INFRASTRUCTURAL FINANCING AND NATIONAL DEVELOPMENT IN NIGERIA 1999-2020: ANY NEXUS?

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Abstract

Infrastructural financing and its possible implications on the socio-economic well-being of the citizens have become a major concern among policy analysts and economists in recent years. This research work examined the infrastructural financing pattern of Nigeria over a decade of her return to the fourth republic and its implications on her national development. The study utilized time series secondary data sourced from Central Bank Statistical Bulletin and World Development Indicators. The data was analyzed using ordinary linear square (OLS) and furthered with the nonlinear connection among the variables using the system GMM. The final analysis before the diagnostic test was the robustness check using the GLS to confirm the validity of the results obtained with system GMM. The result showed that growth in road construction, education expenditure, health expenditure, administration expenditure, social expenditure, and economic services could account for approximately a 65% fall in the unemployment rate. The study established that infrastructure finance in respect of road, health, education, administration social and economic services of government could be used to reduce unemployment and poverty levels and engender overall national development of Nigeria. The implication, therefore, is that the quantum of economic growth which propels national development could be raised by infrastructure finance in Nigeria. It was recommended that there is a strong need for the government to develop a well-structured framework for a sustainable infrastructural development financing plan to engender desirable growth and development.

Keywords: Infrastructure, Financing, Development, Poverty, Nation.

1. Introduction

Infrastructural financing and its possible implications across the various sector of the economy has attracted concerns since Nigeria's return to the fourth republic in 1999. According to Sanusi (2012), most policy discussions in both developed and developing countries feature prominently how infrastructure

financing could promote facets of development. The reason for this is the fact that infrastructure financing remains a key channel through which the presence of government can be felt and a strong indication for measuring the performance of the government. Since the existence of government is hinged on the need for provision of public goods which are far beyond the capacity and capability of individual citizens to achieve, then, infrastructural development is a catalyst for ensuring that government discharges its responsibilities as expected (Siyan, Eremionkhale, & Makwe 2015).

Infrastructure is key to accelerating economy growth and development as well as ensuring increase in standard of living of the masses through multiplier effect. Infrastructure projects typically involve huge investment outlays which are translated subsequently into tangible resources that are used for the creation of economic and social services both in the short and long-run. Similarly, provision of infrastructure is generally complex task which requires conscious effort and political will of the government, especially, in determining where and how such investment in long term project can be deployed. In this regard, Oyedele (2012) noted that desirable level of expertise, resources, deliberate effort, and conscious willingness are required in achieving infrastructural development. Government can finance public infrastructure in various ways like public private partnership, loans from domestic and external institutions, budgetary allocation, and grants from the international community.

The importance of infrastructure in any economy is clear in the way the well being of the economy is affected by its deficit or deplorable state. Billions of naira has been budgeted by successive governments in Nigeria for infrastructure as capital expenditure in the Appropriation Act. A lot of money has been borrowed through our multilateral and bilateral agreements with China and other foreign creditors to finance infrastructure which is very critical for accelerating infrastructure development, improve national development and standard of living of the people (Sawada, 2015).

The country's infrastructure sector is grossly underdeveloped with large sections of the population lacking access to basic infrastructure except for some major cities in Nigeria. Unavailability of basic social amenities in the large section of the country has made life and operating of business activities difficult for the citizens. Studies have established that in order for a country to attain desired economic prosperity, fiscal policy, especially, government spendings on infrastructure should be pursued (Obudah & Tombofa, 2013; Apere, 2014). Infrastructural financing is thus a key tool for engendering income redistribution, employment generation and poverty reduction (Nwaeze, 2019). Studies on the effect of infrastructural financing on the overall national development of a country are inexhaustible. This is because, there are many channels through which government expenditure could influence development. Most of the studies on the nexus between

infrastructural financing and development have largely focused economic growth analysis (Obademi, 2012; Obudah & Tombofa, 2013; Apere, 2014). The literature on the government expenditure on development, particularly, poverty reduction, has given rise to a number of studies focusing on the expansionary impact of fiscal actions (Benos, 2009; Malush, 2013). The direction and degree of relationship between government spendings on infrastructure and development has continued to generate series of debate among scholars (Nwaeze, 2019). This study therefore examines the effect of infrastructural financing on national development in Nigeria.

