

# Effectiveness of Aggregate Determinants of Deficit Financing on Capital Formation in Nigeria: An Approach Based on the ARDL Model

Justin. C. Alugbuo, Emeka Eze

Lecturer, Department of Economics, College of Management Sciences (COLMAS),  
Michael Okpara University of Agriculture, Umudike, Umuahia, Abia State, Nigeria

## ABSTRACT

In Nigeria, despite the huge expansion of public expenditure based on the budget deficit status over the years, the expected level of economic growth as a result capital formation has not been achieved and it is against this backdrop, that this study investigated the effectiveness of aggregate deficit financing on capital formation in Nigeria for the period 1981-2019 with the help of the ARDL model of estimation. Based on the issues covered in the literature review, empirical investigations were carried out on the effect of deficit financing on capital formation in Nigeria. Results showed that External Debt Stock (LNEXDBT) had a positive relationship with GCF\_GDP in the current year, 1<sup>st</sup> and 2<sup>nd</sup> lags but statistically insignificant in the long run, Domestic Debt Stock (LNDMDBT) had a negative relationship with GCF\_GDP in the current year, 1<sup>st</sup> and 2<sup>nd</sup> year lags and long run, Aggregate Gross Savings (LNADBTS) had a positive significant relationship with GCF\_GDP in the current year and in the long run, Aggregate Debt Service (LNADBTS) had a positive relationship with GCF\_GDP in the current year and in the long run while Total external reserves had a negative relationship with GCF\_GDP in the current year and in the long run. Based on the findings, the study recommended that the Government should demonstrate a high sense of transparency in its monetary and fiscal operations to curb high prevalence of external and domestic borrowing, improved gross savings to reduce the incidence of inflation which will translate to economic prosperity.

**KEYWORDS:** Deficit Financing, Capital Formation, External Debt, Domestic Debt

## 1. Background to the Study and Statement of the Problem

The concept of a shortage of budget, now being described as "budget deficit", was developed after the Nigerian civil war and aggravated by current economic and financial difficulties insecurities in the market. Since 1990, around 88% of the Nigerian budgets are allocated to the deficit, i.e. monetary authorities and the government feel that a good solution to social and economic problems can be done through higher spending in the economy (Monogbe, Dornubari and Emah 2015). Despite its commitment to provide the necessities of life to its citizens, government often spend more than it has in revenue, necessitating the use of deficit financing to deal with revenue shortfalls.

In Recognizing the Ricardian Equivalence Principle, which states that an increase in the deficit will be matched by future tax revenues and thus keep interest rates and investment rates the same, it states that earlier tax cuts will be used to pay for the subsequent rise in the deficit. This results in tax increases resulting in a lower interest rates than originally planned which will mean that public debt will be serviced while private savings increase. As a result, the choice is between getting taxed sooner or later.

Now, one must wonder why it is empirically supported and theoretically correct that when the economy is saddled with persistent inflation and high unemployment levels, as is the

**How to cite this paper:** Justin. C. Alugbuo | Emeka Eze "Effectiveness of Aggregate Determinants of Deficit Financing on Capital Formation in Nigeria: An Approach Based on the ARDL Model" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-5 | Issue-3, April 2021, pp.384-396, URL: [www.ijtsrd.com/papers/ijtsrd39820.pdf](http://www.ijtsrd.com/papers/ijtsrd39820.pdf)

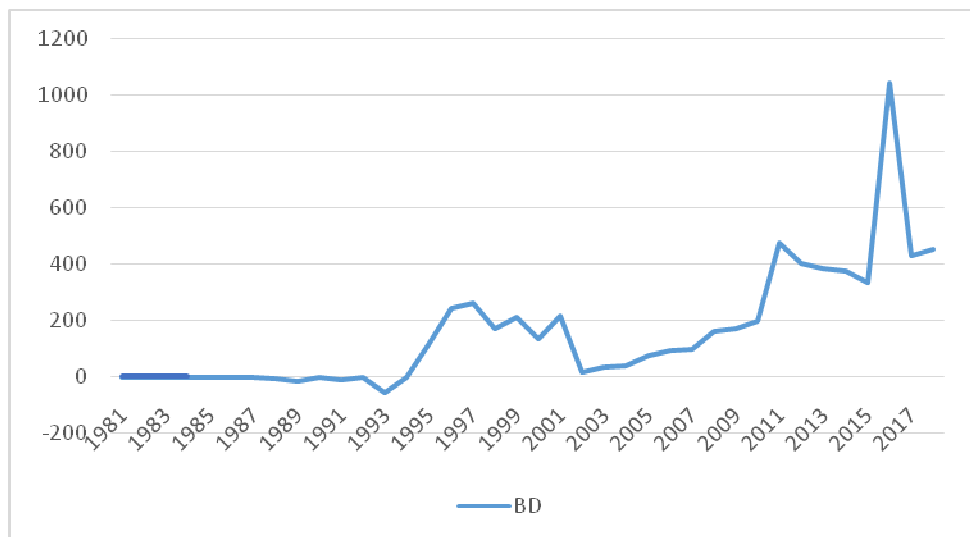


IJTSRD39820

Copyright © 2021 by author(s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



case in Nigeria. Despite the government's extensive expansion of public expenditure over the years, the anticipated degree of economic growth as a result of capital formation and accumulation by the government has not been achieved, as a greater percentage of Nigerians still live in absolute poverty, have a persistently high mortality rate, and have a low life expectancy due to the inaccessibility of standby power. A number of studies have been conducted on this topic, with a number of findings emerging as a result of the process. Some scholars agree that deficit financing has a substantial impact on capital formation, which contributes to increased economic growth, while others believe it has no impact. This study was inspired to fill the knowledge gap on the impact of deficit financing on capital formation in Nigeria due to their conflicting results. Despite the fact that real revenues are consistently higher than budgeted projections, Nigeria has faced large budget deficits over the years (Anyanwu, 1997). This lack of fiscal discipline, which has resulted in ever-increasing fiscal deficits, has been blamed for some of the country's macroeconomic problems, including high and growing inflation rates, high and rising unemployment, balance of payments issues, over indebtedness and debt crises, weak investment efficiency, and so on (Onwiodiokit, 1999).



**Figure 1: Trend of Budget Deficit Financing in Nigeria 1981-2018**  
 Source: Researcher’s Compilation from World Bank data files.

In Nigeria, much attention has been paid to the consequences of deficit financing, with the belief that the presence of these consequences in the Nigerian economy could have informed current thinking that the government, through its deficit financing, has greatly contributed to the country’s current plight. Pressure on the Nigerian economy includes pressure on the balance of payments, slowing inflation, and a heavy debt burden, with Nigeria having \$18 billion written off, or around 60% of the \$30 billion owed to the Paris Club (Debt Management Office, 2006). The concern is not about an increased deficit budget because a fiscal deficit is not a crime; however, when it reaches the international benchmark of 3% of GDP, it becomes worrying, particularly when it cannot be said to stimulate economic activity (Anyanwu, 1997).

For example, from 1981 to 1993, the Nigeria budget deficit was relatively low to an extent from 1989 to 1993, the Nigeria budget deficit declined completely to negative values of 10.3, 7.43, and 53.23 and rose significantly to 244.98\$ billion in 1996, falling again to 19.98\$ billion in 2002, and reaching its highest peak in 2016 with a deficit of 244.98\$ billion.



