INFRASTRUCTURAL FINANCING AND INDUSTRIAL SECTOR PERFORMANCE IN NIGERIA

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A B S T R A C T	K E Y W O R D S
This study was motivated by the need to empirically examine the influence of government infrastructural financing on industrial sector performance in Nigeria. The study disaggregated infrastructural financing by the government according to the Central Bank of Nigeria's (CBN) statistical bulletin classification which includes Government Financing on Road and Construction (GFRC), Government Financing on Transport and Communication (GFTC), Government Financing on Internal Security (GFIS) and Government Financing on Other Economic Services (GFOES) while industrial sector performance was measured by Industrial Sector Output (ISO) contribution to national output. Both descriptive and inferential statistics was used to analyzed data obtained from the CBN's statistical bulletin between 1994 and 2022. The inferential statistics helped us to determine the relationship between the implicated variables through the application of the Autoregressive Distributive Lag (ARDL) and its associated bond test given the fractional integration recorded with our stationarity test while Granger causality test was used to determine the causal relationship between the implicated variables. From our findings, GFRC and GFOES had positive influence on ISO and were insignificant while GFTC and GFIS were negative and insignificantly related with ISO. The study further reported absence of a long run relationship between government infrastructural financing and industrial sector performance while a unidirectional relationship was recorded between GFRC and industrial sector performance and bidirectional relationship between GFIS and industrial sector performance. The study recommends the need to enhance the quality of GFRC and GFOES and other aspect of infrastructure to ensure their optimum performance through constant monitoring and budget evaluations.	Infrastructural Financing, Industrial Sector Performance, Keynesian Economist, Resource based View, and Wagner's Law.

Introduction

Advocates of macroeconomics like the Keynesians school of thought led by John Maynard Keynes has since put government financing of critical infrastructure as an integral part of fiscal policy instrument used to increase general economic performance of various sectors in the economy of a nation. Fiscal

policy according to Onoh (2007) is an economic stabilization tool geared towards attaining some set objectives like stable price, attainment of maximum level of employment of all factors of production, growth of the nation's national income, among others. Ibekwe and Ibekwe (2021) affirms that government financing of infrastructures as a fiscal policy has become an important factor for self-sustaining productivity improvements and long-term growth.

Infrastructure is the basic system a nation requires for optimum functionality. It is a tactical growth driver with various capabilities. The infrastructure of a country, society, or organization consists of the basic facilities such as transport, communications, power supplies, road network, buildings, etc which enables it to function optimally. It does not include only physical structures but also services like health and education (Naiman & Aslan, 2023). Zvarych and Zvarych (2021) sees infrastructure security as necessary element in development of any economy. It is a strategic economic growth driver with numerous potentials which serves as catalyst for public development in the entire government agenda, such as healthcare delivery, transportation, education, communication and food security (Babatunde, 2018). The condition of those infrastructures has direct impact on the economy's ability to evolve and grow to its full capacity. McNichol (2019) affirmed clearly that the condition of road, public buildings, electricity and other physical assets greatly influences every sector of the economy's ability to function and grow.

Financing of infrastructure according to Bakare and Adegbite (2022) entails sustained investment on infrastructural facilities by the government which is often characterized by its capital-intensive nature and its multiplier effect cannot be undermined. Industries requires well-maintained roads, railroads, airports, and seaports to move raw materials and finished goods freely to their respective end users, constant power supply reduce industrial sector variable or input cost as moderate amount are spent on power generation and by so doing, reduce selling price. According to Azolibe and Okonkwo (2020), adequate infrastructure is required for the optimal functionality of industrial sector being that it is an engine of growth. Financing infrastructure is key to creating jobs and promotion of sustainable economic growth and development which is among core economic objective pursued by economic managers and industrial sector being among key drivers.

