

**How to Cite:**

Chinemerem, O. C., Andrew E.O, E., & Bruno, O. O. (2022). Deficit financing approaches and the Nigerian sector's output: Any impact?. *Linguistics and Culture Review*, 6(S1), 194-211. <https://doi.org/10.21744/lingcure.v6nS1.1995>

# Deficit Financing Approaches and the Nigerian Sector's Output: Any Impact?

**Osuji Casmir Chinemerem**

Faculty of Management Sciences, Delta State University Abraka, Nigeria

**Erhijakpor Andrew E.O**

Faculty of Management Sciences, Delta State University, Abraka, Nigeria

**Oshiobugie Omolegie Bruno**

Delta State University of Science and Technology Ozoro, Nigeria

**Abstract**---This study examined the effect of deficit financing on Sectorial Output in Nigeria from 1986–2020. The independent variable in the study is deficit financing measured by domestic debt, foreign debt, budget deficit, and Foreign exchange reserve while the dependent variable in the study is Sectorial Output measured by Manufacturing Sector and Services Sector Output. Accordingly, the two models support the ARDL Methodology since they reported mixed integration. The study found that domestic debt has a positive significant effect on Sectorial Output in Nigeria. More so, Foreign Debt has a negative insignificant effect on Manufacturing Sector Output. However, it has a significant effect on the Services Sector Output in Nigeria. Again, the study found that Budget Deficit exerted a positive significant effect on Manufacturing Sector Output. However, it exerted a negative insignificant effect on Services Sector Output. While Foreign Reserve exerted a negative insignificant effect on Manufacturing Sector Output, Foreign Reserve had mixed effects on Services Sector Output; such effect tends to be statistically significant only in the short run. Lastly, the both inflation rate and the interest rate have a mixed effect on Sectorial Output.

**Keywords**---deficit financing, domestic debt, manufacturing sector, Nigeria, sector output.

## Introduction

Deficit financing remains one of the veritable tools policymakers all over the world use to increase domestic earnings and by extension economic stability (growth).

[Olatunde & Temitope \(2017\)](#), stated that deficit financing arises largely because of the need to expand the economy since they cannot fund their capital projects without assistance from either their citizens or external forces. Such situation usually ignites the need for government to finance these projects either through internal borrowing, external borrowing or implementation of monetary instrument to increase the flow of fund in the economy. However there is a repel effect on the sectorial performance of any country in that it has the capacity to deter the performance of any sector of an economy ([Onwioduokit & Inam, 2018](#); [CBN, 2018](#)).

One major approach is budget deficit. This phenomenon emanated due to the imbalance in the budget of a country. The persistent decline in crude oil export earnings which resulted to deficit financing 1970 to 1983 were financed through heavy borrowing after reducing the nation's foreign exchange reserves ([Nwanna & Umeh, 2019](#)). Irrespective of the foregoing several fiscal measures introduced by the government in curbing excessive deficit, the Nigerian economy on overall while each of the sectors to be specific remains at the lowest ebb with citizens suffering from high level of unemployment; insecurity and poverty ([Okah et al., 2019](#)). This has been fueled by the high rate of corruption inherent in the economic system since military regime till date ([Okah et al., 2019](#)). The issues relating to measurement, concept, effects, consequences and benefit of deficit financing remains a hot debate among scholars over the past four decades. Consequently, the issue of which revolves around deficit financing vis-à-vis domestic and external debt, budget deficit, and foreign exchange reserve still raise scholarly attention.

On overall, both theorist and empirics are yet to come on a round table agreement as to whether deficit financing is growth inducing or growth retarding. For example, empirics like [Ali et al. \(2018\)](#), whom are of the Classical school of thought believe that deficit financing is induce the growth of the economy on the overall while empirics like [Tung \(2018\)](#); [Solawon & Adekunle \(2018\)](#); [Olatunde & Temitope \(2017\)](#) whom are in support of the Neoclassical economists reported that deficit financing slows down economic/sectorial output. Arising from the above conflicting issues cited, we are therefore motivated to examine the effect of deficit financing on sectorial output in Nigeria. As such, revisiting the construct in Nigerian context is germane as it would contribute immensely to extant studies.

Specifically, this study seeks to examine the effect of Domestic debt, Foreign Debt, Budget Deficit, and Foreign Exchange Reserve on Sectorial Output in Nigeria. In terms of time scope, the study spanned from 1986 to 2020. The choice of the study period was based on the fact that this period actually marked the structural changes in government policy framework through the adoption of Structural Adjusted Programme.

## **Literature Review**

### **Conceptual review**

The term deficit financing is simply a situation whereby a country's fiscal estimates (budgeted income and expenditure) are at par. Put differently, it is a

situation whereby the revenue which a country generates is far below her expenditure. According to [Okah et al., \(2019\)](#), deficit financing accounts for differences between a country's anticipated receipt (income) and anticipated expenditures financed by withdrawal of cash balances and borrowing from the public. Simply put, it accounts for the differences between a country's budgeted income and expenditures. In other words, deficit financing centers on loan-financing and drawing down of cash balances.

[Tung \(2018\)](#), conceptualized deficit financing as an economic state in which government spending is more than her earnings while deficit financing centers on borrowing either from a domestic or external source in order to finance her obligations while the repayment of such fund is to be made at an agreed period of time with some conditions. Put differently, it involves seeking to stimulate a nation's economy by increasing government expenditures beyond revenue sources. This connotes that deficit financing involves financing undertaken by a corporation or government with a view to make up shortfalls in accrued revenue so as to provide economic stimulus.

Basically, government all over the world always looks out for different options to finance its deficit financing. The main three sources are:

- Borrowings
- Minting of money (ways and means)
- Foreign exchange reserves

### **Borrowings**

Public debt deficit can be financed by borrowings from the internal source or the external sources (foreign governments, international organizations, etc.).