**Figure 2 Trend of Gross Fixed Capital Formation for the period 1981-2018**  
 Source: Researcher’s Compilation from World Bank data files

The above chart on gross fixed capital formation shows that the government has been neglectful in the field of capital formation, as the expenditure profile has moved more to recurrent rather than capital expenditures in recent years. Figure 2 shows that, for example, in the years 1981 and 1982, gross fixed capital formation averaged 89.4 and 86 percent of GDP in Nigeria, respectively, and that not much of her capital outlays were spent on the acquisition of capital goods, such as machines, equipment, and factories, or on increasing the stock of raw materials, finished goods, and improved overall investments. That isn't good enough for a country that is trying to develop. The back-and-forth in Nigeria's deficit financing can be traced to the fact that when projects are approved and funds are disbursed, there is often no proper oversight process in place to ensure that the funds are used wisely. This has provided a safe haven for crooked politicians and government officials to conceal their activities and divert public funds. These projects that are not completed are then reinserted into the next fiscal year's budget and funds are accepted for them, creating a loophole from which government funds are continuously siphoned. Furthermore, the majority of research on the subject used variables such as government spending, government tax revenue, money supply, balance of payments, and so on as explanatory variables (i.e., as measures of fiscal deficits). Our argument is that these indicators do not accurately represent the funding of budget deficits. To close this gap, the current study examines the effects of aggregate determinants of deficit financing on capital formation in Nigeria to see how it translates into burgeoning economic

development. Another reason for this study is that the complex nature of the Nigerian economy's structure, as well as the emergence of new sets of empirical data (both brought about by time), may have made the results of previous studies obsolete. As a result, it is necessary to confront the problem with new empirical evidence that reflects the country's current economic realities.

### **The Nature and Definition of Deficit Financing**

Deficit is usually calculated in terms of loan financing and cash withdrawals. It refers to the disparity between budget receipts and budget outlays. Withdrawal of cash balances and public borrowing are used to fund the project. The fiscal deficit is essentially the difference between what the government spends and what it earns (World Bank, 2005). According to Jhigan (2002), the word "deficit financing" refers to any government spending that exceeds current revenues. Deficit financing is a term used in industrialized countries to describe the financing of a purposely generated difference between public revenue and public expenditure, often known as a fiscal deficit. The word "deficit financing" refers to the direct increase in gross national expenditure caused by budget deficits, whether they be tax or capital account deficits. Deficit financing is described by the Central Bank of Nigeria (CBN) as a practice in which the government spends more money than it collects in revenue, with the difference being made up by borrowing more money into the economy than it takes out through taxation, with the hope that increased economic activity will produce enough additional revenue to cover the shortfall. However, rather than the execution of a proposed countercyclical program, deficit funding might be the product of government inefficiency, indicating widespread tax avoidance or excessive expenditure. The essence of such a strategy is that the government spends more than it collects in taxation, earnings from state corporations, loans from public deposits and funds, and then miscellaneous sources. According to Fischer and Esterly (1990), there are four ways to finance the deficit:

a. Money printing (methods) b. External borrowing c. Using foreign reserves d. Domestic borrowing. Monetary and debt financing are the two primary means of financing the budget deficit.

### **External Debt**

External debt refers to the portion of a country's debt that was borrowed from foreign lenders such as commercial banks, governments, and international financial institutions. The interest on these loans is usually paid in the currency in which the loan was taken out. The borrowing country can sell and export goods to the lender's country in order to obtain the required currency. External debt is debt owed to non-residents that is repayable in foreign currency, food, or services (World Bank, 2004). Multilateral institutions, the Paris Club of Creditors, the London Club of Creditors, Promissory Note Holders, Bilateral and Private Sector Creditors, and other outlets account for the majority of Nigeria's foreign debts (Jhingan, 2004, and Salawu, 2005).

### **Domestic debt**

Domestic debt refers to the government's total liability, and it should include transfers from the federal, state, and local governments to individuals and businesses within the country. As a result, the Central Bank of Nigeria (CBN) is responsible for handling the domestic public debt as a banker and financial advisor to the Federal Government. (Alison et al. 2003) describe three key explanations for government domestic debt. The first is to fund the budget deficit, the second is to carry out monetary policy, and the third is to build instruments to expand the financial market. Domestic debts are government-issued debt instruments that are denominated in local currency. State and local governments may also issue debt instruments, but the Nigerian treasury bills, federal government development stocks, and treasury bonds are currently in use. Treasury bills and construction stocks are marketable and negotiable, while Treasury bonds and ways and means advances are not, and are owned exclusively by Nigeria's central bank (Adofu, 2010).

### **Concept of Capital Formation**

The word "capital formation" has recently been used in financial economies to refer to savings campaigns, the creation of financial institutions, monetary policy, public borrowing, the growth of capital markets, the privatization of financial institutions, and the development of secondary markets in a much broader context. It refers to any method of raising the amount of capital under one's control or any method of mobilizing capital resources for investment purposes in this context. Capital formation is a term used in national accounts statistics, econometrics, and macroeconomics to describe how money is made. Capital formation is also a modern term for capital accumulation in economic theory, referring to the total "stock of capital" that has been created or the development of this total stock. It also refers to a calculation of a country's or an economic sector's net contributions to its physical capital stock over a given accounting period (Ariyo and Reheem, 1991). It is known as a measurement of the increase in total physical stock over the course of an accounting period. As a result, (Dombusch, 1991) believes that capital formation or accumulation is important in all types of economies. These authors argued that without capital accumulation, growth is impossible. As a result, capital formation encompasses all manufactured means of further production, such as highways, railways, bridges, canals, dams, mills, seeds, fertilizers, and so forth (Dombusch, 1991). As a result, capital accumulation is equal (or necessary) to a nation's physical capital stock increasing as a result of investments in social and economic infrastructure. Gross domestic investment and gross public domestic investment are two types of gross fixed capital production. Government and/or public enterprise investments are included in gross public investment. Gross domestic investment is the amount of gross fixed capital development plus net changes in inventory levels. In a nation, capital creation can lead to the development of tangible goods (i.e., plants, tools & machinery, etc.) as well as intangible goods (i.e., high-quality education, health, scientific tradition, and research). In that context, it refers to a calculation of a country's net additions to its (real) capital stock in an accounting interval, or a measurement of the sum by which the overall physical capital stock increased during an accounting period. Normal valuation criteria are used to arrive at this figure (Adam, 1976).

### **The Neo-Classical Perspective**

The deficit financing portion of the budget deficit involves a decrease in government saving or a rise in government dis-saving. According to neoclassical theory, this would have a negative impact on growth if the decline in government saving is not

completely compensated by an increase in private saving, resulting in a decrease in the overall saving rate. Apart from putting downward pressure on interest rates, this will have a negative effect on growth. The neo-classical economist believes that markets will clear and capital will be fully utilized. Fiscal deficits increase lifetime demand in this paradigm by transferring taxes to future generations. In a closed economy, increased consumption necessitates decreased saving if economic resources are completely utilized. Real interest rates and spending may be unaffected in an open economy, but the decline in national saving is funded by higher extend borrowing, which is followed by a strengthening of the domestic currency and a decrease in exports. In both cases, net national saving falls and consumption increases, followed by a decrease in output and exports in some combination.

### **The Fiscal Deficit from a Keynesian Perspective**

In the case of some unemployed capital, the Keynesian view assumes that an increase in autonomous government spending, whether investment or consumption, financed by borrowing, would cause production to rise through a multiplier mechanism. Following elaborations of the Keynesian paradigm, it is believed that multiplier-based production growth contributes to an increase in money demand, and that if the money supply is fixed and the deficit is funded with bonds, interest rates will rise, partially offsetting the multiplier impact. The Keynesians are aware of the risks of government spending crowding out private (investment) spending by raising credit prices (interest rate). To avoid the dampening impact of increasing interest rates on private investment spending, Musgrave (Okpanachi and Abimiku, 2007) advises that fiscal deficits be introduced only during a downturn when interest rates are likely to be unresponsive. Fiscal deficits can also have a negative effect on the external sector, as expressed in trade deficits, but only if the domestic economy is unable to absorb the additional liquidity through an increase in production, according to Keynesians.