Review of Literature

Concept of Infrastructure

Different perspectives exist in the conceptualization of infrastructure. Hence, there is hardly any standard definition across all studies for infrastructure. Economically, as noted by Torrisi (2009), distinction could be made between infrastructure (road, education, health) and superstructure (in terms of manufacturing, and mining activities).

According to Fourie (2006), infrastructure could entail all elements which are associated with rendering services to the public such as transport, communications, education, energy, and water supply. Going by this perspective, infrastructure is regarded as capital goods that produce public services to the citizens. infrastructure is distinguished with two main features which include "non-excludability" (which is for all) and "positive externalities" (which tailored towards beneficial effect) (Fedderke & Garlick, 2008). Although, the degree at which infrastructure may reflect these two main features differs, or even in some instances, may not reflect these attributes. There could be public goods that are not essentially physical structure, for example, we have military equipment. There may also be private owned infrastructure which may not necessarily be subjected to such features of infrastructure such as non-excludability (Fourie, 2006).

In another instance, infrastructure is viewed as:

> the sum of material, institutional and personal facilities and data which are available to the economic agents, and which contribute to realizing the equalization of the remuneration of comparable inputs in the case of a suitable allocation of resources, that is complete integration and maximum level of economic activities (Torrisi, 2009, p.100).

As argued by Baskakova and Malafeev (2017:3), infrastructure is characterized with three qualities: "technological, economic (source of external economies, public or merit good and source of external effects) and institutional (infrastructure goods and services as an object of state provision control)". Hence, infrastructure is chiefly viewed based on its capability to

enliven and activate the agents' capabilities. According to IMF (2015), investment in infrastructure is regarded as the overall expenditure on "public gross fixed capital formation" (GFCF)

Truger (2015) using the lens of the "golden rule of public investment" referred to infrastructural investment as government expenditures channeled into developing infrastructures that will generate positive impacts on the economy by fostering economic growth. However, Välilä and Mehrotra (2005) tries to conceptually distinguish between "infrastructure investments" and "public investment" as these two terms are often quite misunderstood and misplaced. The authors note that though, a large chunk of public investment go for infrastructure investment, however, it may be wrong to say that all infrastructural investments are public investment, and this is logically so since commercial entities have equally been known with the provision of infrastructure in recent time, especially, in lieu of tax liabilities.

Infrastructure Financing

This is concerned with spending either directly or indirectly in the procurement of infrastructure. The utmost concern on developing infrastructure across the globe has made it imperative to consider sourcing for finance a key issue. Traditionally, infrastructure projects are solely financed by the public sector (i.e. the government) in most countries, since the provision of infrastructure is a public service provision and it is among the "three duties" Adam Smith (1776) attributed to the government for its citizen. Whereas, in most developing countries especially African countries, infrastructure development is financed by the public sector and from foreign borrowings or private finance sourced from abroad (i.e. international private investors) (Irving & Manroth, 2009).

Infrastructure financing thus entails the sustained investment by the government on infrastructural facilities. This investment is characterized by "lumpiness" (technical indivisibilities) as well as by a high capital-output ratio (provided the output is at all measurable) (Rabiu, 2017). Lumpiness in the provision of infrastructural investment is at the heart of the challenge of urban development. For example, the provision of potable water supply has many components that must be done at the same time for the investments to be realized. This includes the sourcing/collection and storage of the raw water, treatment and distribution.

Review of Empirical Studies

Studies have though been conducted on issues of national development in developing countries, very few studies have however focused on the essence of infrastructure in engendering national development. To attain the desired macroeconomic objectives, fiscal policy especially government spending has been found, and widely recognized as a potent tool for enhancing growth, redistributing income, generating employment, and reducing poverty

especially for developing countries (Bourguignon, 2004; Islam, 2004; Hull 2009; Obudah and Tombofa, 2013; Apere, 2014). However, empirical studies on the effect of government infrastructural financing on unemployment are very scanty and not comprehensive. Review of studies on individual sectoral financing of infrastructure vis a vis national development is presented as follow:

Education and National Development

One of the major areas of interest to policy makers is the potential implications of educational financing on the overall national development of a country, and more particularly, the unemployment level of a country. Agboola, Musa and Ibraim (2018) opines that there is usually a major controversy among many analysts and policy makers regarding the extent at which educational financing can propel unemployment and poverty reduction in a country. While most of the available studies on educational financing and national development nexus show positive and significant relationship, few however, interrogated the structure of education financing that can propel desirable development.

