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DEVELOPMENT SPENDING AND POVERTY ERADICATION: LESSONS FROM NIGERIA

ABAKASANGA, Ekpo Ekefre
Department of Accountancy,
School of Business and Management
Akwa Ibom State Polytechnic, Ikot Osurua, Ikot Ekpene,
Nigeria.

ABSTRACT

The eradication of poverty occupies the first spot on the sustainable development goals agenda and the enhanced delivery of development finance is seen as a possible stimulant to its realization. This study therefore investigates development spending and the extent of its effects on poverty alleviation; with particular focus on the Nigerian scenario. It specifically assesses the effects of federal government capital expenditures on agriculture, education, health and infrastructure (works, roads and housing) on per capita income in Nigeria. Annual time series data from 1990 to 2021, obtained from the World Bank as well as the Central Bank of Nigeria Databases were utilized for the study, which were analysed using the Auto Regressive Distributed Lag (ARDL) estimation technique. The results reveal that capital expenditure on agriculture, health and infrastructure have insignificant, mainly positive, effects on per capita income while that on education has a significant negative effect on per capita income. Thus, development spending has not impacted strongly on poverty eradication in Nigeria. It is therefore recommended that the federal government should be more consistent in its capital spending on primary welfare while particularly reviewing its educational spending, especially with regards to the NEEDS assessment of educational institutions.

Keywords: Development Spending, Poverty Eradication, Agriculture, Education, Health, Infrastructure

INTRODUCTION

The overriding importance of human wellbeing informs the placement of poverty eradication as the most priority goal in the sustainable development goals (SDGs) of the United Nations. As enshrined in the 2030 Action Agenda, the complete eradication of all dimensions of poverty is critical to unlocking so much of the human potential, as thousands of people continue to lose their lives as a result of lack of access to good food and clean water (www.globalgoals.org). It is widely believed that the achievement of a more-productive and fulfilling life will be more realizable if most people across the globe can access basic needs and have greater capacity to tackle sicknesses and diseases.

Poverty, which describes those who are unable to afford up to $1.25 for their upkeep per day, is a phenomenon that has continued to plague the human race; and no meaningful socio-economic growth can be achieved without addressing the issue of poverty. Ghali (1996), cited in Ososuakpor (2012) reiterated that the thrust of development should be on the improvement of humans and enhancing their wellbeing. Consequently, this understanding has stimulated a new consensus to save the world from the clutches of poverty.

In Nigeria, several initiative and interventions have been introduced, at one time or the other, to tackle the issue of poverty, although most of them has hardly ever been successful (Aibieyi, & Dirisu, 2010). Some of these include the "Better Life for Rural Women" – pioneered by Maryam Babangida in 1987, "Poverty Alleviation Programme" (PAP) and "National Poverty Eradication Programme"

(NAPEP) – instituted under the Obasanjo's civil administration in 1999 and 2001, respectively; to mention a few. The essence of these programmes was to significantly reduce the level of poverty through the delivery of microcredit and the institution of skills development programmes.

Over the years the government has continued to channel its revenue to tackle critical sectors in a bid to achieved desired growth and development in the country. These development arise under two major categories: economic and social services. While those of economic services are mainly targeted at agriculture, roads and construction as well as transport and communication, expenditures on social services are mainly directed at education and health. Although these economic and social spending have gradually increased in the past decades, it is not quite clear the extent of its effect on poverty eradication. This is mainly because the impact of such development spending have rarely been weighed against poverty level in Nigeria.

Although, there has been quite a handful of empirical literature on government expenditure and poverty eradication in Nigeria, but almost all of these studies have examined government expenditure generally. This study deviates from the previous studies by examining purely development spending of the government and the extent to which they have contributed to poverty eradication in Nigeria.

