from 1977 to 2012, with particular focus on disaggregated and sectoral expenditures analysis. Government expenditures are very crucial instruments for economic growth at the disposal of policy makers in developing countries like Nigeria. The objective of this study is to determine the effect of public expenditure on economic growth in Nigeria using Error Correction Model (ECM). The study used Ex-post facto research design and applied time series econometrics technique to examine the long and short run effects of public expenditure on economic growth in Nigeria. The results indicate that Total Expenditure Education is highly and statistically significant and have positive relationship on economic growth in Nigeria in the long run. The result has an important implication in terms of policy and budget implementation in Nigerian. We conclude that economic growth is clearly impacted by factors both exogenous and endogenous to the public expenditure in Nigeria. It is therefore recommended that, there is need for government to reduce its budgetary allocation to recurrent expenditure on education and place more emphasis on the capital expenditures so as to accelerate economic growth of Nigeria and that Government should direct its expenditure towards the productive sectors like education as it would reduce the cost of doing business as well as raise the standard living of poor ones in the country.*

KEYWORDS: Error Correction Model, Education, Economic Growth, Capital Expenditure, Endogenous Growth.

INTRODUCTION

Some scholars have argued that increase in government spending can be an effective tool to stimulate aggregate demand for a stagnant economy and to bring about crowed-in effects on private sector. According to Keynesian view, government could reverse economic downturns by borrowing money from the private sector and then returning the money to the private sector through various spending programs. High levels of government consumption are likely to increase employment, profitability and investment via multiplier effects on aggregate demand. Thus, government expenditure, even of a recurrent nature, can contribute positively to economic growth. On the other hand, endogenous growth models such as Barro (1990), predict that only those productive government expenditures will positively affect the long run growth rate.

In the neoclassical growth model of Solow (1956), productive government expenditure may affect the incentive to invest in human or physical capital, but in the long-run this affects only the equilibrium factor ratios, not the growth rate, although in general there will be transitional growth effects. Others have argued that increase in government expenditures may not have its intended salutary effect in developing countries, given their high and often unstable levels of public debt. The government consumption crowd-out private investments, dampens economic stimulus in short run and reduces capital accumulation in the long run. Vedder and Gallaway (1998) argued that as government expenditures grow incessantly, the law of diminishing returns begins operating and beyond some point further increase in government expenditures contributes to economic stagnation and decline.

Various empirical studies on the relationship between government expenditure and economic growth also arrived at different and even conflicting results. Some studies suggest that increase in government expenditure on socio-economic and physical infrastructures impact on long run growth rate. For instance, government expenditure on health and education raises that productivity of labour and increase the growth of national output. Similarly, expenditure on infrastructure such as road, power etc. reduces production costs, increase private sector investment and profitability of firms, thus ensuring economic growth (Barro, 1990; Barro and Sali-i-Martin, 1992; Roux, 1994; Okojie, 1995; Morrison and Schwartz, 1996). On the other hand, observations that growth in government spending, mainly based on non-productive spending is accompanied by a reduction in income growth has given rise to the hypothesis that the greater the size of government intervention the more negative is its impact on (Glomm and Ravikumar, 1997; Abu and Abdullah, 2010).

Despite the rise in government expenditure in Nigeria over these years, there are still public outcries over decaying infrastructural facilities. Also, merely few empirical studies have taken holistic examination of the effect of government expenditure on economic growth regardless of its importance for policy decisions. More so, for Nigeria to be ready in its quest to become one of the largest economies in the world by the year 2020, determining the effect of public expenditure on economic growth is a strategy to fast-track growth in the nation's economy.

A crucial question that requires an urgent answer is whether the government aggregated, disaggregated and sectoral expenditures impact positively on economic growth of Nigeria. This study attempts to provide an answer to this question by empirically estimating the effects of disaggregated and sectoral educational expenditure on economic growth in Nigeria. This study comprises section one introduction, section two review of related literature, section three is methodology and section four is conclusion and recommendation.