For instance, Obi and Obi (2014) in their study on educational financing and development nexus in Nepa, between 1995 and 2013, documented a long run relationship between the two variables, through the application of Johansen Cointegration technique. Their study further showed that, financing of secondary and higher education significantly contributes the Per Capita income which is an indication of increase in employment rate in Nepal. Similar result was contained in the study of Chude and Chude (2013) also in their study on public expenditure on education and its impact on the economy of Nigeria. It was documented using time series analysis of data obtained from Central Bank of Nigeria, NBS and the World Bank, that public expenditure on education has a significant influence on the growth of economy and overall national development when measured in terms of poverty and unemployment.

In the same vein, the implication of education expenditure on the livelihood of the people and the desired socio-economic change needed in Nigeria was investigated by Odeleye (2012). The author, applied Johansen's co-integration analysis and ordinary least square (OLS) econometric techniques to time series data obtained from Central Bank of Nigeria covering the period of 1981 to 2012 and submitted that a positive significant relationship exists between recurrent expenditure on education and the livelihood of the people. The positive and significant relation between education financing and national development is not unexpected. This is because, education is expected to increase the productive capacity of the learners and equip them with the wherewithal to improve their living standard. These studies reviewed in this regard have however focused on education financing alone without being combined with other sectoral financing and this could have possibly influenced their results.

Road Transportation Financing and National Development

In their study, Siyan, Eremionkhale and Makwe (2015) explored the nexus between road transportation projects and economic growth of Nigeria. using Probit model and multivariate model for primary and secondary data analysis respectively, they were able to show the existence of long run and significant relationship between road transportation project and growth in the economy within the studied period.

In the same vein, public sector investment, particularly, on transportation was examined in relation to Nigeria' economic growth by Oyesiku, Onakoya and Folawewo (2013). The authors utilized various econometric analysis such as the endogenous growth model with the Ordinary Least Squares (OLS) estimation technique. Their study revealed that transportation financing has been greatly inadequate in the country and this has resulted to sluggish growth in Nigeria's economy. They therefore argued for substantial increase in government funding of transportation sector of the economy to ensure substantial growth in the economy. Their submission aligns very closely with those of Adebosin, George, Salami, and Saula (2019) on the essence of investing in transportation infrastructure to stimulate growth of the economy. Perhaps, this could have influenced the very significant focus of the Buhari administration on rail transportation and the Lagos State government massive investment in rail transportation very recently.

Healthcare financing and National Development

It is on record that overall development of a nation depends largely on the abundance of human capital stock available in the country which in turn is influenced by health and education status. Ibukun and Osinubi (2020), while focusing on health expenditure relationship with economic prosperity of Nigeria, established that positive and significant relationship exists health expenditure, environmental quality, and national development. Their study concluded that health is a necessity good and emphasized the need for increase in government financing on health to accelerate overall living condition of the people. In the same vein, Byaro et al. (2018) emphasis on the drivers of per capital income of the people and established that increase in health expenditure contributes very significantly to the growth in the overall livelihood of the people. Their study focuses on public health expenditure in Tanzania using time series data covering 1995 and 2014. The authors also established that government healthcare financing exerts a positive and significant effect on the growth in per capital income and overall reduction in poverty of the people. Olayiwola et al (2021) therefore concluded that por healthcare financing will negatively affect the income level and productivity of the people. Oluwatoyin, et al (2015) also maintained that countries whose healthcare financing is low relate to low productivity rates across all the

sectors and overall national development. The same study found out that health expenditure compliments economic growth and any attempt to re-allocate health labour force to other sectors of the economy may negatively hinder the growth of the economy.

Social Spendings and National Development

Furceri and Zdzienicka (2010) in their study of public social spending and economic activity nexus among the OECD countries revealed that social spending has expansionary effects on GDP. More specifically, it was established that by increasing social spending by 1%, there will be a consequential increase in the livelihood of the people by 0.1 percent. These authors equally established that among the classes of social spending, that have positive and significant implications on livelihood, health and unemployment benefits have a larger effect on the living conditions of people. This follows the submission in Haini (2020) who equally shows that expenditures on health and education across provinces in China from 1996 until 2015 enhanced the growth in economy and livelihood of the people.

