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THE IMPACT OF PUBLIC SECTOR INVESTMENT ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

There is no iota of doubt regarding the level of impact that public sector investment could go in providing development for any nation considering how the provision of basic government services in recent years have been responsible for creating an additional state of wealth for better living standard. This propelled this study to investigate the impact of Public Sector Investment on Economic Growth in Nigeria. Employing secondary data from the National Bureau of statistics from 1970 to 2021 as well as the ordinary least square (OLS) regression approach and the descriptive statistics. Findings, however, showed that public investment in education and investment in road infrastructure have positive and significant

impacts on economic growth. The study established how economic growth is boosted by investment in human capital through investment in education as well as in public investment in road infrastructure. Hence, it requires urgent policy interventions in the agricultural sector to complement other sector progress to enable widespread development in the country. As this could reduce the rising figure in unemployment and inflation rate.

Keywords: Public Investment, Education, Health, and Economic growth

INTRODUCTION

In developmental economics and public sector economics, pieces of literature have come to agree with existing findings that public sector involves the part of the economy that is concerned with the provision of basic government services establishing that this provision creates an additional state of wealth for better living standard. As direct as this may appear, the composition of public sector varies by country, but in most countries that the public sector includes such services as the police, military, public roads, public transit, primary education and healthcare for the poor. The end point is channeled towards development. The public sector might provide services that non-taxpayer cannot be excluded from (such as street lighting), services which benefit all of society rather than just the individual who uses the

service (such as public education), and services that encourage equal opportunity. However, irrespective of the increasing level of privatization around the world, the public sector in the developing countries continues to employ a large percentage of the workforce. It has been suggested that public service employment has been growing about four times as fast in developing countries as in developed countries as evidenced by Kareem, Bakare, Ademoyewa and Bashir (2014).

However, in the case most developing nation like Nigeria the thought of public investment in areas of infrastructures has been considered key, given the level of crucial role capital that plays in the models of economic growth and how essential the component of aggregate demand also has considerable effect on economic activities both in the short and the long run.

Interestingly, would it have been said that the past administrators never understood that Public investment in infrastructure is essential for economic development such that it promotes factor mobility and reduces trade costs? And that this act promotes market integration among states and regions, thereby providing avenue for the reduction of price volatility and reallocation of resources in line with comparative advantage. Investments in transportation infrastructure appears to be

a major challenge to the present administration of the Nigeria government when other developing nations are already at the level of developing alternatives. Evidence has also shown that the manufacturing sector has been characterized by increasing cost of production which emanated from high tariff and increased cost of energy input.

However, it is at this point that the need for Fiscal policy now comes into play. In other words, Fiscal policy comes into play as an effort by government to enhance growth and development in Nigeria through the variation of its revenue (such as taxation) and expenditure profiles or other means and deciding on the level and pattern of expenditure for the purpose of influencing economic activities as studies have revealed.

Economic growth is an essential ingredient for sustainable development. Economic growth brings about a better standard of living of the people and this is brought about by improvements in infrastructure, health, housing, education and improvement in agricultural productivity. Sustainable development is enhanced by economic growth, however, given the importance of high productivity in boosting economic growth and the standards of living of the people, its measurement cannot but be of importance to both policymakers and

researchers.

Such have engaged government to further, implement macroeconomic policies that provide the enabling environment for agriculture to grow in equilibrium with other sectors. Aimed at affecting the profitability of agricultural enterprises and the welfare of farmers through their effects on the flow of credit and investment funds, taxes, tariffs, subsidies, and budgetary allocation, among other streamlined policies for industrialization through improved expenditure on public investment.

Despite the rise in government expenditure in Nigeria over the years, there are still public outcries over decaying infrastructural facilities and the expansion of existing infrastructures in the country. Even so, 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, yet the current economic realities in the country seems to have shown otherwise.

Despite the remarkable growth and achievements in the country, the public sector has been criticized for its major shortfalls. Similarly, some have argued that, there is no

positive correlation between public expenditure and economic growth. Thus, it was suggested that the need to research into this concept particularly within the Nigerian context with a view to ascertain the influence of public spending on economic growth. However, it has been observed

That, rising government expenditure in Nigeria has not translated to meaningful development as Nigeria still ranks among the world's poorest countries. Therefore, the specific objectives are to examine the impact of public sector spending on investment on the economic growth of Nigeria; estimate the relationship between public sector spending and economic growth and proffer recommendations based on research findings with a view to providing and enhancing public sector spending in Nigeria.

REVIEW OF RELATED LITERATURE

The relative productivity of public and private investment in less developed countries (LDCs) including Nigeria have created a huge debate in the areas of interest among researchers in recent years. This is so because 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. The findings 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.