### **From a Ricardian Equivalent Point of View**

Fiscal deficits are regarded as neutral in terms of their effect on development from the Ricardian viewpoint. Budget deficit funding is nothing more than the postponement of taxes. In any given time, the deficit is exactly equal to the present value of potential taxes needed to pay off the debt increase caused by the deficit. In other words, whether now or later, government expenditures must be paid for, and the current value of spending must be equal to the present value of tax and non-tax revenues. Fiscal deficits are a valuable tool for smoothing the effects of revenue shocks or meeting the needs of lumpy expenses, the funding of which can be spread out over time through taxation.

Ricardian equivalence assumes that individuals in the market are foresighted, have discount rates on spending that are equivalent to government discount rates, and have exceptionally long time horizons.

### **The Theory of Ricardian Equivalence**

According to this theory, fiscal deficits, regardless of how they are funded, have little or no effect on private spending and interest rates. However, this would be contingent on certain assumptions. The assumptions are that: a) individuals internalize both the government's budget constraint and the utility of their offspring's; b) the financial market is well-organized, with borrowers and lenders paying the same interest rate; and c) distorting taxes are non-existent. Future tax horizons are used to calculate the current value of future income.

### **The Keynesian Theory**

Keynesian economics, according to Okpanachi and Abimiku (2007), advocates that an increase in government spending promotes the growth of domestic output. Deficit spending by the government drives the growth of the economy in the short-run by making family units feel better-off (Seater, in Okpanachi and Abimiku, 2007), thus increasing total public and private consumption spending. Consequent upon the increase in aggregate demand, fiscal deficit has a positive effect on macroeconomic activity, thereby encouraging savings and capital formation (Chakraborty and Chakraborty, 2006). Government expenditure in an underemployed economy add to aggregate demand at prevailing prices and interest rates with no calculation necessity for private family units to offset (displace or crowd-out) their own purchases as long as public goods are not close substitutes for private goods. The resulting rapid growth of nominal GDP would automatically produce faster growth of real GDP and demand would thus create its own supply, in stark contrast to Say's Law. The Keynesians recognize the possibilities of government means that Keynesian theory causes money demand to rise and interest rate will also increase which will make investment to decline. Keynesian economists often argue that private sector decisions sometimes lead to inefficient macroeconomic outcomes which require active policy responses by the public sector, in particular, monetary policy actions by the Central Bank of Nigeria and fiscal policy actions by the federal Ministry of Finance, in order to stabilize output over the economy thesis.

### **Empirical Literature Review**

A number of studies have been conducted to investigate the relationship between deficits financing and capital formation. The work of Umoh, Onye, and Atan (2018) examined political and economic determinants of fiscal policy persistence in West Africa. They estimated fiscal persistence as the extent to which government's present fiscal (income and expenditure) behavior relates to its past behavior. Evidence from the study shows government expenditure, corruption, government effectiveness and rule of law as significant determinants of fiscal persistence in 14 West African countries.

Arif and Hussain (2018) studied the economic and political determinants of budget deficit volatility in South Asia and selected ASEAN countries (Indonesia, Thailand, Pakistan, and India) between 1984 and 2016 using time series and panel data models. The study shows that corruption and trade openness promote budget deficit volatility. It also shows negative effect of population growth and political instability on the volatility of budget deficit. The finding of this study indicates that the corrupt and politically unstable nations are likely to encounter increased budget deficit volatility.



Tung (2018) examined the effect of fiscal deficits on economic growth in Vietnam. The study applied the Error Correction Model on the quarterly data of 2003 to 2016. The empirical results strongly indicate there is a cointegration relationship between fiscal deficit and economic growth in Vietnam, in which fiscal deficit had harmful effects on economic growth in both the short and long run. In particular, the correlation analysis confirmed that fiscal deficit can hurt not only the gross output but also private investments, foreign direct investments, and net exports.

Olocwa, Khamfula, & Cheteni (2018) examined the political economy of budget deficits among the BRICS nations (Brazil, Russia, India, China and South Africa) between 1997 and 2016 using a panel cointegration approach to determine the long-run relationship between economic growth, budget deficits, inflation and gross investment. The results of the study showed a long-run equilibrium association between economic growth and the selected variables. Furthermore, there is a positive relationship between budget deficit, inflation, and economic growth, for the period under study for BRICS countries. Lastly, the results support the view that there is a bi-directional linkage from budget deficit to economic growth and vice versa.

Iqbal, Ud Din, & Ghani (2017) examined the relationship between fiscal deficit and economic growth in Pakistan to determine if there is a threshold level of fiscal deficit that could serve as a policy benchmark in promoting growth through fiscal expansion. The analysis applied the STAR model to time-series data for the period 1972 to 2014. The study revealed that fiscal deficit has a negative impact on economic growth.

Epaphra (2017) examined the causal relationship between budget deficits and macroeconomic fundamentals namely real GDP growth rate, the rate of inflation, interest rate, money supply and real exchange rate in Tanzania. The VAR-VECM and variance decomposition methods were applied to examine the causal relationship among the macroeconomic variables. The study employed time series annual data spanning from 1966 to 2015. The results of the cointegration test showed that a long-run relationship exists among the macroeconomic variables. The VECM and variance decomposition results showed that budget deficits and real GDP are negatively correlated, and that budget deficit and the rate of inflation and money supply are positively correlated.

Despotović & Durkalić (2017) who analysed the impact of budget deficit on European Union membership countries. Their study was for the period 2000 to 2015 and their findings however showed that in the pre-crisis period (2000 – 2007), public debt grew both in the EU and in candidate countries, Albania, Bosnia, Herzegovina & Serbia. Also, after the crisis, the correlation remained strong & positive in all countries except Turkey.

Ekeocha and Ikenna-Ononugbo (2017) used the data on state government fiscal operations to study the effect of cost of governance on fiscal deficits for the period 2008–2015. Model estimation was based on the dynamic panel of Arellano and Bond (1991) GMM estimators in the Keynesian framework. The study shows cost of governance, inflation, population, and economic growth as major determinants of fiscal deficits across the states in Nigeria. Since democratic governance, based on presidential system, as practiced in Nigeria, has often been criticized as the most expensive democracy, this result suggests that cost of governance may be a factor in the use of deficit financing in Nigeria.

Mbah, Osmond and Chigozie (2015) conducted a study to investigate the impact of external debt on economic growth in Nigeria. Using the ARDL bound testing approach to cointegration and error correction models for the period 1970 – 2013; in order to investigate the existence of long-run equilibrium relationship among the variables. In addition, the Granger causality test was also used to check for the direction of causality among the variables. The result of this study indicates a long-run relationship among the variables. External debt impacts negatively significant on output. The finding also established a unidirectional causality between external debt and economic growth. Consequently, the study recommends, government should embark on prudent borrowing and encourage export-oriented growth.

Austin (2014) x-rays the correlations between debt servicing and economic growth in Nigeria. Decomposing the debt stock along creditor line and using the relevant statistical data from multinational finance institutions, the study adopted the ordinary least square multiple regression method. The study found that debt payment to Nigeria's creditors has significant impact on the GDP and GFCF. Debt payment to Paris club creditors and debt payment to promissory notes holders are positively related to GDP and GFCF, while debt payment to London club creditors and other creditors shows a negative significant relation to GDP and GFCF

Adofu and Abula (2010). Investigated the relationship between domestic and economic growth in Nigeria for the period 1986-2005. Their findings showed that domestic debt has affected the growth of the Nigerian economy negatively and recommended that it be discouraged. They suggested that the Nigerian economy should instead concentrate on widening the tax revenue base. This study investigates the relationship between debt and economic growth in Nigeria using advanced econometric technique.

## 2. METHODOLOGY

### 2.1. Research Design

For the purpose of this research study, the ARDL bounds model will be used to investigate the short run and long run coefficients of the variables while the toda-yamamoto causality test on the other hand will be utilized to investigate the causality between the deficit financing and capital formation in Nigeria.