In a similar study, the influence of infrastructural development on the growth of the economy was studied by Merus (2015). In this study, econometric techniques of ordinary least square and granger causality test were conducted on time series data covering 1983 and 2013, obtained from various sources. His findings revealed that gross fixed capital formation which was used to proxy infrastructure development was positively and significantly related to the growth of the economy proxied by gross domestic product within the period.

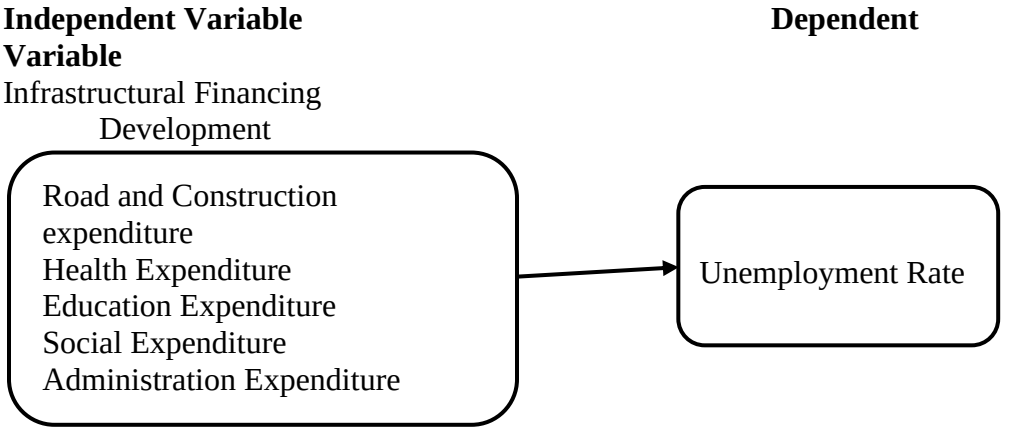
Araloyin and Balogun (2018) conducted a comparative study of infrastructure finance system focusing on three developing countries including India, Brazil, and Chile with the aim of extracting lessons for Nigeria. After review of models of infrastructural financing in these studied countries, the authors established that the model of infrastructural financing in Nigeria is like what exist in India and Brazil, where the government play dominant roles in the procurement of infrastructure.

However, a holistic overview of infrastructure financing which cuts across various sector including transport, education and health infrastructure and the consequential effect on the national development is scarcely reflected in most of the available literature; hence, this study.

Conceptual Framework

The following diagram presents the purposive interconnectivity of infrastructure financing and national development. Infrastructural financing is the independent variable, and it is being proxied with education expenditure, road and construction expenditure, social expenditure, administration expenditure and economic expenditure. National development is the

dependent variable which is being proxied by the level of unemployment in the country, due to its multidimensional nature, while poverty as intervene variable.



Source: Researcher (2021)

There are scant studies on the infrastructure financing and development in Nigeria. The research gap between the current study and past studies is that some of the past studies have been done for some years which does not take into consideration current reality in respect to the development in Nigeria. The current research study incorporates important government spending on infrastructure such as economic expenditure, social expenditure, road and construction expenditure, health expenditure and education expenditure. Most of studies relating to this study adopted gross domestic product as their measurement of dependent variable beside the national development. This study measures the national development by unemployment level.

Theoretical Framework

This study is anchored on modernization theory which is one of the four main theories for explaining the development and its associated issues according to Reyes (2001). Modernization theory originated from the German Max Weber. The theory focuses on the explanation of country's internal factors such as production capacity, fiscal policy measures, and income levels as key measures for engendering development in the country.