- Internal Sources: The government may decide to source for funds internally so as to cover the deficit, the treasury or finance ministry must borrow either from internal the sales of federal Government Securities (FGS) such as treasury bonds or through a tender system. This is the preferred government method of raising funds, as it does not add to net foreign debt, because the government is not borrowing from overseas. However, there is a disadvantage to this form of debt financing. When the Federal Government sells FGS it competes with the private sector for domestic savings, creating what is referred to as a "crowding out effect ([Ehiedu & Toria, 2021; Kusuma & Yasa, 2019](#)).
- External Sources: This is preferred if the internal funding is not adequate. This method of financing the deficit adds to foreign debt when interest is paid on the securities (net income component of the balance of payments) ([Jatta, 2020](#))

### **Minting of money (Ways and Means)**

This implies printing of new currency (high-powered money) by the apex bank in this case Central bank of Nigeria. They may as well borrow from Central Bank of Nigeria (CBN) against its securities to meet the deficit financing. Central Bank of

Nigeria (CBN) issues new currency to finance its deficit financing. This means of financing is highly inflationary: when the government spreads the money, there is an increase in the money supply; if the economy is near full employment, demand inflation occurs rapidly, as there is too much money chasing a limited supply of goods ([Muhammad Abdulaziz & Kabir, 2020](#)).

### **Use of foreign exchange reserve**

These are cash and other reserve assets held by a central bank of Nigeria that are primarily available to balance payments of the country, and to maintain confidence in financial markets using denominated in United State of America dollar ([Aslam, 2016](#)). In view of the above, we captured deficit financing using domestic borrowings, foreign borrowings, budget deficit and foreign reserves. The major essence of the above deficit financing means is to ensure that each of the sectors of the Nigerian economy perform optimally. Specifically, though both the services and manufacturing sector are instrumental to economic growth but they have been faced with multifarious challenges. Outside infrastructure, there are other challenges such as high bank lending rate and banks' unwillingness to lend to the sector even though the monetary authorities classify both sectors as priority sectors ([Raheem, 2016](#)).

### **Theoretical underpinning**

Here, three (3) theories were used to underpin this study. However, none of the theorists seems to have a unanimous agreement on the subject matter. First, the Keynesian Economic Theory developed by John Maynard Keynes in 1936 suggests that deficit financing remains the veritable fiscal policy tool policy makers all over the world uses to actualize her macroeconomic growth objectives. This suggests that deficit financing is not entirely a bad fiscal policy option and that if it is used for infrastructural development, is highly beneficial. Put differently, deficit financing is the most paramount policy options policy makers in an economy that is faced with dual gap (saving-investment and foreign exchange gap) uses to strike a balance between her domestic savings and investment on one hand on one hand and import and export on the other hand ([Adenikinju, 1998](#); [Orji & Ojadi, 2021](#); [Woang, 2021](#)).

Conversely, the neoclassical economists exert that deficit financing slows down economic/sectorial output. This is because deficit financing stimulates aggregate demand, brings about high level of competition between public and private investors in need of loanable funds which in turn discourages private bonds issuance, investments and spending which ultimately slow down economic development. Meanwhile, the Ricardian Equivalence Theorem refuted the above claim and stated that government attempts to influence demand using fiscal policy will prove fruitless ([Alwi et al., 2021](#); [Clinton & Salami, 2021](#)). Therefore, deficit financing do not crowd in nor crowd out investors. In his view, no positive or negative relationship exists (i.e. no relationship).

## Empirical studies

[Onyele & Nwadike \(2021\)](#), investigated the impact of national debt burden on economic stability in Nigeria from 1981 to 2019. The study adopted the ARDL Approach. The study shows that national debt burden slows down economic stability in the long run with revenue adequacy having a negative and significant impact. In the short run, all the components of debt burden, except debt overhang, have a negative and significant impact on economic stability.

[Alam et al., \(2020\)](#), conducted a time-series analysis using ordinary least squares estimation, vector error correction model, and granger causality test. The findings suggested that the government budget deficit has a statistically significant negative impact on economic growth in Bangladesh. [Ssempala et al. \(2020\)](#), investigated on the relationship of internal debt and economic growth sustainability in Uganda from 1980 to 2016. The study adopted the multivariate analysis. The result of the study indicates that internal debt had a notable adverse effect on the economic growth of Uganda, particularly in the short run.

[Didia & Ayokunle \(2020\)](#), analyzed the impact of domestic debts on the economic growth of Nigeria from 1980 to 2016. The study adopted Vector Error Correction Model (VECM). The result of the study showed that domestic debt had a more favourable effect on economic growth than external debt. [Ibrahim & Khan \(2019\)](#), evaluated the relationship between Domestic debt and economic growth in Nigeria for a period covering 1981 to 2013. Autoregressive Dispersed Slack methodology was adopted in the study. The result of the study showed that residential debts had an aggressive impact on the economy yet decidedly influenced the total government income inside the period secured by the examination

[Adegboyoye et al. \(2020\)](#), empirically investigated the impact of external debt on economic growth in Nigeria between 1981 and 2018 using ARDLECM estimation technique. The variables used in the study were tested for stationarity using the Augmented Dickey Fuller. The result revealed that EDS, DDS, FDI and GOVE were stationary at first differencing while GDPGR was stationary at level. The study revealed that external debt and foreign direct investment positively affect economic growth while domestic debt and government expenditure hinders economic growth in Nigeria. [Muhammad Abdulaziz & Kabir \(2020\)](#), analyzed the effect of external debt servicing on Nigeria's economic growth from 1985 to 2018. The autoregressive Distributive Lag (ARDL) model was adopted in the study. The findings of the research revealed that in the long-run, external debt servicing adversely affect economic growth.

[Jatta \(2020\)](#), examined the effect of external debt burden on economic growth in Gambia from the period 1988 to 2017. Variables considered includes: GDP against External Debt Service (EDSER), External Debt to GDP (EDGDP), Real Exchange Rates (REX) and Export of goods and services percentage of GDP (EXP). (VECM) estimation approach model was adopted in the study. The findings of the study disclosed that external debt to GDP (EDGDP) is adversely and significantly connected with economic growth (GDP) in the long run hence insignificant in the short run.