Industrial sector is a key vital aspect of every economy that tends to grow and can be seen as crucial tool in a nation's entire development process (Obioma el ta, 2015). The history of economic growth and development cannot be complete without mentioning the industrial sector which is seen a necessary component for national growth and development of developed and developing economies. Industrial sector has a significant weight in the growth of the economy of a nation as they contribute to economic progress in numerous ways by providing job opportunities for the population, supporting required sustainability and innovation, supplying products in the economy at large. Given the role of industry in national growth, government policies like SAP 1986 (Ibitoye el ta, 2022) have been implemented to ensure that their role in national growth is not undermined.

In Nigeria and other developing countries, industry is often seen as manufacturing as it a critical component of industrial sector (Obioma el ta, 2015). Manufacturing is seen as productive sector with capability of absorbing large number of workers with strong link to other sectors in the economy (Lugina, el ta, 2022). Industrial sector is a key provider of a prosperous and strong economy as it can be likened to oil that lubricates the affairs of life (as communication is to life, so is industrial sector to economic growth and development).

Previous studies like Babatunde el ta (2012), Adesoye (2014), Ogunlana el ta (2016) and Akinola and Akinrinola (2023) linked infrastructural financing to economic growth while Azolibe and Okonwo (2020) centered their study on infrastructural development and industrial production in Sub-Sahara African states using labour production as proxy for industrial production. Naboda (2023) linked infrastructure development and performance of manufacturing sector and Simon-Oke (2018) considered industrial development but proxied industrial development with index of production. Studies linking infrastructural financing to industrial output contribution to national output can be said to be substantially lacking.

Given the identified gap and in the light of recent data, it becomes the researcher's burning desire to examine the nexus between infrastructure financing by the government and performance of industrial sector in Nigeria in accordance with CBN statistical bulletin classification of infrastructural financing. Industrial sector output contribution to GDP will be used as proxy for performance of industrial sector while infrastructural financing on road and construction, transport and communication, internal security and other economic services as classified by Central Bank of Nigeria (2021) will be used as the study's explanatory variables.

The study will be divided into five sections; section one will house the introduction of the work, section two will cover theoretical and literature review while section three will entail the work's methodology. Section four and five will cover the results and analysis then conclusion and recommendations respectively.

2.0   Literature Review
This section will discuss the concept of infrastructure financing and industrial sector output, the conceptual relationship between infrastructure financing and industrial sector performance and the theoretical underpinning of the study.

2.1   Conceptual Review
Concept of Infrastructural Financing
Infrastructural financing refers to the process of funding and financing large-scale infrastructure projects, such as the construction or improvement of transportation systems, energy facilities, telecommunications networks, and public utilities. It provides critical facilities to individuals and private sectors and as well increase resources availability (Natarajan & Nisha, 2021). Infrastructural projects are typically long-term, capital-intensive, and require substantial investments. The concept of infrastructural financing involves identifying, securing, and managing the financial resources necessary to undertake infrastructure development and its adequate availability do not only improve citizens' life but also enhance industrialization (Azolibe & Okonkwo, 2020). It requires collaboration between various stakeholders, including governments, private investors, development banks, and multilateral institutions. Overall, infrastructural financing plays a crucial role in driving economic growth, improving living standards, and promoting sustainable development by providing the necessary financial resources to develop and maintain critical infrastructure.

Industrial Sector Performance
The industrial sector refers to the segment of the economy that involves the production and manufacturing of goods and services. It plays a crucial role in the overall economic development of a

country by creating jobs, generating income, and contributing to GDP. It contributes to national growth through increased output, innovation promotion and optimal resources usage for production (Elfaki, el ta, 2021). Inyang el ta (2022) added that it plays crucial role in a nation's growth through increase in services and export production. The industrial sector encompasses a wide range of activities, including the extraction of raw materials, processing and manufacturing, construction, and energy production. Components of industrial sector varies depending on country and purpose but found with manufacturing, construction, mining and extraction, energy production among others.