Accordingly, five phases of modernization in development have been established. These include the traditional society which is characterized with low technological development that imposes limitation to the growth of the production (Okereke & Ekpe, 2002). The second is the pre-take off to development wherein traditional society sheds off its features with noticeable growth in production through improved infrastructure. The third stage is take-off stage which is noted with its increase in industrialization facilitated by

investment in technological infrastructure. Maturity stage and mass consumption stage feature the replacement of old technology with new ones and increase in satisfaction of the people to the structural changes in the society respectively. In essence, this theory provides the framework for investment in infrastructure as the basis for ensuring desirable development.
Although, modernization theory has been disparaged for its hypothesis that development can only be unilinear, unidirectional and an imitation of the West, especially a unilinear model of development, which is essentially based on the experiences of Britain and America. The theory however encapsulates the proportional templates that highlight the relevant stages of development and the desirable investment in infrastructure which propels desirable level of development.

Methodology
For this study, ex-post factor was adopted, it involves the generation and utilization of numerical data that have been so calculated or generated by other sources. The data obtained for this study was mainly from secondary source of data and the study utilized time series data from 1999-2019. Central Bank of Nigeria Statistical Bulletin and United Nations Development Programme (UNDP) are the two sources consulted in order to obtain data for the study.

In this study, there is infrastructural financing which represent independent variable are proxied with Road financing, railway financing and health financing while dependent variable is represented with unemployment level.
$UNEP= \beta_0 + \beta_1 RDCEx + \beta_2 EDUEx + \beta_3 HLTEx + \beta_4 ADMEx + \beta_5 SOCEx + \beta_6 ECOEx + \beta_7 PVR + \varepsilon$
Where: UNEP: Unemployment, β_0= Constant Parameter, RDCEx = Road and Construction Expenditure, EDUEx= Education Expenditure, HLTEx =Health Expenditure, ADMEx = Administration Expenditure, ECOEx = Economic Expenditure, SOCEx = Social Expenditure, PVR = Poverty Rate, and ε = Error Term. During the study, both descriptive and inferential analysis were adopted to analyze the variables in involved.

Results
This section is concerned with the presentation and analysis of the data collected from the World Bank data bank on unemployment and seven (7) other world development indicators (WDI) namely: Road and construction expenditure (RDCEx), Education Expenditure (EDUEx), Health Expenditure (HLTEx), Administration Expenditure (ADMEx), Economic Expenditure (ECOEx), Social Expenditure (SOCEx) and Povert Expenditure (PVR). These indicators were used to formulate an econometric model of unemployment in Nigeria. The Time Series data for Nigeria is presented in Time Plots as shown in figures in the below.