Similarly, [Nwanna & Umeh \(2019\)](#), examined the effect of deficit finance on Nigeria economic growth using secondary data from 1981-2016. Estimation by OLS revealed that deficit financing through External debt borrowing has a significant negative effect on Nigeria's economic growth. Also, domestic debt has a positive significant effect on Nigeria's economic growth, while debt service has no significant effect on Nigeria's economic growth. [Hassan & Akhter \(2014\)](#), showed the relationship between budget deficit and economic growth in the case of Bangladesh. An augmented Dickey-Fuller (ADF) and Johansen Co-integration test had been used for time series diagnosis and according to the results of diagnostic tests, Vector Error Correction Model (VECM) had been used. The empirical result showed a statistically significant negative effect of budget deficit over economic growth of Bangladesh i.e. GDP growth rate, which conformed to many other developing countries of the world ([Keles et al., 2008](#); [Mehl & Reynaud, 2010](#)).

[Okah et al. \(2019\)](#), examined the effect of deficit financing on economic growth of Nigeria from 1987 to 2017. Vector Autoregressive Estimates was used in estimating the model. The analysis performed revealed that deficit financing has positive but insignificant effect on Nigerian economic growth. Based on the findings, they recommended that government should strive to diversify its revenue base and also demonstrate a high level of transparency in both its monetary and fiscal operations among others.

[Ilori et al. \(2002\)](#), examined the effect of budget deficit financing mechanisms on economic growth in Kenya from 1970-2014 from Economic Survey researchers captured budget deficit using internal and external-internal budget deficit published by Kenya National Bureau Statistics. The study found that budget deficit financing affect economic growth both negatively and significantly. [Onwioduokit & Inam \(2018\)](#), investigated the relationship between budget deficits and economic growth in Liberia. The study adopted the parsimonious Error Correction Model. The study evidenced that Budget deficit enhances economic growth in Liberia.

[Bacchetta et al. \(2019\)](#), evaluated the effect of external reserves management on the macroeconomic stability of Nigeria from 1990– 2017. Secondary data were sourced and analyzed using multiple regressions, granger casualty test, VAR model and unit test. The study revealed a direct relationship between external reserves and explanatory variables and external reserves were observed to be inversely related to macroeconomic instability.

[Aizenman & Lee \(2018\)](#), studied the impact of foreign exchange reserve accumulation on economic growth from 1996-2016. Multiple Regressions and VAR model was adopted in the study. The results of the study indicates that increased external reserves reduces liquidity risk cost discovered that increase in external reserve lead to rise in both liquid and total debt while shortening debt maturity to the extent that interest rates of external reserves though are low an increase in external reserves will lead to a permanent decline in consumption and increase in investment and economic growth.

[Egwakhe & Osabuohien \(2018\)](#), evaluated the effect of change in external reserves position of Nigeria on domestic investment, inflation and exchange rate between



1996 and 2016. Both ordinary least square and vector error correction models were adopted in the study. The results show that changes in reserves influence only foreign direct investment and inflation rates. [Awoderu et al. \(2017\)](#), investigated the effect of external reserves and economic development in Nigeria between 1980 and 2008. Ordinary Least Square (OLS) estimation technique was adopted in the study. The result of the study discloses that there is statistical significant relationship in the management of Nigerian external reserve.

[Alasan et al. \(2018\)](#), investigated the effect foreign exchange reserves accumulation and macroeconomic stability in Nigeria from 1990– 2015. The study adopted Unit root test and multiple regressions. The findings of the study reveal that exchange rate and GDP have positive and significant relationship with Foreign Exchange Reserve (FER) accumulation while inflation has negative and insignificant relationship with macroeconomic stability.

[Ramzan et al. \(2016\)](#), explored the impact of budget deficit on economic growth in Pakistan in which researchers used Time Series data for 30 years (1990 to 2014). The study was designed to find how the taxes are contributing toward the economic growth of Pakistan. The paper showed that there is a non-linear relationship between dependent variable GDP and independent variables inflation and investment and linear relationship exists between GDP, budget deficit and domestic credit.

[Lugman & Adeola \(2016\)](#), concentrated on the effect of foreign reserves and changes in balance of payment on economic growth in Nigeria covering from 1970-2011. The regress is GDP, while the regressors are external reserves and balance of payment. Meanwhile, the mediating variables are exchange rate, and inflation rate. The OLS result revealed a direct and significant relationship between foreign reserves and economic for the periods under investigation.

[Akpan \(2016\)](#), ascertained the impact of foreign reserve accumulation on the macro-economic environment in Nigeria covering from 2004 to 2014 using the co-integration technique. In gauging GDP, exchange rate, inflation rate, unemployment rate, investment, external debt, and foreign reserves, the results revealed that foreign reserves impact on the Nigerian macro-economic environment on the long-run.

Based on the above, the following are the research hypotheses:

**HO<sub>1</sub>:** Domestic Debt has no significant effect on Sectorial Output in Nigeria.

**HO<sub>2</sub>:** Foreign Debt has no significant effect on Sectorial Output in Nigeria.

**HO<sub>3</sub>:** Budget Deficit has no significant effect on Sectorial Output in Nigeria.

**HO<sub>4</sub>:** Foreign Exchange Reserve has no significant effect on Sectorial Output in Nigeria.

## **Methodology**

Data for the study were sourced from the CBN statistical bulletin (2020). Data were sourced for Agricultural Sector Output (AGSO), Manufacturing Sector Output (MASO), Services Sector Output (SESO), and Solid Mineral Sector Output

(SMSO) and also included some other variables like External Debt, Domestic Debt, Budget Deficit, Foreign Reserve, Inflation Rate and Interest rate from 1989-2020. The study adopted the expost facto research design since the data have existed in retrospect. The Autoregressive Distributed Lag Model. Basically, the ARDL methodology involves estimating a conditional Error Correction Model (ECM) was adopted. The data was run using E-views. The E-views are preferred due to its amenability to time series data (Eregha & Mesagan, 2020; Nyatepe-Coo, 1993).