### 2.2. Theoretical framework & Model Specification

The model of this study is anchored on Keynesian economic theory which was developed by Keynes (1936) which states that government can reverse economic downturns by borrowing money from the private sector and returning the money to private sector through various spending. This theory believes that active government intervention in the market place through deficit financing was the only method for ensuring growth and stability by ensuring efficiency in resources allocation, regulation of markets, stabilization of the economy and harmonization of social conflicts. Keynes states that in the short run, economic

growth through economic stability is strongly influenced by total spending in the economy. Keho (2010) states that budget deficit has a positive effect on macroeconomic activity and thereby stimulating savings and capital formation.

The model construct for this study is therefore fashioned according to the work of Nwaeke and Korgbeelo (2016,) where they used Real Gross Domestic Product as their dependent variable while Exchange rate, budget deficits, Domestic debt and Non-Bank Payments as the independent variables. Put in a simple form:  $RGDP = F (EXT, DBS, NBP, OS)$ .....1

Therefore, equation 3.2 is the ARDL-UECM specification as follows:

Gross Fixed Capital Formation (GCF) as the dependent variable while External Debt (EXDBT) Domestic Debt (DMDBT), External Reserves (EXTRS) Aggregate Debt Service (ADBTS) Aggregate Savings (AGGSV) all coming in as explanatory variables.

$$\Delta(GCF\_GDP)_t = c_0 + \delta_1 GCF\_GDP_{t-1} + \delta_2 DMDBT_{t-1} + \delta_3 EXTRS_{t-1} + \delta_4 ADBTS_{t-1} + \delta_5 AGGSV_{t-1} + \delta_6 EXDBT_{t-1} + \delta_7 LINTR_{t-1} + \delta_8 INFR_{t-1} + \sum_{i=1}^n \Phi_1 \Delta GCF\_GDP_{t-i} + \sum_{i=1}^n \Phi_2 \Delta DMDBT_{t-j} + \sum_{i=1}^n \Phi_3 \Delta EXTRS_{t-k} + \sum_{i=1}^n \Phi_4 \Delta ADBTS_{t-l} + \sum_{i=1}^n \Phi_5 \Delta AGGSV_{t-m} + \sum_{i=1}^n \Phi_6 \Delta PCEXP_{t-n} + \sum_{i=1}^n \Phi_7 \Delta EXDBT_{t-o} + \sum_{i=1}^n \Phi_8 \Delta LINTR_{t-p} + \sum_{i=1}^n \Phi_9 \Delta INFR_{t-q} \dots \dots \dots (i)$$

Where,

GCF = Gross Capital Formation DMDBT = Domestic Debt

EXTRS = External Reserves. ADBTS = Aggregate Debt Service

AGGSV = Aggregate Savings EXDBT = External Debt

PCEXP = Private Consumption Expenditure LINTR = Lending Interest Rate

INFR = Inflation Rate  $C_0$  = Constant Variable or Intercept

$\Phi$  = Short Run Dynamic Coefficients of the Model's Convergence to Equilibrium

$\Delta$  = Long Run Dynamic Coefficients  $\epsilon$  = Error Term

### 3. RESULT

#### 3.1. Pre-Estimation Test

##### 3.1.1. Stepwise Regression Estimates

**Table 1 Stepwise Regression Estimates for selection of variables**

Dependent Variable: GCF_GDP				
Method: Stepwise Regression				
Variable	Coefficient	Std. Error	T-statistic	Prob.*
LNEXDBT	1.512837	1.197888	1.262920	0.2170
LNDMDBT	-2.960253	3.235087	-0.915046	0.3680
LNTEXTRS	-4.243830	2.442413	-1.737556	0.0933
INFR	-0.076518	0.064743	-1.181884	0.2472
LINTR	0.268518	0.279150	0.961914	0.3443
LNADBTS	0.740518	1.110106	0.667070	0.5102
LNAGGSV	-2.091687	3.592996	-0.582157	0.5651
SELECTION SUMMARY				
Added LNADBTS	Removed PCEXP			
Added LNDMDBT	Removed GCF			
Added LNTEXTRS	Removed GCF_GR			
Added LNEXDBT				
Added LNADBTS				
Added INFR				
Added LINTR				
Added LNADBTS				
Added LNAGGSV				

Source: Researcher's Extract from Eviews 11

The stepwise regression using a backward and forward selection technique adequately selected the following variables as explanatory variables: Foreign debt stock (LNEXDBT), Domestic debt stock (LNDMDBT), Gross External Reserves (LNTEXTRS), Aggregate Debt Service (LNADBTS), Aggregate Savings (LNAGGSV), and Inflation Rate (INFR) and Lending Interest Rate (LINTR) from table 1. The stepwise estimation eliminated Gross Fixed Capital Formation (GFCF), Gross Capital Formation Annual Growth Rate (GCF GR), and Private Consumption Expenditure (PCEXP) from the model because of their small coefficients and insignificant p-values.

##### 3.1.2. Descriptive statistics

The aim of the preliminary analysis was to determine the data's normality, measures of central tendency, and measures of dispersion. The mean and median are central tendency indicators that reflect the sample's average value. The positive square root of variance is standard deviation. It is a measure of dispersion, or the degree to which the variance from the mean differs from the mean. The Jarque-Bera test's null hypothesis states that the distribution is normal. We dismiss the null hypothesis if the probability is less than 0.05.

**Table 2 COMMON SAMPLE DESCRIPTIVE STATISTICS**

	GCF_GDP	LNADBTS	LNAGGSV	LNDMDBT	LNEXDBT	LNTEXTRS	LINTR	INFR
Mean	36.38538	21.41205	28.35724	6.434439	6.295292	22.86237	17.69646	19.14646
Median	34.10954	21.35010	28.66235	6.800448	6.450692	22.74704	17.55333	12.55496
Maximum	89.38105	22.89883	31.15264	9.566099	9.107468	24.70480	31.65000	72.83550
Minimum	14.90391	20.02139	25.23423	2.415021	0.845868	20.65390	8.916667	5.388008
Std. Dev.	19.05300	0.655127	1.988122	2.183989	2.006727	1.400976	4.793755	17.06283
Skewness	1.057101	0.048490	-0.264384	-0.296635	-0.966822	-0.070158	0.245573	1.783591
Kurtosis	3.826948	2.909779	1.601839	1.882105	3.375563	1.457833	3.752934	4.997667
Jarque-Bera	8.374757	0.028510	3.630982	2.602694	6.305042	3.896699	1.313218	27.16262
Probability	0.015186	0.985846	0.162758	0.272165	0.042744	0.142509	0.518607	0.000001
Sum	1419.030	835.0699	1105.932	250.9431	245.5164	891.6326	690.1618	746.7120
Sum Sq. Dev.	13794.64	16.30926	150.1999	181.2527	153.0242	74.58390	873.2433	11063.33
Observations	39	39	39	39	39	39	39	39

Source: Researcher's Extract from Eviews 11 Output

From table 2, it could be seen that almost all the variables i.e GCF\_GDP, LNADBTS, LNAGGSV, LNDMDBT, LNTEXTRS, LINTR has p-values greater than 0.05 signifying that they are normally distributed except LINTR and LNEXDBT which are not normally distributed since their Jarque Bera prob. values being < 0.05 level of significance but based on the law of large numbers i.e central tendency, since we have up to 39 years observations, we can proceed with other regression estimates.