Literature Review

The word "poverty" is expressed to mean a situation in which cannot afford the minimal level of basic needs, necessary for sustenance and wellbeing. It refers to a condition in which a person is unable to acquire the basic human needs. As noted by David (1981) "a poverty-stricken person is poor in comparison with a majority of others in his society but his level of living usually does not constitute an immediate threat to life and or health". "Poverty is seen as an essential condition in which an individual lacks the skills and the techno-material where with all to produce to sustain a living above poverty" (Guardian, 1999). Thus, most interventions, such as the NAPEP, are specifically driven towards providing the necessary assistance that enables most of the poor people to be able to live a better life in which they can at least afford basic necessities. It is therefore, desired that the multi-prong approach to the epidemic is appropriate. The issue of poverty is simply viewed by Hornby, (2001) as "a state of being poor or a state of social, economic and political inferiority". In the same vein, Miller (1977) defines poverty in terms of individual or family insufficiency of assets, income and public service. He went further to state that "poverty is also lack of certain capabilities, such as being able to participate with dignity in society". The capabilities are absolute, but the commodities needed are relative. Mencher, (1977) says that "poverty is a condition of having an income incompatible with a society's national objectives".

Development Spending

Developing spending is a term that that can be used interchangeably as development expenditure, and it is any form of expenditure that is expended to improve development, be it social, mental or economic. In Nigeria, development spending is situate under two categories of expenditure: social and economic expenditure. Social expenditure refers to expenditures that are targeted at education, health and other social and community services; whereas agriculture, roads and construction as well as transport and communication fall under the economic expenditure.

Theoretical Framework

Wagner's Law

The "law of increasing expansion of public and particularly state activities", popularly referred to as "Wagner's law", is one of the earlier theories which tried to explain the rationale behind government

spending, was put together by Adolph Wagner in 1876. The theory precipitates on the fact that the level of economic growth determine the level of government spending. According to Wagner, "social progress has led to increasing state activity with resultant increase in public expenditure". One of the underlying propositions of the theory was that government proportion of spending will increase by the proportion which per capita income increases.

By virtue of Wagner's law, government spending is geared towards the improvement of the social and economic welfare, which can be captured by the per capita income, which incidentally is a metric for assessing poverty level. An increase in per capita income suggests an improvement in the welfare of the citizenry, which translates into greater social and economic development. Given this scenario, it is expected that the thrust of government spending in Nigeria should be to enhance human welfare, which accentuates the many programmes and interventions of the government in its bid to reduce or possibly eliminate it. By targeting agriculture, education, health and infrastructure, it is believed that government sets the stage for enhanced and sustained growth and development, socially and economically.

Empirical Review

Osundina, Ebere, and Osundina (2014) assessed the impact of government disaggregated infrastructural spending and the extent to which they have reduced the level of poverty in Nigeria. They examined the effects of government spending on building and construction, transportation, education and health on per capita income (PCI) in Nigeria from 1970 to 2012. Applying the Vector Autoregressive Model, they found significant positive and negative effects of building and construction as well as transportation on PCI, respectively. On the other hand, educational and health spending had insignificant negative and positive effects on PCI, respectively.

Sunkanmi, and Abayomi (2014) examined the extent of the effect of government expenditure on the alleviation of poverty in Nigeria between 1975 and 2010. The result of the regression analysis, powered by the Fully Modified Ordinary Least Square (FMOLS) analytical technique, revealed that educational, targeted poverty alleviating, power and roads expenditures are significant in alleviating poverty in Nigeria.

Ozoana (2013) also examined the extent of government agricultural, educational, health, and other spending on poverty level in Nigeria. The study, which covered the period from 1980 to 2011, employed the multiple regression technique and found that only public spending on agriculture significantly influenced poverty level in Nigeria, though directly while spending on education and health had indirect but insignificant effect on poverty level.

Enyim (2013) investigated the government spending-poverty alleviation nexus in Nigeria. The study set out to ascertain the extent of government spending on agriculture and agricultural guarantee on Nigeria's poverty level between 1980 and 2009. Using the least square regression estimation model, the study showed that government agriculture spending has strong but none-alleviating influences on poverty level in Nigeria.

Omodero (2019) explored the link between government expenditure and the quest for alleviating poverty in Nigeria within the 18-year period from 2000 to 2017. The result of the OLS estimation revealed that government spending, particularly on agriculture, education, and health does not significantly affect poverty level in Nigeria.