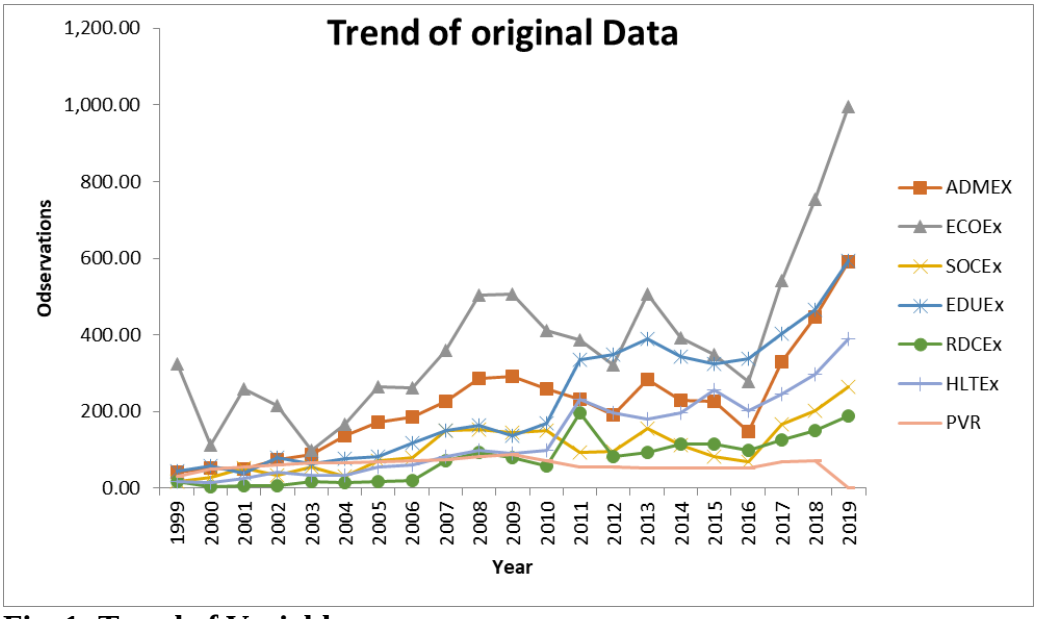


Fig. 1: Trend of Variables

The figure 1 above displays the trend of study variables and reveals that there is non-stationary in the data because of variation such as seasonal variation, cyclical variation and irregular variation. As shown in the figure 1, infrastructural financing on administration, economics, social, education, road, and health, is on the increase, though, disproportionally. A sharp decrease in financing of economy, health, road, and health was noticed in the year 2000, 2010 and 2016, while there was steady rise in financing of these expenditures in other years within the study period.

Table 1: Descriptive Statistics of Variables Used

STATISTICS	UEMP	RDCEX	EDUEX	HLTEX	ADMEX	SOCEX	ECOEX	PVR
Mean	4.652381	75.01455	225.3891	135.5262	216.3745	105.2567	381.337	59.53995
Median	3.82	80.62845	163.9775	98.21932	226.8058	92.8489	348.7469	60
Maximum	8.53	195.9	593.3328	388.3671	591.2642	264.6905	994.1862	88
Minimum	3.59	4.991095	39.8826	15.21808	42.7372	17.2535	97.9821	0.539
Std. Dev.	1.75195	59.80793	163.1737	107.21	134.1464	64.48711	209.1736	18.46351
Skewness	1.603474	0.487021	0.5658	0.673213	1.002219	0.647354	1.278188	-1.48042
Kurtosis	3.749433	2.254511	2.188802	2.46536	4.204875	2.882037	4.852783	6.235448
Jarque-Bera	9.490391	1.316449	1.696242	1.836364	4.78581	1.478909	8.721879	16.83035
Probability	0.008693	0.51777	0.428219	0.399244	0.091364	0.477374	0.012766	0.000221
Sum	97.7	1575.305	4733.172	2846.05	4543.864	2210.391	8008.076	1250.339
Sum Sq. Dev.	61.38658	71539.77	532512.9	229879.8	359905.2	83171.74	875072.2	6818.026
Observations	21	21	21	21	21	21	21	21

Source: Extraction from estimation output using E-views 9

The Table1 above indicate that the unemployment is 4.6523, the average road and contracture expenditure is 75.01455, the average education expenditure is 225.3891, the average health expenditure is 135.5262, administration expenditure is 216.3745, the average social expenditure is 105.2567, the average of economic expenditure is 381.337 and the average poverty rate is 59.53995. It is also evident that the minimum unemployment level was recorded during the study period was 3.59 and the maximum ever attained is 8.53. The standard deviation for the 21 datasets for unemployment is 1.75195 with skewness and kurtosis of 1.6035 and 3.749433 respectively.

Multicollinearity Test

Table 2: Variance Inflation Factors

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
RDCEX	0.000182	20.78649	7.838574
EDUEX	9.54E-05	92.08928	30.66227
HLTEX	0.000319	118.3827	44.20737
ADMEX	0.000119	96.46809	25.85053
SOCEX	0.000362	69.10121	18.19734
ECOEX	2.60E-05	61.72354	13.74768
PVR	0.000497	24.35810	2.043659

Source: Extraction from estimation output using E-views 9

The variation inflation factor (VIF) table 2 showed that two of the variables; road and construction expenditure and poverty expenditure of listed economy variables were not suffered from the problem of multicollinearity and other five variables were severe suffered multicollinearity. Variation Inflation Factor (VIF) was run among the variables and its values were between 1 and 10 and other five variables greater than 10.

Table 3: Correlation Matrix

VARIABLES	UEMP	RDCEX	ADMEX	ECOEX	EDUEX	HLTEX	SOCEX	PVR
UEMP	1							
RDCEX	0.59	1						
ADMEX	0.659	0.8	1					
ECOEX	0.678	0.77	0.944	1				
EDUEX	0.73	0.89	0.813	0.78	1			
HLTEX	0.737	0.92	0.819	0.78	0.98	1		
SOCEX	0.591	0.73	0.956	0.92	0.747	0.73	1	
PVR	-0.33	-0.26	-0.18	-0.31	-0.39	-0.4	-0.09	1

Source: Extraction from estimation output using E-views 9

Table 3 above shows the correlation matrix, and it shows the maximum correlation coefficient and among the explanatory variable some of them were highly correlated with is strong positive correlation which indicates present of multicollinearity.