REVIEW OF RELATED LITERATURE

Empirical Review

A number of studies have focused on the relation between government expenditure and economic growth in developed and developing countries like Nigeria. The results varied from one study to another. Alexander (1990) applied OLS method for sample of 13 Organization for Economic Cooperation and Development (OECD) countries panel during the period ranging from 1959 to 1984. The results show, among others, that growth of government spending has significant negative impact on economic growth.

Gregorious and Ghosh (2007) made use of the heterogeneous panel data to study the impact of government expenditure on economic growth. Their results suggest that countries with large government expenditure tend to experience higher economic growth.

Devarajan and Vinay (1993) used panel data for 14 developed countries for a period ranging from 1970 to 1990 and applied the Ordinary least square method on 5-year moving average. They took various functional types of expenditure (health, education, transport, etc) as explanatory variables and found that health, transport and communication have significant positive effect while education and defense have a negative impact on economic growth.

Using panels of annual and period-averaged data for 22 Organizations for OECD countries during 1970 to 1995, Bleaney et al (2001) studied the impact of government spending on economic growth. Applying OLS and GLS methods, they found that productive public expenditures enhance economic growth, but non-productive public spending does not, in accordance with the predictions of Barro (1990) model.

Gemmell and Kneller (2001) provide empirical evidence on the impact of fiscal policy on long-run growth for European economy. Their study required that at least two of the taxation/expenditure/deficit effects must be examined simultaneously and they employ panel and time series econometric techniques, including dealing with the endogeneity of fiscal policy. Their results indicate that while some public investment spending impacts positively on economic growth, consumption and social security spending have zero or negative growth effects.

Mitchell (2005) evaluated the impact of government spending on economic performance in developed countries. He assessed the international evidence, reviewed the latest academic research, cited examples of countries that have significantly reduced government spending as a share of national output and analyzed the economic consequences of these reforms. Regardless of the methodology or model employed, he concluded that a large and growing government is not conducive to better economic performance. He further argued that reducing the size of government would lead to higher incomes and improve American's competitiveness.

Olorunfemi, (2008) studied the direction and strength of the relationship between public investment and economic growth in Nigeria, using time series data from 1975 to 2004 and observed that public expenditure impacted positively on economic growth and that there was no link between gross fixed capital formation and Gross Domestic Product. He averred that from disaggregated analysis, the result reveal that only 37.1% of government expenditure is devoted to capital expenditure while 62.9% share is to current expenditure.

Olopade and Olepade (2010) assess how fiscal and monetary policies influence economic growth and development. The essence of their study was to determine the components of government expenditure that enhance growth and development, identify those that do not and recommend those that should be cut or reduce to the barest minimum. The study employs an analytic framework based on economic models, statistical methods encompassing trends analysis and simple regression. They find no significant relationship between most of the components of expenditure and economic growth.

Abu and Abdullah (2010) investigates the relationship between government expenditure and economic growth in Nigeria from the period ranging from 1970 to 2008.They used disaggregated analysis in an attempt to unravel the impact of government expenditure on economic growth. Their results reveal that government total capital expenditure, total recurrent expenditure and Education have negative effect on economic growth. On the contrary, government expenditure on transport, communication and health result in an increase in economic growth. They recommend that government should increase both capital expenditure and recurrent expenditure including expenditure on education as well as ensure that funds meant for development on these sectors are properly utilized. They also recommend that government should encourage and increase the funding of anti-corruption agencies in order to tackle the high level of corruption found in public offices in Nigeria.

THEORETICAL FRAMEWORK

Theories of Public Expenditure and Economic Growth.

This section highlights same basic theories that have been used to support the effects of public expenditure on economic growth. Such theories amongst others are:

Musgrave Theory of Public Expenditure Growth

This theory was propounded by Musgrave as he found changes in the income elasticity of demand for public services in three ranges of per capita income. He posits that at low levels of per capita income, demand for public services tends to be very low, this is so because according to him such income is devoted to satisfying primary needs and that when per capita income starts to rise above these levels of low income, the demand for services supplied by the public sector such as health, education and transport starts to rise, thereby forcing government to increase expenditure on them. He observes that at the high levels of per capita income, typical of developed economics, the rate of public sector growth tends to fall as the more basic wants are being satisfied.