### 3.1.3. Unit Root Test

A unit root test will be performed on the selected time series data to determine if they are stationary or non-stationary in level or first difference form and in order to verify the reliability of the time series data used for this analysis, the Augmented Dickey Fuller unit root test is the unit root test that will be used in this assignment. The following is the outcome of the ADF Test:

**Table 3 SUMMARY OF STATIONARITY TEST**

Variable	Adf Statistic. (Levels)	5% Critical Value	Prob. Value	Adf. Statistic. First Difference	5% Critical Value	Prob. Value	General Remark
GCF_GDP	-3.632352*	-2.941145	0.0096	-	-	-	@I(0)
LNADBTS	-3.758460*	-2.941145	0.0069	-	-	-	@I(0)
LNAGGSV	-0.434544	-2.941145	0.8928	-6.847693*	-2.943427	0.0000	@I(1)
LNDMDBT	-1.999584	-2.941145	0.2858	-4.566132*	-2.943427	0.0008	@I(1)
LNEXDBT	-1.665948	-2.943427	0.4397	-4.726482*	-2.943427	0.0005	@I(1)
LNTEXTRS	-0.739338	-2.941145	0.8245	-5.615994*	-2.945842	0.0000	@I(1)
LINTR	-2.846115	-2.948404	0.0622	-2.667881	-1.950687	0.0091	@I(1)
INFR	-4.290040*	-3.574244	0.0105	-	-	-	@I(0)

Source: Researcher's Compilation from Eviews 10 Regression Output (2021).  
The aesteriks(\*) sign is used to indicate stationarity at the 5% significance level

Since the computed F-statistic given by Pesaran & Shin (2001) are only valid for variables that are I(0) or I(1) and a combination of these, unit root tests in the autoregressive distributed lag (ARDL) technique are required to ensure that the variables are integrated of order one and none of the variables are integrated of order two. According to the results of the unit root test in table 3, GCF GDP, LNADBTS, and INFR were integrated of order I(0), while LNAGGSV, LNDMDBT, LNTEXTRS, and LINTR achieved stationarity at first difference, i.e. integrated of order I. (1). As a result, the variables under investigation have a mixed integration order, justifying the use of the ARDL bounds test approach to co-integration over other methods that require the variables to be integrated in the same order.

### 3.1.4. Selection of Lag Length Criteria

**Table 4 VAR Lag Order Selection Criteria**

VAR Lag Order Selection Criteria						
Endogenous variables: GCF_GDP LNADBTS LNAGGSV LNDMDBT LNEXDBT LNGFCF LNTEXTRS LINTR INFR						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-531.3044	NA	39.05088	29.20564	29.59749	29.34378
1	-230.4003	439.1572	0.000304	17.31894	21.23738*	18.70037
2	-124.2910	103.2415*	0.000183*	15.96168*	23.40673	18.58641*

Source: Researcher's Extract from Eviews 11 Output

It is possible to decide the necessary lag periods in assessing and estimating the needed test for our model using the Vector Autoregressive Lag Length Criteria. Based on the lag length criteria mentioned above, it is clear that lag period 2 is the model's dominant and acceptable lag, as indicated by the Akaike Information Criterion (AIC) for estimation.

**Table 5 Autoregressive Distributed Lag Bounds Test for Co-Integration**

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	4.694879	10%	2.38	3.45
k	7	5%	2.69	3.83
		2.5%	2.98	4.16
		1%	3.31	4.63

Source: Researcher’s Compilation from Eviews 11 Output

From the ARDL bounds test in table 4.5 and going by the decision rule of the Bounds Test, we cannot accept the null hypothesis of no cointegration since the F-Bounds Statistic of 4.694879 is greater than the I (0) and I (1) bounds at 10%, 5% and 1% respectively, therefore we conclude that there exists a long run relationship among the variables.

**3.2. Dynamic Short Run ARDL Error Correction Model and Discussion**

**Table 6 Result of Dynamic Short Run ARDL Error Correction Model for deficit financing and capital formation in Nigeria**

ARDL Error Correction Regression				
Dependent Variable: D(GCF_GDP)				
Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	-544.1595	64.13212	-8.484977	0.0000
@TREND	0.176185	0.046156	3.817125	0.0051
D(LNEXDBT)	5.607887	1.320337	4.247315	0.0028
D(LNEXDBT(-1))	13.00003	1.909969	6.806409	0.0001
D(LNEXDBT(-2))	8.707951	1.508470	5.772704	0.0004
D(LNDMDBT)	-3.963220	4.118778	-0.962232	0.3641
D(LNDMDBT(-1))	-16.95263	4.309669	-3.933627	0.0043
D(LNDMDBT(-2))	-14.52112	4.710262	-3.082870	0.0151
D(LNAGGSV)	11.09870	2.600633	4.267693	0.0027
D(LNADBTS)	3.426286	1.181361	2.900287	0.0199
D(LNADBTS(-1))	-5.213850	1.103428	-4.725137	0.0015
D(LNADBTS(-2))	-1.306801	0.638524	-2.046595	0.0749
D(LINTR)	-0.053717	0.270478	-0.198601	0.8475
D(LINTR(-1))	-1.099066	0.247492	-4.440807	0.0022
D(INFR)	-0.071574	0.049783	-1.437716	0.1885
D(INFR(-1))	0.129669	0.051016	2.541743	0.0346
D(INFR(-2))	-0.094337	0.042972	-2.195325	0.0594
D(LNTEXTRS)	-0.877895	1.891579	-0.464107	0.6549
D(LNTEXTRS(-1))	3.875188	1.448845	2.674674	0.0282
D(LNTEXTRS(-2))	5.217859	1.981901	2.632755	0.0300
ECM(-1)*	-0.980711	0.116865	-8.391852	0.0000

Source: Researcher’s Extract from Eviews 11 Output Package 2021

Key: \* Significant at 1% level; \*\* Significant at 5% level

**Constant (C):** From the regression result above in table 4.6, the coefficient of the constant term is negative and significant and does not conform to a priori expectation. The value of the constant term is -544.1595 and this shows that when other explanatory variables are held constant, GCF\_GDP will decrease by -544.1595 units.

**Trend (T):** The regression result above indicated that the variables of interest all have a positive significant strong trend properties.

**External Debt Stock (LNEXDBT):** Analysis of the short run coefficients of external debt has a positive relationship with GCF\_GDP in the current year, 1<sup>st</sup> and 2<sup>nd</sup> lags and also statistically significant at 5% level of significance indicating a strong endogenous influence on capital formation by increasing capital formation significantly by 5.607887, 13.0000 and 8.707951 units respectively.

**Domestic Debt Stock (LNDMDBT):** Analysis of the short run coefficients of domestic debt stock has a negative relationship with GCF\_GDP in the current year, 1<sup>st</sup> and 2<sup>nd</sup> year lags and also statistically significant at 5% level of significance indicating a strong influence on capital formation by decreasing capital formation significantly by 3.963220, 16.9563 and 14.52112 units respectively on the average.

**Aggregate Savings (LNADBTS):** Aggregate Gross Savings is found to have a positive relationship with GCF\_GDP in the current year in the short run, increasing capital formation significantly by 11.09870 units respectively.

**Aggregate Debt Service (LNADBTS):** Analysis of the short run coefficients of Aggregate Debt Service had a positive relationship with GCF\_GDP in the current year, and also statistically significant at 5% level of significance indicating a strong influence on capital formation by increasing capital formation significant by 3.426286 units but was negatively signed in the 1<sup>st</sup> and 2<sup>nd</sup> year lags respectively on the average, decreasing GCF\_GDP significantly by 5.213850, 1.306801 units on the average.



**Total External Reserves (LNTEXTRS):** Analysis of the short run coefficients of total external reserves had a negative relationship with GCF\_GDP in the current year, but statistically insignificantly at 5% level of significance indicating a weak influence on capital formation by decreasing capital formation insignificant by 0.877895 units but was positively signed in the 1st and 2nd year lags respectively on the average, increasing GCF\_GDP significantly by 3.875188, 5.217859 units on the average.