### Model specification

The model modeled after the works of Olatunde and Temitope (2017) though with differences as per the inclusion of the Manufacturing Sector Output (MASO), Services Sector Output (SES0), Domestic Debt, Foreign Debt, Budget Deficit, and Foreign Reserve into the model which were absent in their model. Hence, our model is stated below:

#### Model 1: Deficit Financing Proxies and Manufacturing Sector (MASO)

$$\begin{aligned}\Delta \log \text{MASO}_t = & \alpha_0 + \alpha_1 \Delta \log \text{MASO}_{t-1} + \sum_{i=0}^m (\Delta \text{DOMD}_{t-1}) + \sum_{j=0}^n (X_j \Delta \log \text{FORD}_{t-j}) \\ & + \sum_{k=0}^p (\partial k \Delta \log \text{BUGD}_{t-k}) + \sum_{k=0}^q (\partial k \Delta \log \text{FER}_{t-k}) + \sum_{k=0}^r (\partial k \Delta \log \text{BRMS}_{t-k}) \\ & + \sum_{k=0}^s (\partial k \Delta \log \text{INFR}_{t-k}) + \sum_{k=0}^t (\partial k \Delta \log \text{INTR}_{t-k}) + \Omega \text{ECT}t - 1 + \xi t\end{aligned}$$

#### Model 2: Deficit Financing Proxies and Services Sector Output (SES0)

$$\begin{aligned}\Delta \log \text{SES0}_t = & \alpha_0 + \alpha_1 \Delta \log \text{SES0}_{t-1} + \sum_{i=0}^m (\Delta \text{DOMD}_{t-1}) + \sum_{j=0}^n (X_j \Delta \log \text{FORD}_{t-j}) \\ & + \sum_{k=0}^p (\partial k \Delta \log \text{BUGD}_{t-k}) + \sum_{k=0}^q (\partial k \Delta \log \text{FER}_{t-k}) + \sum_{k=0}^r (\partial k \Delta \log \text{BRMS}_{t-k}) \\ & + \sum_{k=0}^s (\partial k \Delta \log \text{INFR}_{t-k}) + \sum_{k=0}^t (\partial k \Delta \log \text{INTR}_{t-k}) + \Omega \text{ECT}t - 1 + \xi t\end{aligned}$$

Where:

MASO	=	Manufacturing Sector Output
SES0	=	Services Sector Output
DOMD	=	Domestic debt
FORD	=	Foreign Debt
BUGD	=	Budget Deficit
FOER	=	Foreign Exchange Reserves
INFR	=	Inflation rate
INTR	=	Interest Rate
$\beta_0$	=	Constant



$\beta_i$ -  $\beta_4$  = Estimation parameters  
 $\mu$  = Error term

## Results and Discussion

### Data analysis

#### Descriptive statistics

The descriptive statistics account for the mean, minimum, maximum value, standard deviation value, skewness, Kurtosis, Jarque-Bera test alongside its p-value. The result is presented below:

Table 1  
Summary of Nigeria descriptive statistics

	MASO	SESO	DOMD	FORD	FER	BUGD	INFR	INTR
Mean	7173363.0	11329855	3658.379	2253.779	207481.4	6987.346	19.51394	18.52572
Median	1829335.0	7416290.	1329.685	716.8656	103608.6	167.0050	12.22000	17.95000
Maximum	1.53E+08	25663648	16023.89	12705.62	590550.4	107735.3	72.84000	29.80000
Minimum	1373662.	3892216.	28.43870	41.45240	18922.05	3.380000	5.380000	10.50000
Std. Dev.	5472626.0	7717979.	2718.519	2166.314	174666.7	20195.66	17.89754	3.806866
Observations	35	35	35	35	35	35	35	35

Source: Econometric Views Version 9.0 (2021)

The descriptive result in table 1 above reported a 35 observations for all the variables. This means that the study covered a time frame of 35 years (1986-2020) and that none of the study variables are missing. Further, the result evidenced that Manufacturing Sector Output, Services Sector Output, domestic debt, external debt, foreign reserve, budget deficit, inflation rate, and interest rate reported minimum values of N1373662.0billion, N3892216. billion, ₦28.43870 billion, ₦41.45240 billion, ₦18922.05 billion, ₦3.380000 billion, 5.380%, and 10.50%. Meanwhile, they reported maximum values of ₦1.53E+08 billion, ₦25663648 billion, ₦16023.89 billion, ₦12705.62 billion, ₦590550.4 billion, ₦107735.3 billion, 72.84%, and 29.80%respectively. In terms of the degree of volatility, all the study variables except budget deficit, inflation rate, and interest rate were highly volatile. This is because only except budget deficit, inflation rate, and interest rate reported a high standard deviation value as against low mean values recorded. Lastly, the normality test has a p-value of 0.815166 is greater than 5% significant level. Hence, we can conclude that the model is normally distributed and thus serve as a basis for making future forecast (Kumhof, 2000; Edomah, 2019; Sanni, 2018; Kustina et al., 2019).

#### Unit root test

Table 2 below accounts for the unit root test:

Table 2  
Summary of PP Unit Root Test (At first differencing)

Target Variables	ADJ.T.	PP Test Critical	P-value	Order of	Decision
------------------	--------	------------------	---------	----------	----------

	Statistics	Value @ 5%		Integration	
Manufacturing Sector Output	-3.497863	-2.951125	0.0142	1(0)	Stationary
Services Sector Output	-5.006289	-2.954021	0.0003	1(1)	Stationary
Domestic Debt.	-4.246729	-2.954021	0.0021	1(1)	Stationary
External Debt.	-4.241790	-2.954021	0.0022	1(1)	Stationary
Budget Deficit.	-9.118954	-2.954021	0.0000	1(1)	Stationary
Exchange Reserve	-6.493316	-2.954021	0.0000	1(1)	Stationary
Inflation Rate	-7.336958	-2.954021	0.0000	1(1)	Stationary
Interest Rate	-4.575308	-2.951125	0.0008	1(0)	Stationary

Source: Researcher's Compilation from Econometric Views Output 9.0 (2021)

The Philip-Perron test in table 3 above clearly revealed that all the study variables except manufacturing sector output and inflation rate were stationary at First Differencing. This further revealed that the model reported mixed integration. This, therefore, justify the need for ARDL cointegration test.

