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MACROECONOMIC DETERMINANTS OF FOREIGN DEBT IN NIGERIA: EVIDENCE OF GRANGER CAUSALITY

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Abstract

The research was informed by the necessity to analyze the macroeconomic factors of foreign debt in Nigeria through the Granger Causality Approach. The macroeconomic determinants that have been used are gross domestic product, consumer price index, domestic credit, productivity index, population, foreign reserve and balance of payment account. Secondary data was used to cover the years 1981-2023 after which the data of the central bank of Nigeria statistical bulletin data was used, and the descriptive statistics was applied to understand the behavior of the data set used. The outcome of the Granger causality test showed that has no causality between foreign debt and the macroeconomic variables under study with one-way causality being foreign debt to consumer price index and gross domestic product. The study ends by concluding that foreign debt facilitates gross domestic product and consumer price index recommends that conscious effort be consciously made by the government in ensuring that borrowed fund are invested in economic activities that has the capacity to spur development of the economy because foreign debt have the potential of promoting gross domestic product.

Keywords:

Granger Causality, Crowd out Theory, Structural Change Model, Macroeconomic Variables, Descriptive Statistics.

1.0 Introduction

The government can turn to the external financing sources whether domestic or foreign market to fund her spending. This borrowing of domestic and foreign financial markets is thus called public debt that Eravvoke and Oyovwi (2013) termed as debt incurred by the government using the domestic and international financial markets to finance domestic investments. Essien et al (2016) state that government borrowing is achieved by issuing bonds, securities and bills as well as direct borrowing by international financial institutions such as World Bank and this is foreign debt. The foreign debt as defined by Dawood et al (2021) arises when the resources available inside a country is not enough to meet the demand in the country. One of such critical issues that have a major implication to the stability of the economy of a country is the issue of foreign debt.

The use of foreign borrowing is significant in funding development projects and economic growth in most developing nations such as Nigeria. Foreign borrowing gives the governments access to more money which can be invested in infrastructure, human capital and productive capacity hence spurring economic activity and generating employment opportunities (Khan and Reinhart, 1990). Among the major advantages of foreign borrowing is the fact that it can be used to balance the difference between savings and investment in the domestic setup especially in those countries that have limited domestic resources. Nwinee and Torbira (2012) acknowledge debt in an effort to offer a solution to the issue posed by resources shortage and surging increases in government spending. When they assumed that it can be employed in boosting economic growth and motivate private investments in cases where government forecasts are being financed by the government, the Keynesian economists had placed their bet on government borrowing (Mbah et al, 2016; Rafindadi and Musa, 2019). Foreign debt may therefore be regarded as the summation of money borrowed by government of a country in a foreign currency (external sources) to counter the impacts of its deficit to be repaid in a foreign currency. Therefore, governments are able to fund investment projects through borrowing which would not be within their financial reach including large scale infrastructure projects (Easterly and Fischer, 1990).

Other studies such as Isu (1997); Nnamdi and Omojefe (2009) among others researched on Nigerian external debt predictive model by using productivity index, inflation rate, foreign reserve, population growth and balance of payment on current accounts without considering two determinants of the macroeconomic indicators such as gross domestic product and domestic credit which are equally important macroeconomic indicators. Also, Essien et al (2016) aimed to discuss the macroeconomic impact of the public debt but finished discussing macroeconomic factors and economic growth that required the need to effectively discuss the previously defined objective. The international perspective, Dawood et al (2021) examined the external debt determinants of 32 Asian countries, Musah (2023) examined the macroeconomic determinants of public debt in Ghana and Khalif (2022) examined the external debt macroeconomic determinants of Somalia further creating the need to examine the macroeconomic determinants of foreign debt in Nigeria.

Considering the above and in the view of recent statistics, there is an urgent need to test the causal relationship of the macroeconomic determinants of the foreign debt of Nigeria using gross domestic product, domestic credit, production index, inflation rate as a proxy of the rate, population, foreign reserve and balance of payment as well as to investigate the causal relationship between the foreign debt of the country and the macroeconomic determinants under study. The necessity to solve this is the main issue of the research.