The Error correction mechanism (ECM) met the required conditions. The significance and rule of ECM holds that negative and statistical significant error correction coefficients are necessary conditions for any disequilibrium to be corrected. In light of this, the coefficient of ECM (-1) is -0.980711. The above result shows that the ECM (-1) value is -0.98% implying that there is convergence of the equilibrium should there be system disequilibrium. The negative sign of the coefficient satisfied one condition while the fact that its P-value [0.0000] is less than 5% [0.05] level of significance satisfied the second condition of statistical significance. The coefficient indicates that the speed of adjustment between the short run dynamics and the long run equilibrium is 98%, thus, ECM will adequately act to correct any deviations of the short run dynamics to its long-run equilibrium by 98% annually. This means that if capital formation (GCF\_GDP) is at disequilibrium, it converges back to equilibrium at an average speed of about 98% (-0.980711 x 100) every year in Nigeria. We can also say that about 98% of disequilibrium from shocks of previous years in Capital Formation converges back to long run equilibrium every year in Nigeria. Hence, the whole system will get back to equilibrium, long run equilibrium at the speed of about 98% yearly.

**3.3. ARDL Long Run Form for deficit financing and capital formation in Nigeria**

**Table 7 Static Long Run Estimates of deficit financing and capital formation in Nigeria**

Variable	Coefficient	Std. Error	T-Statistic	Prob.
LNEXDBT	-11.03463	5.638308	-1.957081	0.0860
LNDMDBT	-14.75862	8.977391	-1.643977	0.1388
LNAGGSV	22.58552	9.697608	2.328978	0.0482
LNADBTS	13.04617	3.371803	3.869196	0.0047
LINTR	2.708752	1.433115	1.890115	0.0954
INFR	-0.085452	0.280287	-0.304873	0.7682
LNTEXTRS	-9.514630	10.81682	-0.879614	0.4047

**Source: Researcher’s Extract from Eviews 11 Output Package 2021**

**Key: \* Significant at 1% level; \*\* Significant at 5% level**

**External Debt Stock (LNEXDBT):** The long run estimates of external debt had a negative relationship with Capital Formation (GCF\_GDP), decreasing GCF\_GDP by 11.03463 units insignificantly.

**Domestic Debt Stock (LNDMDBT):** The long run estimates of domestic debt had a negative relationship with Capital Formation (GCF\_GDP), decreasing GCF\_GDP by 14.75862 units insignificantly.

**Aggregate Gross Savings (LNAGGSV):** The long run estimates of aggregate gross savings had a positive relationship with Capital Formation (GCF\_GDP), increasing GCF\_GDP by 22.58552 units significantly.

**Aggregate Debt Service (LNADBTS):** The long run estimates of aggregate debt service had a positive relationship with Capital Formation (GCF\_GDP), increasing GCF\_GDP by 13.04617 units significantly.

**Total External Reserves (LNTEXTRS):** The long run estimates of total external reserves had a negative relationship with Capital Formation (GCF\_GDP), decreasing GCF\_GDP by 9.514630 units insignificantly.

**3.4. Diagnostic Test/Post Estimation Test**

**3.4.1. Breusch-Godfrey Serial Correlation LM Test**

Serial correlation in the error term affects the standard errors and variances of the variables estimated in the model thereby distorting inference. In order to avoid this pitfall, the study carried out a serial correlation LM check for autocorrelation in the error term entering the model. The result of the test is presented in the table below.

**Table 8 Result Breusch-Godfrey Serial Correlation LM Test**

F-statistic	2.098408	Prob. F(2,27)	0.1422
Obs*R-squared	5.112028	Prob. Chi-Square(2)	0.0776

**Source: Researcher’s Extract from Eviews 10 Output package**

From Breusch-Godfrey Serial Correlation LM Test table, the null hypothesis of no serial correlation cannot be rejected as the p-value from the LM serial correlation test is 0.0776 > 0.05 level of significance indicating an acceptance of the null hypothesis.

**3.4.2. Breusch-Pagan-Godfrey Heteroskedasticity Test**

Heteroscedasticity is the violation of the ordinary least square. Regression assumption states that the variance of the Error terms are homoscedastic that is, the error terms have a constant variance. Simply put, heteroskedasticity occurs when the variance of the error terms are not constant for all values of X. In order to avoid this pitfall, the study carried out a Breusch-Pagan-Godfrey Heteroskedasticity Test in the error term entering the model. The result of the test is presented in the table below.

**Table 9 Result of Breusch-Pagan-Godfrey Heteroskedasticity Test**

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	0.797097	Prob. F(27,8)	0.6927
Obs*R-squared	26.24444	Prob. Chi-Square(27)	0.5051

Source: Researcher’s Extract from Eviews 10 Output package

From Breusch-Pagan-Godfrey Heteroskedasticity result, the null hypothesis of no serial correlation cannot be rejected as the p-value from the Heteroskedasticity Test is 0.5051 > 0.05 level of significance indicating an acceptance of the null hypothesis.

**3.4.3. Stability Test**

**3.4.3.1. Ramsey Reset Test**

The Ramsey Regression Equation Specification Error Test (RESET) test is a general specification test for the linear regression model. More specifically, it tests whether non-linear combinations of the fitted values help explain the response variable.

**Table 10 Result of Ramsey Reset Test**

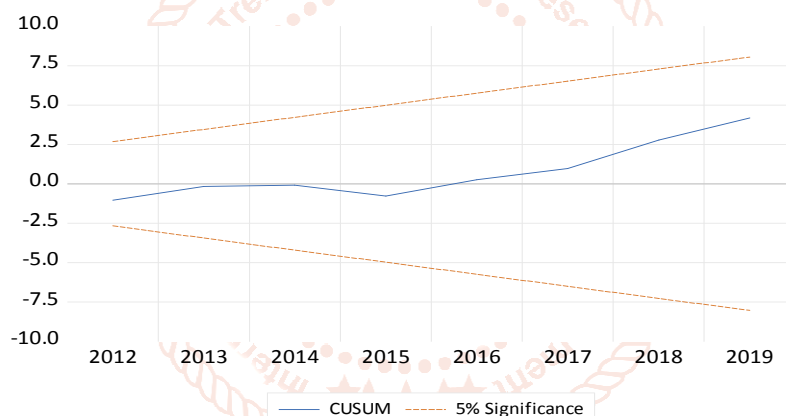
Ramsey RESET Test			
	Value	df	Probability
t-statistic	0.479603	7	0.6461
F-statistic	0.230019	(1, 7)	0.6461
Likelihood ratio	1.163935	1	0.2807

Source: Researcher’s Extract from Eviews 11 Output package

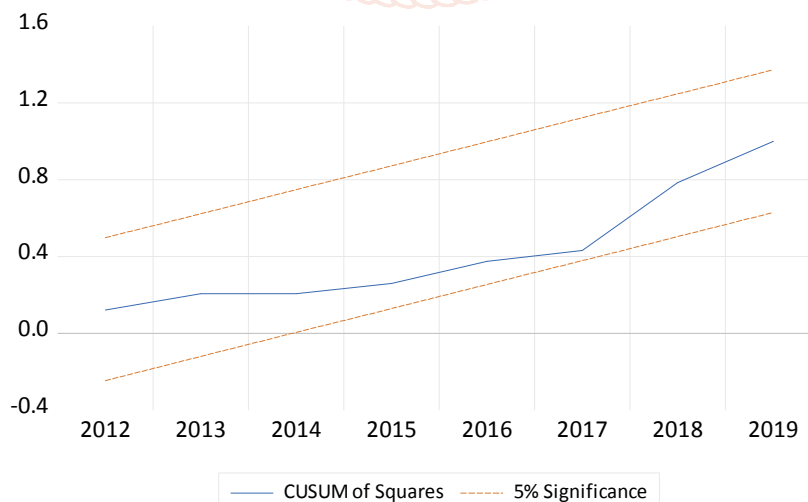
From the RESET test result, the null hypothesis of no specification error cannot be rejected as the p-value from the RESET test is 0.6461 > 0.05 level of significance indicating an acceptance of the null hypothesis.