2.2 Link Between Infrastructural Financing Industrial Sector Output

The relationship among infrastructure and industrialization is crucial policy issue as policy makers (government) play critical role in supply of infrastructure (Natarajan & Nisha, 2021). Investments in roads, bridges, ports, and railways can improve the movement of goods and materials, reducing transportation costs and time. This efficiency gain positively affects industrial operations and supply chains, leading to increased productivity. Reliable and abundant energy supply, facilitated by investments in power generation and distribution, is essential for industrial processes and improved energy infrastructure can enhance operational efficiency and reduce downtime, positively impacting industrial performance. More so, well-developed infrastructure enhances connectivity and logistics, making it easier for industries to import raw materials and export finished products which can boost the competitiveness of the industrial sector in the global market. Investments in information technology infrastructure, such as high-speed internet and communication networks, can enable industries to adopt advanced technologies, stay competitive, and participate in the global digital economy. Additionally, efficient infrastructure reduces operational costs for industries. For instance, well-maintained roads and transportation systems can lower transportation costs, contributing to improved profit margins for businesses. Furthermore, an economy with well-developed infrastructure is often seen as a more attractive destination for investments which can lead to increased Direct Foreign Investment (DFI) in the industrial sector, further fueling growth and performance. Infrastructural finance models, such as PPPs, involve collaboration between public and private sectors can provide the necessary funding for infrastructure projects and create an environment conducive to industrial development. A well-developed and efficiently managed infrastructure is essential for the optimal functioning and growth of the industrial sector. Infrastructural finance plays a pivotal role in ensuring that the necessary investments are made to create an environment conducive to industrial development, productivity, and competitiveness.

2.3 Theoretical Review

Keynesian economics postulates a macroeconomic theory of total spending in the economy which was developed by the British economist John Maynard Keynes during the 1930s. Keynes advocated for increased government expenditures and lower taxes to stimulate demand and pull the global economy out of the depression. Subsequently, Keynesian economics was used to refer to the concept that optimal economic performance could be achieved and economic slumps prevented by influencing aggregate demand through activist stabilization and economic intervention policies by the government. The Keynesians economist supported the use of government spending in promoting economic activities (Aluthge el ta, 2021). This provides the obvious reason for government participation for the provision of basic infrastructure that will enable industrial sector to strive.

Infrastructural spending is therefore necessary to increase performance of industrial sector and stir up the economy for growth.

Another theory surrounding on government financing infrastructure reviewed is the Wagner's Law named after the German political economist Adolph Wagner (1835-1917). Wagner argued that government growth is a function of increased industrialization and economic development. Wagner stated that during the industrialization process, as the real income per capita of a nation increases, the share of public expenditures in total expenditures increases. Wagner designed three focal bases for the increased in state expenditure. Firstly, during industrialization process, public sector activity will replace private sector activity. State functions like administrative and protective functions will increase. Secondly, governments needed to provide cultural and welfare services like education, public health, old age pension or retirement insurance, food subsidy, natural disaster aid, environmental protection programs and other welfare functions. Thirdly, increased industrialization will bring out technological change and large firms that tend to monopolize. Governments will have to offset these effects by providing social and merit goods through budgetary means which will at the end neutralize monopoly giving the industrial sector equal opportunity to strive. Prasetyo (2020) argues that literatures are based on Wagner's law which stressed that economic performance has a fundamental positive impact on public sector growth. Ibekwe and Ibekwe (2021) further simplified Wagner's law by stating that an increase in government expenditure will improve the standard of living of the nation's citizens.

The Resource-Based View (RBV) also known as resource-advantage theory is another theory linking infrastructural financing to industrial sector performance. It suggests that a firm's performance is influenced by its access to and utilization of strategic resources. In other words, it is an administrative structure organization can leverage on to a competitive advantage. In the context of infrastructure financing, access to quality infrastructure, such as reliable transportation networks or efficient utilities, can equip industrial sector with valuable resources that enhance their productivity and competitiveness. Improved infrastructure can lower transaction costs, improve supply chain efficiency, and enable industrial sector to access larger markets.