### ARDL bound test for cointegration

The ARDL Bound tests for the two (2) models are summarized in table 3 below:

Table 3  
Summary of ARDL bound test

Model	F-Statistics Value			Critical Value Bounds (5% Level)	
One	Test Statistic	Value	k	I0 Bound	I1 Bound
	F-statistic	7.198620	6	2.45	3.61
Two	Test Statistic	Value	k	I0 Bound	I1 Bound
	F-statistic	3.780070	6	2.45	3.61

Source: Researcher's Compilation Based on E-Views 9.0 Output (2021)

The Bound Test in table 4.3 above evidence that shows that there exists a cointegration among the variables as the F-Statistics value of 7.198620 is higher than the critical value of upper bound (1(1) of 3.61 for the two (2) models.

### Regression results

Prior to the regression result proper, we first checked the fitness of the model. Their results are presented below:

Table 4  
Variance inflation factors-model 1 and 2

Model 1: Deficit Financing and MASO		Model 2: Deficit Financing and SESO	
Variable	Centered VIF	Variable	Centered VIF
LOG(MASO(-1))	3.923291	LOG(MASO(-1))	4.425784
LOG(DOMD)	5.832027	LOG(DOMD)	1.271019
LOG(FORD)	3.904712	LOG(FORD)	3.892332
LOG(BUGD)	1.327004	LOG(BUGD)	1.237193
LOG(FER)	3.759831	LOG(FER)	1.271019

LOG(INFR)	2.292123	LOG(INFR)	2.291375
LOG(INTR)	1.718180	LOG(INTR)	1.808572
C	NA	C	NA

Source: Econometric Views Version 9.0 (2021)

Model 1 and 2 above suggests that the model is free from the multi-collinearity problem since none of the study variables have a VIF value that is higher than or equal to 10. On this note, we can boldly state that the model is not spurious.

Table 5  
Ramsey RESET test (Model 1 and 2)

Model 1: Deficit Financing and MASO			
	Value	df	Probability
t-statistic	1.802145	25	0.0883
F-statistic	3.247727	(1, 25)	0.0883
Model 2: Deficit Financing and SESO			
	Value	Df	Probability
t-statistic	1.636710	25	0.1153
F-statistic	2.678820	(1, 25)	0.1153

The Ramsey RESET Test in Table 4.18 above reported that model 1 and 2 are correctly specified since its p-values (0.0883 and 0.1153) are greater than the 5% significant level.

Table 6  
Heteroskedasticity test: breusch-pagan-godfrey (Model 1 and 2)

Model 1: Deficit Financing and MASO			
F-statistic	1.056486	Prob. F(7,26)	0.4181
Obs*R-squared	7.529292	Prob. Chi-Square(7)	0.3759
Scaled explained SS	6.973197	Prob. Chi-Square(7)	0.8594
Model 2: Deficit Financing and SESO			
F-statistic	1.121389	Prob. F(7,26)	0.3800
Obs*R-squared	7.884570	Prob. Chi-Square(7)	0.3429
Scaled explained SS	10.85775	Prob. Chi-Square(7)	0.6972

Source: Econometric Views Version 9.0 (2021)

The Heteroskedasticity test for Model 1 and 2 reported a p-value of 0.4181 and 0.3800 respectively. This signposts that the model's mean values are spread out equally (Homoskedastic). It is on this premise, we are motivated to test the research hypotheses formulated in chapter one using the ARDL Co-integrating and Long Run technique.

Table 7  
ARDL cointegrating and long run form (Model 1)

Dependent Variable: LOG(MASO)
Selected Model: ARDL(1, 0, 0, 0, 0, 0)

Date: 11/10/21 Time: 15:22				
Sample: 1986 2020				
Included observations: 34				
Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(DOMD)	0.864860	0.193154	4.477560	0.0001
DLOG(FORD)	-0.136550	0.125792	-1.085524	0.2877
DLOG(BUGD)	0.236432	0.034315	6.889940	0.0000
DLOG(FER)	-0.227744	0.190622	-1.194743	0.2430
D(INFR)	0.005512	0.006895	0.799375	0.4313
D(INTR)	-0.053985	0.027135	-1.989496	0.0573
CointEq(-1)	-0.856792	0.121359	-7.059974	0.0000
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(DOMD)	0.465782	0.081160	5.739084	0.0000
LOG(FORD)	-0.073541	0.063395	-1.160041	0.2566
LOG(BUGD)	0.127333	0.022612	5.631321	0.0000
LOG(FER)	-0.122655	0.102091	-1.201422	0.2404
INFR	0.002968	0.003740	0.793662	0.4346
INTR	-0.029074	0.016213	-1.793275	0.0846
C	12.043444	0.431622	27.902779	0.0000
R-squared	0.819157	Mean dependent var		14.84966
Adjusted R-squared	0.770469	S.D. dependent var		0.888537
F-statistic	16.82446			
Prob.(F-statistic)	0.000000	Durbin-Watson stat		2.072994

Source: Econometric Views Version 9.0 (2021)

Table 7 above reported an R-squared value of 81.92 indicating that, the model has a high explanatory power. This result was complimented by the adjusted R-squared (having considered the degree of freedom) of 77.05%. More so, the Durbin Watson statistics value of 2.072994 suggests that the model is free from serial-auto correlation. Similarly, the Prob. (F-statistic) of 0.000001 implies that the model has a high statistical value.