Memon, Panhwar, and Rohrra (2014) examined development expenditure and economic development in Pakistan. This study was conducted in the light of fiscal plan of Pakistan and secondary data was used from State Bank of Pakistan and Ministry of Finance for year 2000-01 to

2009-10 and linear regression was applied for checking the above said impact, and concluded that the value of R-square which states that all six independent variables of economic development are rightly predicting the development expenditure while using general approach but when we used the stepwise regression method which clearly escaping or leaving three of them and only using remaining three variables namely Health & Nutrition, Exports, and Imports are rightly predicting the development expenditure (Dependent Variable) and states that Health & Nutrition Expenditure is negatively related with development expenditure which is purely policy matter, and Exports, Imports are positively related with development expenditure it is right in the case of exports only but needs serious attention by the policymakers in the case of Imports.

Methodology

This study employs time series data, obtained from the CBN and World Bank databases from the period of 1990 to 2021, which were analysed using the Auto Regressive Distributed Lag (ARDL) model. The model for the study is specified as:

$$PCI = f(CEAGR, CEEDU, CEHLT, CEWHR) \quad (1)$$

This is further expressed econometrically as:

$$PCI = \beta_0 + \beta_1 CEAGR + \beta_2 CEEDU + \beta_3 CEHLT + \beta_4 CEWHR + \mu \quad (2)$$

Where PCI = Per capita income (measured as annual percentage change),

CEAGR = capital expenditure on agriculture = (measured as percentage of CEAGR to TGCE = Total government capital expenditure)

CEEDU = capital expenditure on education = (measured as percentage of CEEDU to TGCE)

CEHLT = capital expenditure on health = (measured as percentage of CEHLT to TGCE)

CEWHR = capital expenditure on works, housing and roads = (measured as percentage of CEWHR to TGCE)

β_0 = Intercept, β_1, β_2 = Slope of the regression, and μ = Error term. Also by a priori, β_1, β_2, β_3, $\beta_4 > 0$.

Results and Discussion

Table 1 Descriptive Statistics

	CEAGR	CEEDU	CEHLT	CEWHR	PCI
Mean	5.086250	16.72724	9.734171	8.400946	21.97209
Median	3.255000	14.29878	8.638537	6.264651	18.22397
Maximum	30.39000	43.85783	23.46789	40.21681	66.85944
Minimum	-29.41000	2.753867	1.817160	1.641266	0.098703
Std. Dev.	13.16918	10.46806	5.784375	7.970003	16.19066
Skewness	-0.359803	0.821441	0.625076	2.690414	0.952907
Kurtosis	3.044961	3.002161	2.447679	10.42107	3.565241
Jarque-Bera	0.693139	3.598750	2.490582	112.0341	5.268832
Probability	0.707110	0.165402	0.287857	0.000000	0.071761
Sum	162.7600	535.2716	311.4935	268.8303	703.1069
Sum Sq. Dev.	5376.250	3396.990	1037.229	1969.149	8126.262
Observations	32	32	32	32	32

Source: Author's Computation using Eviews 10

Table 2: ADF Unit Root Test

Variables		t-statistic	Critical value (0.05)	Prob.	Order of Integration
CEAGR	Level	-3.212347	-2.960411	0.0288	*I*(0)
CEEDU	Level	-3.366138	-2.960411	0.0202	*I*(0)
CEHLT	Level	-2.625223	-2.960411	0.0988	*I*(1)
	1st Difference	-5.144868	-2.963972	0.0002	
CEWHR	Level	-2.129969	-2.960411	0.2349	*I*(1)
	1st Difference	-7.051734	-2.963972	0.0000	
PCI	Level	-2.542699	-2.960411	0.1156	*I*(1)
	1st Difference	-6.312823	-2.971853	0.0000	

Source: Researcher's Computation using E-views 10

Table 3: VIF Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
CEAGR	0.092884	8.017544	2.205197
CEEDU	0.216406	6.154691	1.568754
CEHLT	0.190029	5.614652	2.615230
CEWHR	0.030989	5.105842	1.759976
C	23.85312	5.334660	NA

Source: Researcher's Computation using E-views 10

Table 4: ARDL Bounds Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CEAGR1	0.431351	1.051405	0.410262	0.6854
CEEDU1	0.257429	1.865604	0.137987	0.8915
CEHLT1	-0.264485	1.519570	-0.174052	0.8633
CEWHR1	-0.109644	0.587231	-0.186714	0.8535