These theoretical foundations provide insights into the relationship between infrastructural financing and performance of industrial sector. They highlight the importance of access to infrastructure and supportive institutional frameworks shapes the outcomes of infrastructure financing for industrial sector.

2.4   Empirical Review

Akinola and Akinrinola (2023) examined tax revenue and development of infrastructure on Nigerian's economic growth using VAT, Income Tax of Companies (ITC), Petroleum Profit Tax (PPT) as measure of tax revenue, Gross Capital Formation (GCF) as measure for infrastructural development and real GDP as proxy for Nigeria's economic growth. Findings revealed significant long-run equilibrium association between the variables and also that PPT was a strong contributor to growth in Nigeria, VAT was significantly positive while GCF and ITC were insignificant. The study concludes that ITC, VAT and GCF are not yet contributor to growth in Nigeria.

Using ARDL approach, Nadabo (2023) between 2002 and 2021 examined association among infrastructure development and performance of manufacturing sector using institutional quality as moderator. Institutional quality, fixed gross capital formation, index of human development and infrastructural development were the study's explanatory variables while value added by

manufacturing was the explained variable. Findings showed institutional quality to negatively influence performance of manufacturing sector in short and long run while infrastructural development showed significant positive effect on performance of manufacturing sector in Nigeria.

Between 1970 and 2017, Zhang and Cheng (2023) transport infrastructure role in economic growth with evidence from UK and with aid of principal component analysis foe the construction of comprehensive transport infrastructure measure. They utilized the VEM to determine short and long run association among the variables and reported presence of promotive long-run association among transport infrastructure and economic growth while the short-run result showed negative significant association.

Jibir el ta (2023) investigated disaggregated influence of government expenditure on economic growth of Nigeria from 1986 to 2021 using ARDL analytical technique. Social and community service capital and recurrent expenditure and administration and transfers capital and recurrent expenditures were the disaggregated expenditure by government employed by the study while real GDP proxied economic growth. The study reported social and economic services capital and recurrent expenditure to enhance growth of Nigerian economy both in short and long run while capital and recurrent expenditure on administration and transfer were seen to retard growth.

Between 1990 and 2020, Bakare and Adegbite (2022) investigated the nexus between pattern of infrastructural financing in Nigeria and its implication on national development using OLS an GMM analytical techniques. Social, road and construction, health, education and administrative expenditures were different classes of infrastructural financing employed by the study while unemployment rate proxied national development. They reported all classes of infrastructural financing to account for 65 percent unemployment fall and that road and construction, education, social and economic services, health and administration expenditures could be a crucial tool in reducing unemployment and level of poverty in Nigeria and development engenders.

Nnayanzi el ta (2022) using panel corrected standard error technique and panel data from 2003 to 2016 of 30 Sub-Saharan African nations, studied effect of maintaining output on infrastructure development, governance and liberalization to be crucial to manufacturing output contribution and reported infrastructure development influenced manufacturing output positively in the long-run.

Azolibe and Okonkwo (2020) studied infrastructural development and productivity of industry sector in Sub-Sahara Africa between 2003 and 2018 using panel least square analytical method. Sanitation and water supply, transport, telecommunication and electricity infrastructure were the study's independent variables while productivity of labour was used as the dependent variable. The study reported telecommunication quality and quantity to be major variable impacting productivity of industrial sector in Sub-Sahara Africa and they further associated the low level of productivity of industrial sector to poor level of other variables employed by the study.

Simon-Oke (2018) from 1985 to 2015 using ECM and cointegration analytical method, examined the nexus between investment in infrastructure and development of industry in Nigeria. Education expenditure, health expenditure, transport and communication expenditure and energy expenditure where the study's measure for infrastructural investment while index of production proxied industrial development. Findings showed presence of long-run association among investment in infrastructure and industry development and that 12.9% adjustment speed is required for the variables to adjust to equilibrium in the long-run. The study concluded that infrastructural investment significantly contributes to development of industry in Nigeria.