Also, Akinmulegun and Oluwole (2014) assessed the contribution of the manufacturing sector to economic growth in Nigeria in the era of globalization. More so, that the study employed Ordinary Least Square (OLS) econometric technique and using time series data found that the Nigeria manufacturing sector benefited from globalization process, the level of the development in the sector was found to be highly negligible. Indicating that globalization exerts little impact on economic growth via manufacturing sector of the economy.

In a contrasting argument, Adewara, and Oloni (2012) analyzed the relationship between public expenditure compositions from 1960 to 2008 on economic growth using the vector Autoregressive models (VAR). The finding shows that expenditure on education has failed to enhance economic growth due to the high rate of rent-seeking in the country as well as the growing rate of

Unemployment.

In a follow-up argument, Chude and Chude (2013) investigated 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 sectorial expenditures analysis. The findings showed that Government expenditures are very crucial instruments for economic growth at the disposal of policymakers in developing countries like Nigeria and 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 findings further indicated that total expenditure on education has a significant impact on economic growth in Nigeria in the long run. Findings, however, agreed with the findings of Akinmulegun and Oluwole (2014) thereby indicating the role public expenditure play in economic growth through correlation in human capital development and also on investment.

Furthermore, Many Nigerian authors have attempted to examine the government-economic growth relationship. Fajingbesin and Odusola (1999) empirically investigated the relationship between government expenditure and

economic growth in Nigeria. Their econometric results indicated that real government capital expenditure has a significant positive influence on real output. However, the results showed that real government recurrent expenditure affects growth only by a little. Odedokun (1997) and Shioji (2001) obtain a similar result as they find that infrastructural public investment promotes economic growth. Odedokun concentrated on a sample of 48 developing countries during the period 1970-1990, while the latter study focused on 48 states in the United States over the period 1963-1967 and on 46 Japan's prefectures during the 1955-1999 periods some researchers however believe the government spending has no or negative effects on economic growth.

The work of Abu and Abdullahi (2010) in their short-run analysis of recurrent and capital expenditures, as well as government spending on agriculture, education, defence, health and transport communication sectors of the Nigerian economy obtained results that revealed that government total capital expenditure, total recurrent expenditure, and government expenditure have negative effects on economic growth.

On the contrary, the rising government expenditure on transport, communication, and health results in an increase in economic growth. Also Maku (2009)

examined the link between government spending and economic growth in Nigeria over the last three decades using time series data to analyse the Ram (1986) model and regression real GDP on private investment, and human capital investment. He tested for the presence of stationary in the variables using the Augmented Dicker Fuller (ADF) unit root test and used the co-integration test to establish the long-run relationship among variables, the Error Correction Model (ECM) was used. Empirical results showed that public and private had insignificant effects on economic growth during the review period.

Abu and Abdullahi (2010) in their study observed that rising government expenditure has not translated to meaningful development as Nigeria still ranks among the world's poorest countries. In an attempt to investigate the effect of government expenditure on economic growth, we employed a disaggregated analysis. The results reveal that government total capital expenditure (TCAP), total recurrent expenditures (TREC), and government expenditure on education (EDU) have a negative effect on economic growth. On the contrary, rising government expenditure on transport and communication (TRACO), and health (HEA) results in an increase in economic growth.

Likewise, Olugbenga and Owoye (2007) investigated the relationship between government expenditure and economic growth for a group of 30 OECD countries during the period of 1970-2005. The regression results showed the existence of a long-run relationship between government expenditure and economic growth. In addition, the authors observed a unidirectional causality from government expenditure to growth for 16 out of the countries, and government expenditure in out of 10 countries, confirming the Wagner's law. Finally, the authors found the existence of a feedback relationship between government expenditure and economic growth for a group of four countries.

Enya and Ezeali (2021)examined Public Investment in infrastructure and the Economic Growth of Nigeria. Employing econometric analysis to determine evidence of co-integration among the variables and interrogates long-run relationships among the variables under investigation. The study demonstrated that Public Investment in Technology, Educational infrastructure and power all have a positive relationship with the Economy whereas Transport has a negative relationship with the Economy. Therefore, maintained that Public Investment play important role in stimulating the Nigerian Economy.

In conclusion, the findings of research on the empirical relation between public investment and economic growth vary depending upon the models, data and countries of analysis. Hence, the argument over the impact of public investment on economic growth is ongoing and left open for more empirical debate and outcome validity.