The Wagner's Law/ Theory of Increasing State Activities

Wagner's law is a principle named after the German economist Adolph Wagner (1835-1917). Wagner advanced his 'law of rising public expenditures' by analyzing trends in the growth of public expenditure and in the size of public sector. Wagner's law postulates that: (i) the extension of the functions of the states leads to an increase in public expenditure on administration and regulation of the economy; (ii) the development of modern industrial society would give rise to increasing political pressure for social progress and call for increased allowance for social consideration in the conduct of industry (iii) the rise in public expenditure will be more than proportional increase in the national income (income elastic wants) and will thus result in a relative expansion of the public sector. Musgrave and Musgrave (1988), in support of Wagner's law, opined that as progressive nations industrialize, the share of the public sector in the national economy grows continually.

The Keynesian Theory

Of all economists who discussed the relation between public expenditures and economic growth, Keynes was among the most noted with his apparently contrasting viewpoint on this relation. Keynes regards public expenditures as an exogenous factor which can be utilized as a policy instruments promote economic growth. From the Keynesian thought, public expenditure can contribute positively to economic growth. Hence, an increase in the government consumption is likely to lead to an increase in employment, profitability and

investment through multiplier effects on aggregate demand. As a result, government expenditure augments the aggregate demand, which provokes an increased output depending on expenditure multipliers.

The Solow's Theory

Robert Solow and T.W. Swan introduced the Solow's model in 1956. Their model is also known as Solow-Swan model or simply Solow model. In Solows model, other things being equal, saving/investment and population growth rates are important determinants of economic growth. Higher saving/investment rates lead to accumulation of more capital per worker and hence more output per worker. On the other hand, high population growth has a negative effect on economic growth simply because a higher fraction of saving in economies with high population growth has to go to keep the capital-labour ratio constant. In the absence of technological change & innovation, an increase in capital per worker would not be matched by a proportional increase in output per worker because of diminishing returns. Hence capital deepening would lower the rate of return on capital.

The Endogenous Growth Theory

The basic improvement of endogenous growth theory over the previous models is that it explicitly tries to model technology (that is, looks into the determinants of technology) rather than assuming it to be exogenous. Mostly, economic growth comes from technological progress, which is essentially the ability of an economic organization to utilize its productive resources more effectively over time. Much of this ability comes from the process of learning to operate newly created production facilities in a more productive way or more generally from learning to cope with rapid changes in the structure of production which industrial progress must imply (Verbeck, 2000).

MODEL SPECIFICATION

To examine the effect of public expenditure in Education on economic growth in Nigeria, we adopt the Vector Error Correction Model (VECM) approach. Bannergee (1993), Davidson and Mackinnon (1993) and Verbeck (2000) states that VECM is a derivation of autoregressive distributed lag (ADL) model. Armorur (1996) and Engert and Hendry (1998) found VECM to be a good tool for government sending and economic forecasting model.
This model therefore estimates that:

$$\mathbf{Y_t = \beta_0 + \beta_1 x_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots\ (1)}$$

Where Y_t is the real gross domestic product (RGDP), β_0 is the intercept term, β is the regression coefficient, X_t is a set of baseline explanatory variables and μ_t is the error term.
The above model was modified and estimated as follows:

RGDP = (TEDU)…(2)

$$\mathbf{Y_t = \beta_0 + \beta_1 x_t + \mu_t \ldots (3)}$$

Where Y_t = Dependent Variable (RGDP).
X = Education Expenditure
t = Time series (Annual)
β_0 = Represents the constant or intercept on Y axis.
= Is the Regression co-efficient.
= Error or disturbance term.
The equation above can be restated to carry its parameters.