Akinyele el ta (2016) investigated infrastructure development as a predictor for SMEs performance in Nigeria by adopting the quantitative research design and administered a total of 239 questionnaires on their sample gotten through both simple and stratified random sampling technique. They employed the analysis of variance with the aid of SPSS and reported significant positive correlation between infrastructure and SMEs performance in Nigeria.

Between 1970 and 2014, Ogunlana el ta (2016) investigated private and public infrastructural investment influence on growth in Nigeria using ECM and Engel-Granger cointegration analytical tools for their analysis and reported components of infrastructure studied to correlate with economic growth positively in Nigeria but pointed that labour force and domestic investment related with economic growth negatively in Nigeria.

From 1970 to 2010, Adesoye (2014) examined influence of Nigeria's infrastructural finance on economic growth using OLS analysis method. Services spending, social and community services spending, private investment, government debt total, money supply and population total were the independent variable of the study while real GDP was the dependent variable. Results revealed spending on community services, private infrastructure investment, money supply and population total to positively influence economic growth while economic services and government debt total negatively influenced economic growth in Nigeria.

From 1970 to 2010, Babatunde el ta (2012) examined infrastructure influence on Nigeria's economic growth using multivariate model of simultaneous equation while the three-stage least square method was further employed to capture transmission channels. The study reported investment in infrastructure to significantly influence Nigeria's growth directly through industrial sector output and indirectly through other sectors while agricultural sector was stated not to be influence by infrastructural investment. The study further reported presence of bidirectional causality between infrastructural investment and economic growth in Nigeria.

Kumo (2012) examine causal link among economic growth, infrastructural investment and employment of South African from 1960 to 2009 using VAR and causality techniques and reported presence of bidirectional causality between infrastructural investment and growth of South African GDP as well infrastructural investment and employment by public sector. The study further reported presence of long-run equilibrium association between infrastructural investment and economic growth of South Africa.

3.0 Materials and Methods
3.1 Research Design
The ex-post facto research design (after-the-fact) in line with econometric procedure was adopted in this study because the study was based on historical time series data published data from the Central Bank of Nigerian (CBN) statistical bulletin for the variables under study for the period of 1994 to 2022.

3.2 Data and Variable Description
The below table represents data on Industrial sector Output (ISO), Government Finance on Road and Construction (GFRC), Government Finance on Transport and Communication (GFTC), Government Finance on Internal Security (GFIS) and Government Finance on Other Economic Services (GFOES) all in billion naira.

Table 3.1   **Data on Industrial sector Output (ISO), Government Finance on Road and Construction (GFRC), Government Finance on Transport and Communication (GFTC), Government Finance on Internal Security (GFIS) and Government Finance on Other Economic Services (GFOES) all in billion naira.**

YEAR	ISO	GFRC	GFTC	GFIS	GFOES
1994	553.96	1.14	0.45	4.4	1.14
1995	1132.84	1.7	1.08	5.26	1.65
1996	1530.05	0.61	1.2	8.92	2.22
1997	1557.54	1.81	1.58	11.06	0.75
1998	1379.2	5.63	1.92	11.98	1.13
1999	1609.82	16.64	11.12	38.66	0
2000	2388.83	4.99	3.03	25.15	14.23
2001	2328.41	7.2	33.93	38.85	4.81
2002	2650.03	7.15	29.39	63.24	6.12
2003	3525.14	16.92	6.12	68.38	48.9
2004	5145.43	14.9	8.1	97.8	24.6
2005	6520.74	17.9	8	82	22
2006	7822.11	20.06	9.77	118	31.94
2007	8441.76	71.38	32.16	181.29	43.06
2008	9874.38	94.46	67.39	196.9	86.5
2009	9229.81	80.63	90.03	221.65	230.52
2010	13826.43	57.09	42.41	224.2	435.04
2011	17853.11	195.9	13.1	280	60.3
2012	19587.72	83.3	23.2	362.5	90.3
2013	20853.85	92.13	18.51	292.7	141.1
2014	22213.01	116.3	18.3	273.14	95.1
2015	19188.58	114.6	24.39	410.2	95.1
2016	18641.17	97.92	20.57	417.66	100.99
2017	25639.9	126.19	29.97	397.92	128.47
2018	33218.33	150.17	30.47	489.65	137.91
2019	39879.69	189.09	40.75	668.63	178.91
2020	43530.78	206.11	44.42	728.83	195.02
2021	55300.78	192.86	41.7	679.96	188.48
2022	62278.99	218.47	47.24	770.24	213.51