METHODOLOGY

From the theoretical and empirical literature, reviewed on the impact of Public Investment on Nigeria's economic growth, the theoretical framework for this research work was established based on the reviews of these authors such as (Odularu 2008), (Odularu, Chinedu 2009),(Debel 2002), Therefore, the econometric tool to be adopted is the ordinary least square (OLS) method in estimating the relationship between real-GDP and the explanatory variables. The model is chosen based on its linear unbiased estimation (BLUE) properties, which has been the most general results. This is because the OLS has the following desirable properties:

1. The parameters estimates obtained by OLS have optional properties of unbiasedness, consistency, minimum variance, sufficiency, best means squares error (MSE) etc Gujarati, (2009).

2. The procedure for computing the OLS is relatively simple when compared with other econometric techniques.

Nevertheless, to estimate the study objective which is to analyze the impact of public sector Investment on economic growth in Nigeria, a simple OLS estimation approach was adopted which is expressed in a functional form as:

$$lnrgdp_{it} = (logdefen_{it} + lnedu_{it} + lnhealth_{it} + lnagric_{it} + lnrdcont_{it} + lntransport_{it} + lnothSo_{it})$$

And to state in econometric foam the function is modelled to the form below;

$$lnrgdp_{it} = \alpha_0 + \beta_1 logdefen_{it} + \beta_2 lnedu_{it} + \beta_3 lnhealth_{it} + \beta_4 lnagric_{it} + \beta_5 lnrdcont_{it} + \beta_6 lntransport_{it} + \beta_7 lnothSo_{it} + \epsilon_{it}$$

Where;

Lnrgdp=logRGDP which measures economic growth

Lndefen=logdefense which is the total public

expenditure on defense

Lnedu=logexpenditure, for total government expenditure on education sector

Lnhealth=loghealth as for the total government expenditure on the health sector

Lnagric=logagric as in total government expenditure in the agricultural sector

Lnrdcont=log total government expenditure on road infrastructure

Lntransport=log total government expenditure on transportation

Lnothso=log total government expenditure on other socioeconomic sectors

E=the error terms

While examining the trend of public investment in economic growth in Nigeria, the study employed descriptive statistics for the estimation. Hence, the estimation method used was the ordinary least square

(OLS) method of estimation. This is in recognition of the classical assumption of the linear estimation technique. The econometric software STATA 13 application is employed for estimating all parameters. The analysis of data was based on the interpretation of the significance of parameter estimates and conformity of the sign of estimate to that stipulation or a prior base.

The data collected for this study were mainly secondary data source from the central Bank of Nigeria (CBN) statistical bulletin, and the Annual Financial Report of various years, alongside the Economic and financial review of Nigeria.

RESULT PRESENTATION AND DISCUSSION

The following are the result obtained from our regression and are presented and interpreted in this chapter as follows:

Table 4.1: OLS Result outcome on the Impact of Public Sector Investment on Economic Growth in Nigeria

Source	SS	df	MS	Number of obs =	52
Model	98.0932321	7	14.0133189	Prob > F =	0.0000
Residual	15.1858213	44	.345132303	R-squared =	0.8659
				Adj R-squared =	0.8446
Total	113.279053	51	2.22115791	Root MSE =	.58748

lnrgdp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lndefence	-.2176885	.2259639	-0.96	0.341	-.6730887	.2377118
lneducatio	.7209657	.1571574	4.59	0.000	.4042357	1.037696
lnhealth	-.1370907	.2317159	-0.59	0.557	-.6040834	.3299019
lnagriclt	-.437206	.1661151	-2.63	0.012	-.7719891	-.102423
lnconstruct	.5665007	.2367186	2.39	0.021	.0894257	1.043576
lntransport	-.0288251	.2026743	-0.14	0.888	-.4372883	.379638
lnothersoci	-.0653558	.1394584	-0.47	0.642	-.3464157	.215704
_cons	8.420681	1.042973	8.07	0.000	6.318707	10.52265

Durbin-Watson d-statistic (8, 52) = 1.7254912

Source: author's computation 2022.

Table 4.1 above shows the result of the Impact of Public Sector Investment on Economic Growth in Nigeria. However, the result indicates that not all the a priori signs of the parameters were met. The outcome of the results shows that the coefficient of the constant is positive suggesting that in the absence of the explanatory variables, economic growth is positive. However, some

of the variables did not confirm the a priori statement. The coefficient of public investment in education is positive, that is; 0.7209657. This implies that a million naira increase in education increases or leads to a 72 per cent increase in economic growth using the 2-t rule of thumb at a 5 per cent level of significance.