Table 4: Unit Root Test:

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	3.95648	0.0000	8	157
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	3.74554	0.0099	8	157
ADF - Fisher Chi-square	3.82450	0.0092	8	157
PP - Fisher Chi-square	3.22091	0.0097	8	160

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality

Source: Extraction from estimation output using E-views 9

The unit-root test was conducted both the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) tests. The null hypothesis is that there is the presence of a unit root, which suggests that the data are non-stationary. This result proves that the variables are all stationary at their first difference.

Table 5: Least Squares Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.733328	1.713917	1.011326	0.3303
RDCEX	-0.021520	0.013472	-1.597327	0.0134
EDUEX	-0.000690	0.009766	0.070635	0.0248
HLTEX	-0.019219	0.017848	1.076780	0.0312
ADMEX	-0.002634	0.010908	-0.241480	0.8130
SOCEX	-0.005579	0.019038	-0.293030	0.7741
ECOEX	-0.005767	0.005101	1.130489	0.2787
PVR	0.012280	0.022283	0.551102	0.5909

R-squared	0.649198	Mean dependent var	4.652381
Adjusted R-squared	0.460304	S.D. dependent var	1.751950
S.E. of regression	1.287053	Akaike info criterion	3.624918
Sum squared resid	21.53455	Schwarz criterion	4.022832
Log likelihood	-30.06164	Hannan-Quinn criter.	3.711276
F-statistic	3.436844	Durbin-Watson stat	1.181216
Prob(F-statistic)	0.026199		

Source: Extraction from estimation output using E-views 9

The Table 5 shows ordinary linear square (OLS) of relationship between dependent variable and dependent variables in linear specification. The nonlinear connection among the variables was examined using the system GMM. The final analysis before the diagnostic test was the robustness check using the GLS to confirm the validity of the results obtained with system GMM. The aim was to test whether nonlinear association exist among the variables. Table 5 presents the results of the regression analysis indicting the linear relationship between the dependent and independent variables. The coefficient of r squared term is statistically significant and positively at the 5% level of significance. Specifically, the result indicates a negative relationship between road construction, education, health, administration, social and economic expenditure with unemployment, while poverty is positively related to unemployment in Nigeria. This shows that increase in expenditure on each of those items individually and combined has the capacity to lower correspondingly the level of unemployment in the country. The result equally shows that road, education, and health expenditures significantly influence unemployment level. Moreover, the result in Table 5 demonstrates that effect of independent variable will cause approximately a 65% fall in unemployment.

Table 6: Result of Generalized Method of Moments (GMM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.733328	1.885022	0.919527	0.3746
RDCEX	-0.021520	0.008088	-2.660807	0.0196
EDUEX	-0.000690	0.014726	0.046846	0.9633
HLTEX	-0.019219	0.019136	1.004313	0.3336
ADMEX	-0.002634	0.007047	-0.373790	0.7146
SOCEX	-0.005579	0.006606	-0.844517	0.4137
ECOEX	0.005767	0.003855	1.496167	0.1585
PVR	0.012280	0.022632	0.542593	0.5966

R-squared	0.649198	Mean dependent var	4.652381
Adjusted R-squared	0.460304	S.D. dependent var	1.751950
S.E. of regression	1.287053	Sum squared resid	21.53455
Durbin-Watson stat	1.181216	J-statistic	2.69E-43
Instrument rank	8		

Source: Extraction from estimation output using E-views 9

Table 6 presents the results from the regression analysis from the linear and nonlinear specifications. This is to show the relationship between unemployment and road construction, education expenditure, health expenditure, administration expenditure, economic expenditure, social expenditure and poverty expenditure in Nigeria. The coefficient of the external independent variables squared term is not statistically significant and positively at the 5% level of significance. Specifically, the result indicates a negative nonlinear relationship between unemployment and road construction, education expenditure, health expenditure, administration expenditure, social expenditure and while positive relationship exists between unemployment and poverty. Moreover, the result in Table 6 demonstrates that a growth in road construction, education expenditure, health expenditure, administration expenditure, and social expenditure squared will cause approximately a 64% fall in unemployment rate.