Source: CBN Statistical Bulletin

3.2   Model Specification

Relying on the Resource-Based View (RBV) also known as resource-advantage theory which suggests that a firm's performance is influenced by its access to and utilization of strategic resources, we can state that;

Industrial Sector Performance = f (Infrastructural Financing) ……………………………. (1)

This can be further expressed as follows be breaking infrastructure financing into GFRC, GFTC, GFIS and GFOES and as well bring Industrial Sector Output (ISO) as proxy for industrial sector performance

ISO = f (GFRC, GFTC, GFIS, GFOES) ……………………….…………... ….....……… (2)

The above mathematical expression can be rewritten as follows for estimation purpose.

ISO = $\beta o + \beta_1 GFRC_t + \beta_2 GFTC_t + \beta_3 GFIS_t + \beta_4 GFOES_t.........+ \varepsilon t$ ……….……………. (3)

Where:

ISO = Industrial Sector Output

GFRC = Government Finance on Road and Construction

GFTC = Government Finance on Transport and Communication

GFIS = Government Finance on Internal Security

GFOES = Government Finance on Other Economic Services

β = Beta Coefficient

εt = Error Term of the Estimate.

t = Implies that the data are times series

3.3 Methods of Data Analysis

The objective of this study is to examine the nexus between infrastructural finance and performance of industrial sector and as well know the causality pattern between them. To ascertain that, the following statistical tools with the aid of econometric software (Eviews 10) will be employed to aid our analysis. They are thus stated below;

a. Stationarity Test

The Augmented Dickey Fuller (ADF) test developed by two statisticians (David Dickey and Wayne Fuller) is widely deployed to determine the stationarity of a series. It is accepted that the series is stationary should the ADF statistics be greater than the given critical values at 1%, 5% and 10% levels of significance respectively.

b. Autoregressive Distributive Lag (ARDL)

The ARDL (Autoregressive Distributed Lag) is a framework used to analyze the relationship between variables in a time series context while accounting for both short-run and long-run dynamics. In general, the (ARDL) model is an econometric model used for analyzing the relationship between variables in time series data. It is commonly employed to examine the long-run and short-run dynamics between variables, particularly when they are integrated at different orders (e.g., I(0) or stationary and I(1) or non-stationary variables).

The general form of the ARDL model can be represented as follows:

$Yt = c + \Sigma(\beta i Yt-i) + \Sigma(\gamma i Xt-i) + \varepsilon t$

Where:

Yt represents the dependent variable at time t.

Xt represents the independent variables at time t.

c is a constant term.

βi and γi represent the coefficients of the autoregressive and distributed lag terms, respectively.

εt is the error term or residual.

The ARDL model allows for the inclusion of different orders of integration in the variables. For instance, if the dependent variable Yt is I(0) (stationary) and the independent variable Xt is I(1) (non-stationary), the ARDL model can capture both the short-run and long-run relationships between the variables. The ARDL model is particularly useful in analyzing economic relationships when the variables of interest may have different orders of integration as, allowing for a comprehensive examination of both short-run and long-run effects.

d. Granger Causality Test

The application of this tool will help us to determine the directional causality between our dependent and independent variables. In other words, it will help us to know how the dependent and independent variables supports each other within the growth processes. It is expected that there represents a presence of causality should the probability value of the result be less than a 5% level of significance.

4.0 Presentation of Results
4.1 Analysis and Interpretation of Result
4.1.1 Unit Root Test

The Augments Dickey Fuller unit root test was used to determine the stationarity of the data set employed in the study.