$$\mathbf{RGDP_t = \beta_0 + \beta_1 INFRA + \mu_t \ldots (4)}$$

Data Presentation and Analysis

Having specified the model in the above sub-section, it is hereby estimated and presented. In the model structured, the variables used are annual time series data spinning from 1977-2012. The challenging aim of this study is to identify the individual significant of the considered variable in the model specified in the previous sub-section. Therefore the empirical data associated with this and related statistics/regression results are as stated below;

Regression Result on the effect of total government expenditure in education on Gross Domestic Product (GDP)

The general aim of this study is to identify the effect of total government expenditure in education on Gross Domestic Product (GDP). Therefore the empirical data associated with this regression results are as stated below;

GDP = f (TEDU) …….. (5)

TABLE 1: REGRESSION OF LOG(GDP) ON LOG(TEDU)

Dependent Variable: LOG(GDP)

Method: Least Squares

Sample: 1977-2012

No of observation 36

Variable	Coefficient	St.Error	t-Statistic	Prob.
C	9.665268	0.438439	22.04472	0.0000
LOG(TEDU)	0.300519	0.046635	6.444121	0.0000

R^2 = 0.661380

Source: E-views 4.1

Analysis

The equation in the second model regressed LOG(GDP) on LOG(TEDU). The coefficient of the constant term is 9.665. The sign borne by the regression coefficient of constant is positive. This implies that holding the independent variable, the GDP increases. The regression coefficient of LOG(TEDU) carries positive sign and its t-value (6.444) is statistically significant at 5% level. This implies that TEDU affects the GDP significantly. The t-value for the regression coefficient of LOG(TEDU) is significant as confirmed by the t-probability (0.0000). It is estimated from the result that 1% increase in LOG(TEDU), on the average, will lead to 0.30% increase in LOG(GDP). The computed value of R^2 = 0.564784 shows that 56.48% of the total variation in the Gross Domestic Product (GDP) is accounted for by the explanatory variable (TEDU) while 43.52% of the total variation in GDP is attributable to influence of other variables which are not included in the regression model.

This means that the regression coefficient of LOG(TEDU) is 6.444 and its P-value is 0.0000. Since the P-value (0.0000) < 0.05 (5% level of significance), we reject the null hypothesis and conclude that the level of total education expenditure has significantly effected on economic growth in Nigeria.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

In table 1 above, it was found that total government expenditure on education (TEDU) has significant effect on Gross Domestic Product (GDP). In this case, TEDU is a true parameter of measuring economic growth. The findings made is confirmed by the p-value of the regression coefficient of LOG(TEDU) which is 0.0000. Obviously, this value is less than the

0.05 (5%) level of significance. It is found from the result that 1% increase in total government expenditure on education (TEDU), will bring about an approximate increase by 0.3% increase in GDP. It is observed from this result that when government increases her expenditure on education, human skills will be enhanced and this will eventually lead to economic growth in Nigeria. It is also found that total government expenditure on education (TEDU) accounts for 66.14% of the total variation in the dependent variable (GDP).

However, only about 2% and 3% of total government revenue and oil revenue was spent on education between 1981 and 2006. The fact that proportionate volume of government finance is not directed at human capital development in the Nigeria is evident by the fact that education expenditure takes less share of government's revenue.

Recommendations

In the light of the researcher's findings, the following recommendations are presented;

1. Government should ensure that capital expenditure and recurrent expenditure are properly managed in a manner that it will raise the nation's production capacity.
2. Government should direct its expenditure towards the productive sectors like education as it would reduce the cost of doing business as well as raise the standard living of poor ones in the country.
3. Effort should be made to increase government funding on education to curtail the level of strike in our education sector and as well increase funding on anti-graft or anti-corruption agencies like the Economic and Financial Crime Commission (EFCC), and the Independent Corrupt Practices Commission (ICPC) in order to arrest and penalize those who divert and embezzle public funds.

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