Table 7. Results of the Robust Check—GLS

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	6.020566	0.539363	11.16237	0.0000
RDCEX	-0.004814	0.004240	-1.135412	0.2562
EDUEX	-0.006960	0.003073	-2.264499	0.0235
HLTEX	-0.008367	0.005617	1.489641	0.1363
ADMEX	-0.008895	0.003433	2.591257	0.0096
SOCEX	-0.002030	0.005991	0.338857	0.7347
ECOEX	-0.001645	0.001605	-1.024886	0.3054
PVR	0.044784	0.007012	-6.386530	0.0000
Robust Statistics				
R-squared	0.093268	Adjusted R-squared		-0.394973
Rw-squared	0.951728	Adjust Rw-squared		0.951728
Akaike info criterion	43.77465	Schwarz criterion		58.31725
Deviance	3.197662	Scale		0.306850
Rn-squared statistic	129.4441	Prob(Rn-squared stat.)		0.000000
Non-robust Statistics				
Mean dependent var	4.652381	S.D. dependent var		1.751950
S.E. of regression	1.959469	Sum squared resid		49.91376

Source: Extraction from estimation output using E-views 9

The robustness check was test using the GLS to confirm the validity of the results obtained with system GMM. The finding of the analysis reveals that there is a negative linear relationship between the variables. This finding implies that when government spends well on road construction, education, health, administration, economic, social, then, unemployment is expected to

reduce drastically. Also, Table 7, shows the coefficient of independent variables squared term is not statistically significant and positive at the 5% level of significance. Specifically, the result indicates a non positive linear relationship between road construction, education, health, administration, economic, social and unemployment.

Discussion of Findings

This study investigates the nexus between infrastructural financing and national development. Previous studies have focused on individual infrastructural, such as road, health, education. This study, however, combines those financings on infrastructures in Nigeria with particular interest in 1999 to 2019. The focus was to establish whether there is a nonlinear association between the variables. The findings show negative relationship between infrastructural financing (on road, education, health, administration, social and economy) and unemployment rate and poverty level. This indicates that increase in infrastructure finance on road, education, health, social and economic services will produce a corresponding decrease in unemployment rate and poverty level among the people in Nigeria. These findings ae in tandem with the submissions of Ogunlana, Yaqub and Alhassan (2016), Oyesiku, Onakoya and Folawewo (2013) and Adebosin, et al (2019). This shows that increase in government spendings on infrastructure will immensely reduce unemployment rate in the country. It is on record that no nation has ever attained broadly shared prosperity and overall development without sustained effort on infrastructural development. This is well noted in Ogunlana, Yaqub and Alhassan (2016), a country can only attain reasonable growth potentials if it commits her resources to the provision of infrastructures such as good roads, functional railway networks, water, electricity, schools, houses, hospitals, etc.

Summary, Conclusion and Recommendation

The study examines the effect of infrastructure financing on national development in Nigeria within 1999 and 2019. The study found that road construction; education expenditure, health expenditure, administration expenditure, economic expenditure, social expenditure and poverty expenditure and unemployment were highly correlated. Also, r square of all models fitted shows that the models were well fitted, and overall models were statistically significant. The study established that infrastructure finance in respect of road, health, education, administration social and economic services of government could be used to reduce unemployment and poverty levels and engender overall national development of Nigeria. The implication therefore is that the quantum of economic growth which propels national development could be raised by infrastructure finance in Nigeria. The conclusion emanating from this fact therefore is that unemployment and poverty level

among the people are threats to national development which can only be salvaged by increase in government infrastructure financing in the country.

The policy implication of these findings is the fact that infrastructural development is a strong determinant that could reduce the level of underdevelopment and poverty level in the country. It was therefore recommended that government should increase their expenditure on all economic variables to create more job opportunities and reduce unemployment in Nigeria. Infrastructure bank should be more strengthened, and policy framework should be designed to address infrastructural decay in the country. The government should have a sustainable plan on infrastructure financing and a robust template should be designed to engender the provision and maintenance of infrastructure in Nigeria with a viewing to enhancing sustainable national development.

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