EC = PCI - (0.4314*CEAGR + 0.2574*CEEDU -
0.2645*CEHLT -0.1096*CEWHR)

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Signif.	I(0)	I(1)
			Finite Sample: n=35	
F-statistic	1.374708	10%	2.696	3.898
K	4	5%	3.276	4.63
Actual Sample Size	31	1%	4.59	6.368

Source: Author's Computation using Eviews 10

Table 5: ARDL Short run Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
PCI(-1)	0.657331	0.166308	3.952492	0.0006
CEAGR	0.147811	0.368261	0.401375	0.6918
CEEDU	-0.985392	0.424135	-2.323300	0.0294
CEEDU(-1)	1.073605	0.581862	1.845118	0.0779
CEHLT	0.643076	0.400762	1.604634	0.1222
CEHLT1-1)	-0.733706	0.379039	-1.935702	0.0653
CEWHR	-0.037572	0.207003	-0.181504	0.8576
C	0.250400	5.342460	0.046870	0.9630

R-squared	0.591669	Mean dependent var	5.191613
Adjusted R-squared	0.467395	S.D. dependent var	13.37315
S.E. of regression	9.759702	Akaike info criterion	7.612037
Sum squared resid	2190.791	Schwarz criterion	7.982098
Log likelihood	-109.9866	Hannan-Quinn criter.	7.732668
F-statistic	4.760985	Durbin-Watson stat	2.027129
Prob(F-statistic)	0.001994		

Source: Author's Computation using Eviews 10

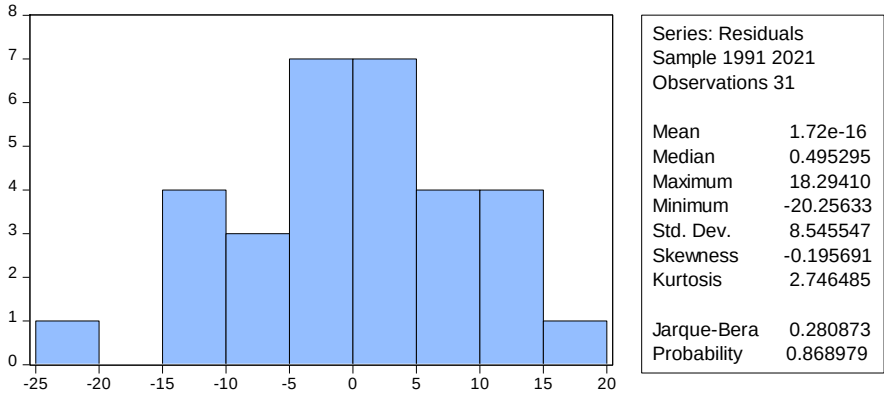

Figure 1: Histogram Normality Test
Source: Author's Computation using Eviews 10

Table 6: Serial Correlation Test

F-statistic	0.125959	Prob. F(2,21)	0.8823
Obs*R-squared	0.367470	Prob. Chi-Square(2)	0.8322

Source: Author's Computation using Eviews 10
Table 7: Heteroskedasticity Test

F-statistic	0.697842	Prob. F(7,23)	0.6735
Obs*R-squared	5.430597	Prob. Chi-Square(7)	0.6076
Scaled explained SS	2.610446	Prob. Chi-Square(7)	0.9186

Source: Author's Computation using Eviews 10
Table 8: Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
CEAGR does not Granger Cause PCI	30	0.11205	0.8944
PCI does not Granger Cause CEAGR		0.31696	0.7312
CEEDU does not Granger Cause PCI	30	0.82801	0.4485
PCI does not Granger Cause CEEDU		0.01205	0.9880
CEHLT does not Granger Cause PCI	30	0.02204	0.9782
PCI does not Granger Cause CEHLT		1.22218	0.3116
CEWHR does not Granger Cause PCI	30	0.21132	0.8109
PCI does not Granger Cause CEWHR		0.80454	0.4585