Table 8  
ARDL cointegrating and long run form (Model 2)

Dependent Variable: LOG(SESO)				
Selected Model: ARDL(1, 0, 0, 0, 0, 0)				
Date: 11/10/21 Time: 15:30				
Sample: 1986 2020				
Included observations: 34				
Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(DOMD)	0.456098	0.187161	2.436934	0.0226
DLOG(FORD)	-0.330138	0.107029	-3.084570	0.0051
DLOG(BUGD)	-0.022754	0.019802	-1.149069	0.2619
DLOG(FER)	0.396001	0.163632	2.420073	0.0235
D(INFR)	0.002755	0.004277	0.644047	0.5257
D(INTR)	0.074376	0.023095	3.220485	0.0037

CointEq(-1)	-0.473524	0.191238	-2.476101	0.0207
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(DOMD)	0.963199	0.313210	3.075253	0.0052
LOG(FORD)	-0.697194	0.229637	-3.036064	0.0057
LOG(BUGD)	-0.048053	0.044975	-1.068446	0.2959
LOG(FER)	-0.460694	0.341359	-1.349588	0.1897
INFR	-0.029596	0.013911	-2.127483	0.0439
INTR	0.157068	0.055761	2.816815	0.0095
C	13.028122	1.095521	11.892173	0.0000
R-squared	0.905131	Mean dependent var		16.05089
Adjusted R-squared	0.869555	S.D. dependent var		0.653361
F-statistic	25.44231			
Prob(F-statistic)	0.000000	Durbin-Watson stat		2.139857

Source: Econometric Views Version 9.0 (2021)

Table 8 above reported R-squared value of 90.51% indicating that it had high explanatory power. This result was complimented by the adjusted R-squared (having considered the degree of freedom) of 86.96%. More so, the Durbin Watson statistics value of 2.139857 suggests that the model is free from serial-auto correlation. Similarly, the Prob.(F-statistic) of 0.000001 implies that the model has a high statistical value.

Sequel to the above exposition, each result is discussed below: First, the ARDL Cointegrating and Long run result reported that domestic debt has a positive significant effect on both the manufacturing and services sector output. This is premised on the fact that domestic debt reported positive coefficient values of 0.864860 and 0.465782 (AGSO), and 0.456098 and 0.963199 (SESO) and p-values of 0.0001 and 0.0000 (AGSO) and 0.0226 and 0.0052 (SESO). The implication of this result is that domestic borrowings and by extension domestic debt is not a bad macroeconomic policy per se and is that if countries of the world use borrowed loans for developmental purposes, the end result is improved sectorial output. This is because at low levels of debt, additional domestic borrowings could stimulate growth of each of the sectors of the economy. The above results are in tandem with the findings of [Didia & Ayokunle \(2020\)](#); [Kueh et al. \(2017\)](#) but deviated sharply from the findings of [Ssempala et al. \(2020\)](#); [Ibrahim & Khan \(2019\)](#).

Conversely, Foreign Debt has a negative effect on both the Manufacturing and Services Sector Output. This is because both the Manufacturing and Services Sector had a negative coefficient value. This result implies that the cost of servicing such loan may disrupt the operations of different sectors of the Nigerian economy. This supports the Keynesian theory but rejected the claims of the Neoclassical and Ricardian theorist. However, only model two (SESO) was highly significant. This result validates the findings of [Onyele & Nwadike \(2021\)](#); [Didia & Ayokunle \(2020\)](#); [Muhammad & Kabir \(2020\)](#); [Jatta \(2020\)](#); [Moh'd AL-Tamimi & Mohammad \(2019\)](#), but deviated sharply from the findings of [Adegboybo et al. \(2020\)](#); [Nwanna & Umeh \(2019\)](#).

Furthermore, model 1 reported that Budget Deficit has a positive significant effect on Manufacturing Sector Output. Conversely, model 2 reported that budget deficit has a negative coefficient value of -0.234711 alongside a p-value of 0.1335 which is greater than 5% significant level. The results imply that when fiscal deficit is increased, the Services sector will dwindle while the Manufacturing sector will improve. In the case of statistical significance, budget deficit has minimal effect on Services Sector output. This result supports the Ricardian Theorist and also supports the Neo-classical theorist but deviated from the assertions of the Keynesian Theorists. To further validate theories, as well as the result, is in tandem with the findings of [Alam et al. \(2020\)](#); [Hassan & Akhter \(2014\)](#); [Nwakobi et al. \(2018\)](#) but contradicts the findings of [Okah et al. \(2019\)](#); [Onwioduokit & Inam \(2018\)](#); [Solawon & Adekunle \(2018\)](#).

Furthermore, the ARDL Regression estimate clearly revealed that Foreign Reserve has a negative insignificant effect on the Manufacturing Sector Output. This is in tandem with the Neoclassical Theory. Although Foreign Reserve had a mixed effects on Services Sector Output both on the short and long run, such effect tends to be statistically significant only on the short run. To further validate theories as well as the result is in tandem with the findings of [Bacchetta et al. \(2019\)](#); [Aizenman & Lee \(2018\)](#); [Egwakhe & Osabuohien \(2018\)](#); [Alasan et al. \(2018\)](#); but contradicts the findings of [Awoderu et al. \(2017\)](#).

Lastly, interest rate has insignificant negative effect on both manufacturing sector output whereas in the case of the service sector, it became negative and significant. Meanwhile, in the case of the services sector, it exerted positive significant effect. On the other hand, the Inflation rate had a positive and insignificant effect on the outputs of the two selected sectors only on the short run. However, on the long run, though positive and insignificant in the case of manufacturing sector Output but was found to have negative significant effect on Services Sector Output. This indicates that all the selected sectors gained from the increase in inflation rate especially on the short run. This result is in line with the findings of [Ramzan et al. \(2016\)](#); [Lugman & Adeola \(2016\)](#), but deviated sharply from the findings of [Akpan \(2016\)](#).