Table 4.1: Unit Root Test Result

Variables	ADF Statistic	Mackinnon Critical value at			Probability	Order of Integration
		1%	5%	10%		
ISO	2.31878	3.69987	2.97626	2.62742	0.1736	I(0)
GFRC	8.39981	3.69987	2.97626	2.62742	0.0000	I(1)
GFTC	4.30447	3.69987	2.97626	2.62742	0.0023	I(1)
GFIS	4.87344	3.69987	2.97626	2.62742	0.0006	I(1)
GFOES	6.45152	3.69987	2.97626	2.62742	0.0000	I(1)

Source: Extract from E-views 10 Output

Firstly, our ADF result at levels showed that our data series were not stationary prompting the test for first differencing and from the above result, we observed that all the variables were stationary after first differencing in the order of I(1) at 1%, 5% and 10% except for Industrial Sector Output (ISO) which was not stationary after first differencing as seen in the above table implying presence of fractional integration. Given this, we will use the Autoregressive Distributed Lag (ARDL) and long run Bond Test to determine short and long run relationship between infrastructural financing and industrial sector performance in Nigeria.

4.1.2 **Autoregressive Distributive Lag Result**

Table 4.2 Result of ARDL

Dependent Variable: ISO
Method: ARDL
Date: 02/11/24   Time: 11:01
Sample (adjusted): 1995 2022
Included observations: 28 after adjustments
Dependent lags: 1 (Fixed)
Dynamic regressors (0 lag, fixed):
Fixed regressors: GFRC GFTC GFIS GFOES C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ISO(-1)	1.083626	0.145677	7.438560	0.0000
GFRC	16.74207	18.62752	0.898781	0.3785
GFTC	-30.82323	30.42541	-1.013075	0.3220
GFIS	-1.535013	10.72068	-0.143182	0.8874
GFOES	9.020267	7.104492	1.269657	0.2175
C	39.25434	780.7854	0.050275	0.9604

R-squared	0.982558	Mean dependent var		16326.73
Adjusted R-squared	0.978593	S.D. dependent var		16867.82
S.E. of regression	2467.926	Akaike info criterion		18.64755
Sum squared resid	1.34E+08	Schwarz criterion		18.93303
Log likelihood	-255.0657	Hannan-Quinn criter.		18.73482
F-statistic	247.8594	Durbin-Watson stat		1.598618
Prob(F-statistic)	0.000000			

From the table above, we observed that the R-square posted 0.983088 which indicates that the degree of relationship existing between government infrastructural financing and industrial sector performance variables is 98.2% but when adjustment were made for the effect of number of observations and number of variables, the adjusted R-square turns to 0.979409 which indicates that the adjusted degree of relationship between government infrastructural financing and industrial sector performance is about 97.8%. We observed further from the Durbin Watson statistics posted 1.598618 figure suggesting the need not to worry about the problem of auto correlation since it falls within the acceptable region of 1.5 and 2.0. the table further revealed that government infrastructural financing on road and construction and other economic services showed a positive coefficient while that of transport and communication and internal security showed negative coefficient.

4.1.3   Long run Bond Test

Table 4.3 Result of Long run Bond Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
		Asymptotic: n=1000		
F-statistic	0.164814	10%	3.8	3.8
K	0	5%	4.6	4.6
		2.5%	5.39	5.39
		1%	6.44	6.44
		Finite Sample: n=35		
Actual Sample Size	28			
		10%	3.98	3.98
		5%	4.945	4.945
		1%	7.35	7.35
		Finite Sample: n=30		
		10%	4.025	4.025
		5%	5.07	5.07
		1%	7.595	7.595

For the long run, we observed from the table that the Fishers statistics of 0.164814 was lesser than the values of I(0) and I(1) bonds at 10% 3.8, 5% 4.6, 2.5% 5.39 and 1% 6.44 respectively. Given this, we conclude that there is absence of long run relationship between infrastructural financing by the government and industrial sector performance in Nigeria.