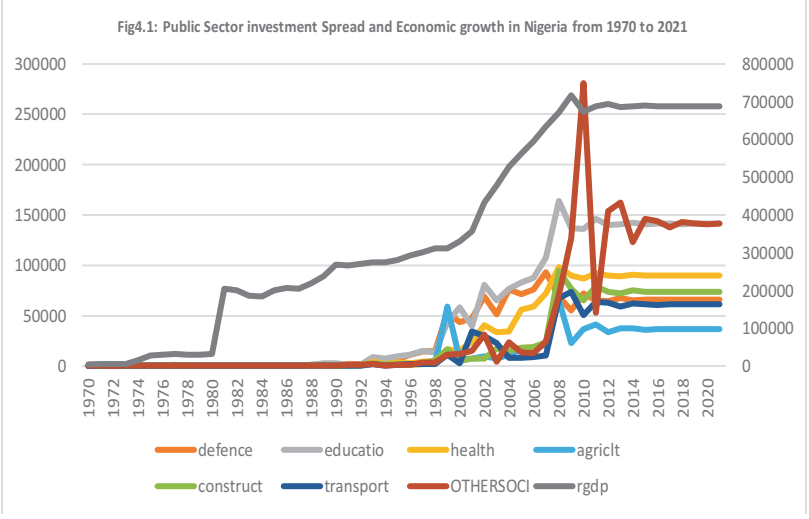
In other words, economic growth is supposed to boost as a result of investment in human capital through investment in education. The same goes for public investment in road infrastructure. The result further shows that a million naira increase in the level of public investment in road infrastructure leads to a 57 per cent increase in economic growth in Nigeria using the 2-t rule of thumb at 5 per cent level of significance. Whereas, public investment in the agricultural sector showed a decline in economic growth in Nigeria which may be attributed to the old method of factor input in the sector. For example, the result showed that a million naira

increase in the agricultural sector leads to 44 per cent decrease in economic growth using the 2-t rule of thumb at 95 per cent confidence interval or 5 per cent level of significance. This is due to the fact that government involvement in the sector seems not to have provided enabling environment for investment in the country as a way of boosting economic growth or perhaps attracting foreign direct investment and local participation of indigenous firms in the sector.

And given the coefficient of determination (R2) which is the summary measure that tells how well the sample regression line fits the data (Gujarati chapter three pg. 81). The (R2) which measures the goodness of fit" is 0.8446. This indicates that 84% of the work is explained by the independent variables while 16% is not explained. That is only about 16% of the variation in the growth rate of the economy explained by other factors not included in the model. The result of the Durbin-Watson statistic is

1.7254912 indicating that there is no auto correlation.

Fig 4.1: Trends of Public Sector Investment and Economic Growth in Nigeria



Source: author's computation 2022.

Figure 4.1 above depicts the trend of public investment and economic growth in Nigeria. The trend shows that Real Gross Domestic Product used as a proxy for economic growth has been at a steady growth rate from 1980 till 2008 when the trend showed a downward slope probably due to the economic meltdown in that year and continue on the rise again in 2010.

However, expenditures on defence, expenditure on

education, expenditure on health, expenditure on agriculture, road construction, transportation and information and communication technology have shown to be on steady growth from 1999 as evidenced on the diagram indicating that even though growth has been increasing yet these sectors only started experiencing steady growth since the return to democratic rule reflecting the reality of the economic situation in the country. This is to show that the government decision to increase its spending on these strategic sectors since 1999 has not really trickled down to affect real growth in the country.

The diagram, therefore, shows the distribution of the sector's growth path which explains the rising level of unemployment and poverty across the country due to policy issues which explains why not much progress has been recorded since the return to civil rule in the country.

CONCLUSION

This study, however, investigated the impact of Public Sector Investment on Economic Growth in Nigeria. Employing secondary data from the National Bureau of statistics from 1970 to 2021 as well as the ordinary least square (OLS) regression approach and the descriptive statistics. Findings however, showed that public

investment in education and investment in road infrastructure has a positive and significant impacts on economic growth. The study established how economic growth is boosted by investment in human capital through investment in education as well as in public investment in road infrastructure whereas, public investment in the agricultural sector showed a decline in economic growth in Nigeria which may be attributed to the old method of factor input in the sector. The finding revealed that government involvement agricultural sector seems not to have provided enabling environment for investment in the country as a way of boosting economic growth or perhaps attracting foreign direct investment and local participation of indigenous firms in the sector. Hence, requires urgent policy interventions in the agricultural sector to complement other sector progress to enable widespread development in the country. As this could reduce the rising figure in unemployment and inflation rate.

RECOMMENDATION

Government across levels should inculcate fiscal discipline by initiating far-reaching effective internal control Measures and more proactive economic management coordination and Implementation as well as discouraging all non-productive activities and

Expenditures in all tiers of government forthwith. All non-productive activities and expenditures need to be reviewed forthwith while the role of Government should be reappraised with more emphasis on providing the facilitating policy environment for private sector initiatives.

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