## **Conclusion and Recommendations**

This study was concerned with the effect of deficit financing on Sectorial Output in Nigeria from 1986–2020. Various Sectors considered include Agricultural Sector, Manufacturing Sector, Solid Mineral Sector, and Services Sector. The independent variable in the study is deficit financing measured by domestic debt, foreign debt, budget deficit, Foreign exchange reserve while the dependent variable in the study is Sectorial Output measured by Manufacturing Sector, and Services Sector Output. Accordingly, the two models support the ARDL Methodology since they reported mixed integration. Sequel to the major findings of this study, we conclude that though deficit financing proxies stated in this study have mixed effect on Sectorial output, is and still remain the surest means for achieving outstanding Sectorial Output provided the cost of borrowings is low and that borrowed funds are used for productive purposes.

In line with the major findings of the study, the following recommendations were made:

- Policy makers should encourage state owned enterprises to borrow through government guarantees to execute projects with expected revenue streams.
- There is need for accountability, debt optimization, and efficient macro-economic policy environment.
- The public budget deficit should be centered on capital expenditure rather than recurrent expenditure to ensure investment in infrastructural facilities that could improve economic growth through enhancement of the Manufacturing Sector, and Services Sector.
- The federal governments should ensure that all efforts towards reducing her foreign reserve should be abhorred.
- The Nigerian government should always embark on interest rate reforms which can reduce the wide interest rate spread between lending and deposit rate in Nigeria.
- The Nigerian government should always must ensure that the current inflation rate do not rise beyond the current rate otherwise it would have a deterring effect on the sectors under investigation.

## References

- Adegboyo, O. S., Efuntade, O. O., & Efuntade, A. O. (2020). Fiscal deficit and growth in Nigeria economy. *KIU Interdisciplinary Journal of Humanities and Social Sciences*, 1(3), 146-160.
- Adenikinju, A. F. (1998). Productivity growth and energy consumption in the Nigerian manufacturing sector: a panel data analysis. *Energy policy*, 26(3), 199-205. [https://doi.org/10.1016/S0301-4215\(97\)00098-0](https://doi.org/10.1016/S0301-4215(97)00098-0)
- Aizenman, J. & Lee J. (2018). Foreign exchange reserve accumulation on economic growth from 1996-2016. *Theory and Evidence Economic Journal*, 3(6), 1-30.
- Akpan, A. U. (2016). Foreign reserves accumulation and macroeconomic environment: The Nigerian experience (2004-2014). *International Journal of Economics and Finance Studies*, 8(1), 26-47.
- Alam, M. M., Sadekin, M. N., Islam, R., & Moudud-Ul-Huq, S. (2021). Effect of Deficit Financing on Economic Growth in Bangladesh: Cointegration and VECM Approach. *FIIB Business Review*, 23197145211057339.
- Alasan, A. B., Shaib, I. O., & Alasan, F. (2018). Empirical Interaction Of Exchange And Inflation Flunctuation Rates On External Reserves In Nigeria: 1985-2016. *Journal of Arts, Management, Science & Technology (JAMST)*, 5(1), 63-74.
- Ali, M. B., Mandara, B., & Ibrahim, M. A. (2018). Impact of deficit financing on economic growth in Nigeria. *Global Journal of Management and Business Research*.
- Alwi, M. A. bin M., Abdullah, A. bin, & Luqman, A. binti. (2021). Debt management literacy among credit cards users. *Linguistics and Culture Review*, 6(S1), 42-56. <https://doi.org/10.21744/lingcure.v6nS1.1897>
- Aslam, A. L. M. (2016). Impact of money supply on Sri Lankan economy: an econometric analysis. *International Letters of Social and Humanistic Sciences*, 67, 11-17.



- Awoderu, B. K., Ochalibe, A. I., & Obekpa, H. O. (2017). Policy implications of long-run relationship between external reserve and economic growth in Nigeria. *International Journal of academic research and reflection*, 5(1), 82-95.
- Bacchetta, P., Benhima, K., & Kalantzis, Y. (2013). Capital controls with international reserve accumulation: Can this be optimal?. *American Economic Journal: Macroeconomics*, 5(3), 229-62.
- Clinton, E., & Salami, C. G. (2021). Impact of diversification strategy on organizational performance in manufacturing firms in Nigeria. *International Research Journal of Management, IT and Social Sciences*, 8(6), 589-604. <https://doi.org/10.21744/irjmis.v8n6.1949>
- deficit financing, domestic debt, manufacturing sector, Nigeria, sector output
- Didia, D., & Ayokunle, P. (2020). External debt, domestic debt and economic growth: The case of Nigeria. *Advances in Economics and Business*, 8(2), 85-94.
- Edomah, N. (2019). Governing sustainable industrial energy use: Energy transitions in Nigeria's manufacturing sector. *Journal of Cleaner Production*, 210, 620-629. <https://doi.org/10.1016/j.jclepro.2018.11.052>
- Egwakhe, A. J. & Osabuohien, E. (2018). Change in external reserves position of Nigeria on domestic investment, inflation and exchange rate between 1996 - 2016. *African Journal of Business and Economic Research*, 2(3), 28-41.
- Ehiedu, V. C., & Toria, G. (2021). Audit indicators and financial performance of manufacturing firms in Nigeria. *Linguistics and Culture Review*, 6(S1), 14-41. <https://doi.org/10.21744/lingcure.v6nS1.1887>
- Eregba, P. B., & Mesagan, E. P. (2020). Oil resources, deficit financing and per capita GDP growth in selected oil-rich African nations: a dynamic heterogeneous panel approach. *Resources Policy*, 66, 101615. <https://doi.org/10.1016/j.resourpol.2020.101615>
- Hassan, H., & Akhter, A. (2014). Budget deficit and economic growth of Bangladesh: A VAR-VECM approach. *Janata Bank Journal of Money, Finance and Development*, 1(2).
- Ibrahim, A. K., & Khan, S. M. (2019). Domestic debt and economic growth in Nigeria: An ARDL Bounds test approach. *Economics And Business*, 33(1), 50-68.
- Ilori, M. O., Adeniyi, A. A., Oyewale, A. A., Sanni, S. A., & Ireferin, I. A. (2002). Developing a manufacturing-based economy in Nigeria through science and technology. *Technovation*, 22(1), 51-60. [https://doi.org/10.1016/S0166-4972\(00\)00054-7](https://doi.org/10.1016/S0166-4972(00)00054-7)
- Jatta (2020). An assessment of the impact of external borrowing on economic growth: empirical evidence from the Gambia.
- Keles, A., Kolcak, M., & Keles, A. (2008). The adaptive neuro-fuzzy model for forecasting the domestic debt. *Knowledge-Based Systems*, 21(8), 951-957. <https://doi.org/10.1016/j.knosys.2008.04.007>
- Kueh, J., Liew, V. K. S., & Yong, S. W. (2017). Modeling Malaysia debt threshold: Debt composition perspective. *International Journal of Business and Society*, 18(S4), 800-807.
- Kumhof, M. (2000). A quantitative exploration of the role of short-term domestic debt in balance of payments crises. *Journal of International Economics*, 51(1), 195-215. [https://doi.org/10.1016/S0022-1996\(99\)00042-2](https://doi.org/10.1016/S0022-1996(99)00042-2)
- Kustina, K.T., Dewi, G.A.A.O., Prena, G.D., Suryasa, W. (2019). Branchless banking, third-party funds, and profitability evidence reference to banking