4.1.4   Granger Causality test

Table 4.4 Result of Granger Causality Test

Pairwise Granger Causality Tests
Date: 02/11/24   Time: 11:08
Sample: 1994 2022
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
GFRC does not Granger Cause ISO	27	0.13455	0.8748
ISO does not Granger Cause GFRC		3.98415	0.0334
GFTC does not Granger Cause ISO	27	0.97060	0.3945
ISO does not Granger Cause GFTC		1.76378	0.1948
GFIS does not Granger Cause ISO	27	12.0989	0.0003
ISO does not Granger Cause GFIS		7.40870	0.0035
GFOES does not Granger Cause ISO	27	1.03163	0.3730
ISO does not Granger Cause GFOES		2.45049	0.1094

From the result above, we can observe a unidirectional relationship between Government Finance on Transport and Communication (GFTC) and Industrial Sector Output (ISO) with causality flowing from ISO to GFRC. The table further shows a bidirectional relationship between Government Finance on Internal Security (GFIS) and Industrial Sector Output (ISO).

4.2   Results Discussions

We observed further that Government Finance on Road and Construction (GFRC) posted a positive coefficient of 16.74207 which implies that a 16.74% increase in road and construction financing by the government will positively influence industrial sector performance in Nigeria which agrees with Bakare and Adegbite (2023) that road and construction are critical tool in enhancing economic growth through unemployment reduction. It was further observed to be statistically insignificant at 5% level of significant.

Government Financing of Transport and Communication (GFTC) had a negative coefficient of 30.82323 which also implies that a 30.82 increase in government finance on transport and communication will have a negative influence on industrial sector performance in Nigeria. The result further showed it to be statistically insignificant at 5% level; of significant which does agree with the work of Babatunde (2018) who reported a significant relationship between government expenditure on transport and communication and general output in Nigeria. Although his work was centered on general output level while this was centered on industrial sector output.

Government Finance on Internal Security (GFIS) showed a negative coefficient of 1.535013 which implies that a 1.53% increase in government funding of internal security will negatively influence industrial sector performance in Nigeria.

Government Finance on Other Economic Services (GFOES) posted a positive coefficient of 9.020267 which implies that a 9.02% increase in government finance of other economic services will positively influence industrial sector performance agreeing with the study of Jibir el ta (2023) that investment in economic services enhance growth. Though the result further showed to be statistically insignificant at 5% level of significance.

The causality result revealed bidirectional relationship between Government Finance on Internal Security (GFIS) and Industrial Sector Output (ISO) as seen in Kumo (2012). This indicates that government spending on internal securities boost the performance of ISO and in turn, ISO performance encourages government to spend on internal security. When internal security is maintained through government spending by providing the right measures and tools to ensure the safety of lives and properties of industrial sectors, it will in turn boost their performance which means more tax income to the government.

5.0   Conclusion and Recommendations
5.1   Conclusion

From our findings, we conclude that government financing of road and construction and other economic services as classified by Central Bank of Nigerian statistical bulletin showed positive influence on industrial sector output but were not statistically significant while government finance on transport and communication and internal security negatively influence performance of industrial sector and were also insignificant. The study concludes further that there is absence of long run equilibrium relationship between government infrastructural financing and industrial sector

performance in Nigeria. The causality test reveals that causality flows from industrial sector output to government finances on road and construction which can be referred to as parasitic relationship while a bidirectional causality was recorded between government finance on internal security and industrial sector performance implying that both supports each other in their growth process

5.2 Recommendation

From the conclusions above, the study recommends firstly, the need to ensure that resources allocated for infrastructures like transport and communication and internal security are adequately utilized for such purposes and most importantly that their qualities and sustainability are guaranteed in a bid to ensure that they return positive and significant to industrial output performance through constant project monitoring and budget evaluations. Secondly, government finance on road and construction and other economic services should be adequately maintained and their quality improved with adequate policy measures put in place to ensure its sustainability given the significant role it plays in industrial sector performance in Nigeria.

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