**3.4.3.2. Cumulative and Cumulative Squares Test**

The cumsum and cumsum of squares for model stability was employed to check for the stability of the parameters in the model. The result of the stability test is shown below:



**Figure 3 Cusum test for model stability**



**Figure 4 Cusum of Squares for model stability**

The cumsum and cumsum squares diagrams shows that the model is stable as the cumsum line lies in between the 5% boundary.

**3.4.4. Toda and Yamamoto Granger Causality Test**

The Toda and Yamamoto method of Granger causality test is relatively more efficient in small sample data sizes and is particularly appropriate for time series for which the order of integration is not known or may not be necessarily the same, or the order of integration is more than two.

**Table 11 Result of Toda and Yamamoto Granger Causality Test**

Granger Causality/Block Exogeneity Wald Tests			
Dependent variable: GFC_GDP			
Excluded	Chi-sq	df	Prob.
LNADBTS	0.751316	2	0.6868
LNAGGSV	0.512342	2	0.7740
LNDMDBT	2.899855	2	0.2346
LNEXDBT	0.703939	2	0.7033
LNTEXTRS	2.160484	2	0.3395
LINTR	1.693531	2	0.4288
INFR	3.291395	2	0.1929
All	12.73964	14	0.5471
Dependent variable: LNADBTS			
Excluded	Chi-sq	df	Prob.
GFC_GDP	1.274139	2	0.5288
Dependent variable: LNAGGSV			
Excluded	Chi-sq	df	Prob.
GFC_GDP	0.191392	2	0.9087
Dependent variable: LNDMDBT			
Excluded	Chi-sq	df	Prob.
GFC_GDP	8.148608	2	0.0170
Dependent variable: LNEXDBT			
Excluded	Chi-sq	df	Prob.
GFC_GDP	4.030537	2	0.1333
Dependent variable: LNTEXTRS			
Excluded	Chi-sq	df	Prob.
GFC_GDP	9.084627	2	0.0106
Dependent variable: LINTR			
Excluded	Chi-sq	df	Prob.
GFC_GDP	0.685930	2	0.7097
Dependent variable: INFR			
Excluded	Chi-sq	df	Prob.
GFC_GDP	7.014342	2	0.0300

Source: Researcher's Extract from Eviews 11 Output package

From the result of Toda and Yamamoto Granger Causality Test, none of the explanatory variables granger causes Capital Formation (GCF\_GDP) since their total prob. value 0.5471 > 0.05 level of significance on the average, on the other way round, Capital Formation (GCF\_GDP) granger causes Domestic Debt Stock (LNDMDBT) and Total External Reserves (LNTEXTRS) with their prob. values 0.0170 and 0.0106 > 0.05 indicating a Uni-Directional Causality between capital formation, domestic debt stock and total external reserves.

### 3.5. Discussion of Findings

#### 3.5.1. Effect of external debt stock on capital formation in Nigeria.

External Debt Stock (LNEXDBT) was found to have a positive relationship with GCF\_GDP in the current year, 1<sup>st</sup> and 2<sup>nd</sup> lags in the short run and also statistically significant at 5% level of significance indicating a strong endogenous influence on capital formation but showed a negative and insignificant effect on capital formation in the long run. This finding is not surprising since External debts can act as a severe constraint on growth and development – often times, the interest payments on existing public sector debt takes up a large percentage of a nation's export revenues or annual tax revenues. These debt repayments have an opportunity cost, they might be better used in supporting development policies such as investment in health and education to boost the human capital of the population. Mbah, Osmond and Chigozie (2015) gave credence to this finding when they conducted a study investigating the impact of external debt on economic growth in Nigeria. Using the ARDL bound testing approach to cointegration and error correction models for the period 1970 – 2013; in order to investigate the existence of long-run equilibrium relationship among the variables. The result of their study indicated a long-run

relationship among the variables and that External debt impacts negatively significant on output.

#### 3.5.2. Effect of domestic debt stock on capital formation in Nigeria

Domestic Debt Stock (LNDMDBT) was found to have a negative relationship with GCF\_GDP in the current year, 1<sup>st</sup> and 2<sup>nd</sup> year lags in the short run and also statistically significant at 5% level of significance indicating a strong influence on capital formation and also in the long run although statistically insignificant. This finding does not conform to apriori expectation since they are an internal source of funds and can be classified as an input into the economy. It is always good that Domestic debt have a positive relationship with capital formation and economic growth, given that a worse scenario will be where it is negatively related to GDP probably due to corruption, misallocation of the funds or otherwise which will mean that the Debts are not promoting the economy and should be stopped out-rightly. Adofu and Abula (2010) also gave credence to this finding when the investigated the relationship between domestic debt and economic growth in Nigeria for the period 1986-2005. Their findings showed that domestic debt has affected the growth of the Nigerian

economy negatively and recommended that it be discouraged.

### 3.5.3. Effect of aggregate gross savings on capital formation in Nigeria

Aggregate Gross Savings (LNADBTS): Aggregate Gross Savings is found to have a positive significant relationship with GCF\_GDP in the current year in the short run and in long run. Abu (2010), supported this finding when he applied Johansen co-integration test and Pair wise Granger causality test to investigate the relationship between savings and economic growth for the period 1970-2007. The co-integration results revealed existence of long run equilibrium between savings and economic growth. Also, causality test suggested one-way causality running from economic growth to savings implying that it is economic growth that Granger caused savings in the Nigerian case.

### 3.5.4. Effect of aggregate debt service on capital formation

Aggregate Debt Service (LNADBTS) was found to have a positive relationship with GCF\_GDP in the current year in short run and in the long run and also statistically significant at 5% level of significance indicating a strong influence on capital formation by increasing capital formation. Austin (2014) gave credence to this finding when he investigated the correlations between debt servicing and economic growth in Nigeria. Decomposing the debt stock along creditor line and using the relevant statistical data from multinational finance institutions, the study adopted the ordinary least square multiple regression method. The study found that debt payment to Nigeria's creditors has significant impact on the GDP and GFCF. It is high time government scaled down the amount spent on debt servicing so as not crowd out other developmental projects. There is need to broaden the revenue base and diversify the economy since debt service payment could heighten the fiscal burden in an already fiscally and growth-constrained environment.

### 3.5.5. Effect of total external reserves on capital formation in Nigeria.

Total external reserves was found to have a negative relationship with GCF\_GDP in the current year and in the long run and statistically insignificant at 5% level of significance indicating a weak influence on capital formation. The problem with holding foreign currency reserves is that they can lose their value. Inflation erodes the value of currencies not fixed against gold. Therefore, a Central Bank will need to keep buying foreign reserves to maintain the same purchasing power in markets. Also, there may have been many better (higher yielding uses of the capital). Shin-Inchi and Kon (2010) supported this finding in their study of the impact of foreign reserve accumulation using a simple open economy where 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.

## 4. Conclusion

This study used the ARDL model to investigate the effect of deficit financing on capital formation in Nigeria for the period 1981-2019. From our findings, External Debt, Aggregate Gross Savings and aggregate debt service

contributes more to capital expenditure than domestic debt and total external reserves in Nigeria.

The conclusion to be drawn from this study is that external debt and aggregate gross savings payments has a strong positive significant economic effect on capital formation in Nigeria in the presence of other internal and external macro-economic shocks. Nevertheless, to achieve a high and sustainable growth, we proffer some policy recommendation which when properly implemented will surely stimulate greater growth of output.