Source: Author's Computation using Eviews 10

The descriptive statistics in Table 1 show that about 5.1%, 16.7%, 9.7%, and 8.4% of total capital expenditure, on the average, are spent annually on agriculture, education, health, as well as Works, housing and roads construction, respectively; while PCI changes annually by an average of about 22%. The high standard deviation statistics also suggests that these spending are largely inconsistent over the period while the Jarque-Bera statistics reveal that all the variables are normally distributed, except CEWHR. In Table 2, the VIF loadings for the variables are all less than 3.0, which indicate that there is absence of multi co-linearity in the variables modelled. The unit root test in Table 3 reveal that CEAGR and CEEDU are integrated at level (*I*/0) whereas CEHLT, CEWHR and PCI are integrated at their first differences. Furthermore, the Bounds test in Table 4 shows an F-statistic of 1.375, which is lower than the 5% critical value of 4.63, suggesting unlikelihood of cointegration among the variables. On the other hand, the ARDL short run results in Table 5 indicate that 46.7% of the variations in PCI are absolutely explained by the independent variables while the F-statistic and probability value of 4.76 and 0.002 reveal a good fit of the model. In addition, only CEEDU significantly influences PCI at 5% level. The validity of the result in Table 5 were upheld by the normality, serial correlation and heteroskedasticity tests in Figure 1 and Tables 6 and 7. Lastly the Granger causality test in Table 8 showed that there were no causal relations between the variables in the research model.

Discussion of Findings

From the results in Table 5, PCI (-1) is positive and significant at 5% level, implying that previous levels of can significantly enhance future level. More so, CEAGR has insignificant positive effect on PCI, which is consistent with the a priori expectation. This buttresses Omodero (2019) and implies that an increase in the capital allocation to agriculture can reduce poverty. This is because the agricultural sector still provides meaningful employment to most persons in the country, thus, government spending on the sector has the capability to improve welfare, though not significantly. Contrastingly, CEEDU exerted a significant negative effect on PCI, which is inconsistent with the a priori expectation, implying that government spending on education has not contributed positively to poverty eradication in Nigeria. The result is similar to Osundina, et al (2014) as well as Ozoana (2013), who found an insignificant negative effect of health on poverty in Nigeria. This could probably be as a result of the continuing conflict between the Federal Government and labour unions of educational institutions (such as ASUU and ASUP) over lack of implementation of various agreements between the duo; including that of NEEDS assessment. However, CCEDU was also found to be positive but weakly significant in its one-period lag, which also indicates that such spending can stimulate improvement in welfare.

In the case of health expenditure, an insignificant positive influence on PCI was observed, though the one-period lag exerted an insignificant negative effect on PCI. Osundina, et al (2014) also found an insignificant positive effect of health on poverty while Omodero (2019) established that health expenditure does not significantly affect poverty level in Nigeria This implies that government spending on the health sector has not impacted strongly on per capita income. This may probably be due to the low capital investment on the sector as well as due to inconsistencies in such allocations over the years. Lastly, infrastructure spending (expenditure on works, housing and roads) has insignificant negative effect on PCI. This differs from Osundina, et al (2014) who found a significant positive effect of building and construction on poverty. The lack of sustainability in government spending as well as the insufficiency of such spending may largely be responsible for such negative

contribution.

Osundina, Ebere, and Osundina (2014) assessed the impact of government disaggregated infrastructural spending and the extent to which they have reduced the level of poverty in Nigeria. Applying the Vector Autoregressive Model, they found significant positive and negative effects of building and construction as well as transportation on PCI, respectively. On the other hand, educational and health spending had insignificant negative and positive effects on PCI, respectively.

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that government development spending has not had the desired impact on poverty eradication in Nigeria. While government spending on agriculture and health have exerted positive influences on per capital income (proxy for poverty level), those of education and infrastructure (works, housing, and roads) have contributed negatively but only that of education has strong, howbeit negative effect on per capita income. Thus, the study recommends a more consistent capital allocation strategy or pattern for key primary welfare sectors (as captured in this study). That is government should allocate a fixed proportion of its capital budget on each of these sectors. More so, the Federal Government should review its agreements with the likes of ASUU and ASUP, so as to create the needed goodwill that can enhance the sector's contribution to poverty eradication in the country.

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