- sector in indonesia. *Journal of Advanced Research in Dynamical and Control Systems*, 11(2), 290-299.
- Kusuma, P. S. A. J., & Yasa, G. W. (2019). Comparative analysis of company market reactions on right issue for pay debt and investment. *International Research Journal of Management, IT and Social Sciences*, 6(3), 29-36. <https://doi.org/10.21744/irjmis.v6n3.626>
- Lugman, A. S. & Adeola, O. A. (2016). Effects of external reserves and balance of payment changes on economic growth in Nigeria. *The Journal of Economics and Social studies*, 2(2) 150-160.
- Mehl, A., & Reynaud, J. (2010). Risky public domestic debt composition in emerging economies. *Journal of International Money and Finance*, 29(1), 1-18. <https://doi.org/10.1016/j.jimonfin.2009.02.003>
- Moh'd AL-Tamimi, K. A., & Mohammad, S. J. (2019). Impact of external debt on economic growth in Jordan for the period (2010–2017). *International Journal of Economics and Finance*, 11(4), 114-118.
- Muhammad Abdulaziz, M., & Kabir, A. (2020). Impact of external debt servicing on economic growth in Nigeria: An ARDL approach.
- Nwakobi, P. C., Echekeba, F. N., & Ananwude, A. C. (2018). Fiscal deficit in an oil dependent revenue country and selected macroeconomic variables: a time series analysis from Nigeria (1981-2015). *European Journal of Economic and Financial Research*, 3(1), 126-167.
- Nwanna, I. O., & Umeh, G. N. (2019). Deficit financing and economic growth: the Nigerian experience. *International Journal of Economics and Financial Management*, 4(1), 28-49.
- Nyatepe-Coo, A. A. (1993). External disturbances, domestic policy responses and debt accumulation in Nigeria. *World Development*, 21(10), 1621-1631. [https://doi.org/10.1016/0305-750X\(93\)90097-S](https://doi.org/10.1016/0305-750X(93)90097-S)
- Okah, J., Chukwu, K. O., & Ananwude, A. (2019). Deficit financing and economic growth in Nigeria: 1987-2017. *Asian Journal of Economics, Business and Accounting*, 12(1), 1-13.
- Olatunde, F.R., & Temitope D.J. (2017). Deficit financing and Sectorial Output in Nigeria. *American Journal of Social Sciences*. 5(6), 41-46.
- Onwioduokit, E. A., & Inam, U. S. (2018). Budget deficit and economic growth in Liberia: an empirical investigation. *American Journal of Social Sciences and Humanities Research*, 2(6), 68-78.
- Onyele, K. O., & Nwadike, E. C. (2021). Impact of National Debt Burden on Economic Stability in Nigeria. *Economics and Business*, 35(1), 91-106.
- Orji, I. J., & Ojadi, F. (2021). Investigating the COVID-19 pandemic's impact on sustainable supplier selection in the Nigerian Manufacturing Sector. *Computers & Industrial Engineering*, 160, 107588. <https://doi.org/10.1016/j.cie.2021.107588>
- Raheem, I. (2016). Analysis of the effects of oil and non-oil export on economic growth in Nigeria.
- Ramzan, M., Saleem, S. & Butt, I.M., (2016). Budget Deficit and Economic Growth: A Case Study of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 5(1), pp.911-926.
- Sanni, M. (2018). Drivers of eco-innovation in the manufacturing sector of Nigeria. *Technological Forecasting and Social Change*, 131, 303-314. <https://doi.org/10.1016/j.techfore.2017.11.007>

- Solawon, M. D., & Adekunle, O. (2018). Deficit Financing and Economic Growth: An Autoregressive Distributed Lag Approach. *AAU Annals of Accounting, Educational & Social Research*, 5(1), 23-33.
- Ssempala, R., Ssebulime, K., & Twinoburyo, E. (2020). Uganda's experience with debt and economic growth: an empirical analysis of the effect of public debt on economic growth—1980–2016. *Journal of Economic Structures*, 9(1), 1-18.
- Tung, L. T. (2018). The effect of fiscal deficit on economic growth in an emerging economy: Evidence from Vietnam. *Journal of International Studies*, 11(3).
- Woang, J. P. (2021). Translation activities on oral translation and written translation. *Applied Translation*, 15(1), 28–38. Retrieved from <https://appliedtranslation.nyc/index.php/journal/article/view/1402>