## 5. Policy Recommendation

- Prior to accessing the debt, the modalities of incurring foreign debt and their implementation should be theoretically and tactically studied, as external debts in the first year of receipts appear to have a negative effect on capital formation, undermining Nigeria's economic development.
- External borrowing of funds can only be used for high-priority projects. Since it was massive external debt that threw us into a series of economic problems in the first place, this is the case.
- To tackle the high prevalence of domestic and external debt, and to reduce the incidence of inflation in Nigeria, the government should demonstrate a high degree of transparency in its monetary and fiscal operations. Domestic loans would be more useful if they were linked to a feasible project like agricultural growth, human capital development, or infrastructure development.
- More prudent investment in the areas listed above, according to this study, could boost the country's standard of living while also ensuring long-term economic development.
- The government should encourage portfolio investment, which will build jobs that are urgently needed to raise net savings, resulting in a high capital-labor ratio.
- The government should take the value of foreign reserves seriously because it will decide how well we can handle global financial shocks in the long run and will increase the value of the Nigerian currency in the short term.

## References

- [1] Adofu I, Abula M. (2010). Domestic debt and Nigerian economy. *Current Research Journal of Economic Theory*. 2(1): 22-26.
- [2] Agundu, U.C.(2003), Credibility and Capacity Building in Local Government financing Strategic Cash Management Imperatives. *Journal of Financial Management and Analysis*, 21(2): 57-64.
- [3] Alison, J., (2003). Key issues for analyzing domestic debt sustainability. *Debt Relief International Publication*, ISBN: 1-903971-07-1
- [4] Aluko, J. J. (2007). The Monetization of Nigeria's Foreign Exchange Inflows. *CBN Bullion*. Vol. 31(2).
- [5] Anifowose, O. K. (1997). Management of Foreign Exchange: A peep into the next decade". *CBN Bullion*. Vol. 21, No. 4.
- [6] Anyanwu, J.C. (1997). *Nigerian public finance*. Onitsha: Joanne Educational Publishers Ltd.
- [7] Arif, A., & Hussain, M. (2018). Economic, political and institutional determinants of budget deficit volatility: A panel data analysis. *International Journal of*



- Economics and Business Administration, 6(3), 98-114. Retrieved from <https://ideas.repec.org/a/ers/ijebaa/vviy-2018i3p98-114.html>. Barisik, S., &
- [8] Ariyo, A.(1993), An Assessment of the Sustainability of Nigeria's Fiscal Deficit. *Journal of African Economies*, 2: 263-282.
- [9] Austin M. (2014). Effect of debt servicing on economic growth in Nigeria. *Research gate (open access)* <https://www.researchgate.net/publication/280085292>
- [10] Chakraborty, P. and Chakraborty, L.S. (2006) Is Fiscal Policy Contracyclical in India
- [11] Despotović, D., & Durkalić, D. (2017). Analysis of budget deficit in the candidate countries for EU membership. *Serbian Journal of Management*; 12(2)
- [12] Dornbusch, R. (1991): "Comment", in B. Douglas Bemheim and .Shoven, eds., *National Saving and Economic Performance* Chicago: university of Chicago Press.
- [13] Ekeocha, P., & Ikenna-Ononugbo, A. (2017). Cost of governance and fiscal operations in Nigeria: Evidence from State Government data. *Economic and Financial Review*, 55(1), 80-98. Retrieved, <https://www.cbn.gov.ng/Out/2018/RSD/CBN%20EFR%20Volume%2055%20No%201%20March%202017.pdf>
- [14] Epaphra, M. (2017). Analysis of budget deficits and macroeconomic fundamentals: A VAR-VECM approach. *Journal of Economics and Management*; 30(4): 20–57.
- [15] *European journal of business and management*, 8(22), 2222-2839
- [16] Eze O.R.& Ogiji, F.O. (2016) Impact of Deficit Financing on Economic Stability in Nigeria: Analysis of Economic Growth. *Journal of Applied Finance and Banking*, Vol 6, No 1 2016, 111-125
- [17] Ike, D. N (2002). *University Economics (1st ed)*. Lagos: Omo-T Publishers
- [18] International Monetary Fund (2003), *Guidelines for Foreign Exchange Reserve Management*. IMF, June
- [19] Iqbal, N., ud Din, M., & Ghani, E. (2017). The Fiscal Deficit and Economic Growth in Pakistan: New Evidence. *The Lahore Journal of Economics*, 22(Special Edition).; 53–72.
- [20] James, T. (1982), *Money and Finance in the Macroeconomic Process*. Cowless Foundation Discussion Paper, 613R
- [21] Jhingan, M. L. (2004). *Public Finance and International Trade*. 2nd Edition, Delhi: Vrinda Publications Ltd.
- [22] Johansen S and K. Juselius (1988) Hypothesis Testing for Cointegration Vectors with an Application to the Demand for Money in Denmark and Finland. Working Paper No. 88-05, University of Copenhagen.
- [23] *Journal Ekonomi Pembangunan*, 7(2): 143-155.
- [24] Kaldor, N. (1966), *Causes of the Slow Rate of Growth of the United Kingdom* (Cambridge: Cambridge University Press).
- [25] Mbah & Chigozie O. (2016) "Impact of External Debt on Economic Growth in Nigeria: An ARDL Bound Testing Approach" *Proceedings of the Fifth Middle East Conference on Global Business Economics, Finance and Banking (ME16Dubai October Conference)* ISBN: 978-1-943579-27-3 Dubai-UAE. 14-16 October, 2016. Paper ID: DF601
- [26] Momodu AA, Monogbe TG. (2017) Budget defect and economic performance in Nigeria *Saudi Journal of Business and Management Studies*;2(3): 25-31.
- [27] Nwaeke G.C & Korgbeelo C.(2016). Budget deficit financing and the Nigerian economy.
- [28] Obaseki, P. J. (2007). Sources, Currency Composition and uses of External Reserves. *CBN Bullion*. Vol. 32 (2)
- [29] Odozi, V. (2000), *Foreign Exchange Management: The Role of CBN*. *CBN Bullion*, vol. 10, No. 3 p 17 – 22
- [30] Okpanachi U.M & Abimiku C.A (2007) *Fiscal Deficit and Macroeconomic Performance: A Survey of theory and Empirical Evidence-in Ogiji P.ed. The Nigerian Economy: Challenge and Directors for Growth in the Next 25 Years*, Makurdi, Aboki publishers
- [31] Onwioduokit, E.A. (1999). Fiscal deficit and inflation dynamics in Nigeria: An empirical investigation of causal relationship. *CBN Economic and Financial Review*, 37(2): 1-6.
- [32] Pesaran, M.H. & Smith, R.J. and Y. Shin, (1996) *Testing for the Existence of a long run Relationship*, DAE Working paper No.9622, Department of Applied Economics, University of Cambridge
- [33] Salawu, R.O. (2005). *Essentials of Public Finance*. Ile-Ife: Obafemi Awolowo University Press LTD.
- [34] Siegal, A. (1979). *Inflation Induced Distortion in Government and Private Sector*. IMF Working Papers in Onwioduokit,
- [35] Sriyan, J. (2002). *Fiscal policy and economic growth: An empirical evidence from Malaysia and Indonesia*.
- [36] Toda, H.Y., Yamamoto, T. (1995). Statistical inference in vector auto regressions with possibly integrated processes. *Journal of Econometrics*, 66, 225-250.
- [37] 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): 191–203.
- [38] Umoh, O. J., Onye, K. U., & Atan, J. A. (2018). Political and institutional determinants of fiscal policy persistence in West Africa (Munich Personal RePEc Archive (MPRA) Paper 88452, 1-20). Retrieved from [https://mpra.ub.uni-muenchen.de/88452/1/MPRA\\_paper\\_88452.pdf](https://mpra.ub.uni-muenchen.de/88452/1/MPRA_paper_88452.pdf)
- [39] Zou, Heng-fu (1993) "The Spirit of Capitalism and Savings Behavior", manuscript. The World Bank, October