2.0 Literature Review

2.1.1 Conceptual Review

The amount of money that a country owes to the foreign creditors, including foreign governments, international financial institutions, and even private investors is what is referred to as foreign debt. Foreign debt have been the centre of discussion in recent times in terms of the macroeconomic policy framework and international finance of any given country. It is believed that the management of foreign debt plays a vital role in keeping the reputation and credibility of the nations and that it is the aspect that ensures the sustainability or the solidity of the debt markets and financial institutions (Audu, 2004). It is a common knowledge among international community that the current high foreign indebtedness of many countries has remained a major challenge to the growth and stability of these countries. The foreign debt is a multifaceted issue that has complex implications on countries both on a macroeconomic and geopolitical level.

Foreign debts in the international economics are defined as debts between two parties (the debtor country and the lender country) which bind the two parties. It is a debt that can be paid in other currencies that are not related to the debtor country. The foreign debts in particular, are the debts owed to financial creditors not resident of the borrowing country. This entails short term debts which may be in the form of trade debts that are due within one or two years or paid within the fiscal year in which the transaction took place.

2.1.2.1 Classical Causants of External Debt

In order to develop a strong conceptual framework on the determinants of external debt in Nigeria, it is important to consider a number of variables that have demonstrated notable effects on the external debt in different economic environments. Economic growth that is usually assessed by gross domestic product are the key determinants to the dynamics of the external debt in Nigeria as the government tries to fund investment in infrastructure, human capital and production capacity. Economic growth and external debt is not a linear relationship and over-borrowing may result in debt overhang and hamper long term development opportunities. Dawood et al (2021) argue that the slowness in the growth of an economy can strain the needs related to foreign debt. In the event of low growth rate of the economy, the economy may resort to external financing in order to invest in major infrastructures that can have the capacity to spur growth. That is, the rate of economic growth is one of the major predictors of external debt. Macroeconomic variables such as domestic credit have a significant role in determining the performance of a country. Domestic credit enables business to invest in expansion, technology and innovation to accelerate the growth of the economy. Credit facilities allow households to buy

in bulk which spurred the economy. The apex control over monetary authority observes the level of domestic credit to regulate the interest rates, which determines the cost of borrowing. Low rates may spur borrowing and consumption and high rates may be used to bring an overheated economy to a normal level. The external debt is severely affected by population growth due to its effects on economic and social demands. The high rate of population growth raises the level of demand of the people on the government services like education, health, and infrastructure which in most cases results in increase in the level of government expenditure. In cases where domestic revenues lack the ability to fulfill these demands then governments can use external borrowing. The population growth rate in Nigeria is high and thus requires a huge amount of investment by the government (World Bank IMF 2023). Such expansion strains the government to spend more to provide basic services and infrastructure that are usually funded by foreign debt. Research has identified that the external debt levels are usually high in countries with high rates of population growth because of high fiscal pressures (IMF, 2024).

The productivity index which is the efficiency of production in an economy is a significant factor that determines the levels of external debt. Increased productivity can result in economic development, growth in tax revenue and less external borrowing. Low productivity on the other hand may deter economic performance and cause dependence on foreign debt. The important role of productivity in the management of external debt is supported by empirical evidence. As an example, the International Monetary Fund (IMF, 2024) points out that the reliance of a country on external borrowing can be delayed by enhancing productivity through technological changes, improved education, and infrastructure building. The causal role played by the foreign reserves in the external debt is crucial in the capacity of a country in managing the external commitments to stabilize the currency. When there are enough foreign reserves, external borrowing can be minimized since this foreign reserves will act as a buffer in the face of external shocks and also as a guarantee that the country is able to meet its international payments. A country that has foreign reserves that are large is usually perceived to be less risky by global lenders and therefore may help in lowering the cost of borrowing and also decreases the dependence on foreign debt. The other essential causant that is taken as id is the inflation that influences the real value of debt, and therefore the decision to borrow and sustainability of debt. Foreign debt is also influenced by inflation on cost of servicing debt and stability of the economy. High inflation reduces the worth of the domestic currency and where the debt is in foreign currencies, the cost of servicing the debt is high.

Balance of Payments (BOP) is a financial account of all the economical transactions between the people of a country and the world at large in the course of a given period which in most cases is one year or a quarter. It is a mirror of the net income, and the balance of trade of the country. The current account balance indicates the net lender or borrower of a country in terms of goods, services, and income flows whereas the capital account monitors the capital transfers and financial transactions of the residents and non-residents. It is an important determinant of foreign debt since it may affect the exchange rate since the inflow or outflow of foreign currency would determine the value of currency of a country as well as aid in measuring the economic standing of a country. A deficit can signify that a country is living above its means and surplus can suggest that there is high demand of goods and services in the world.

2.2 Theoretical Review

In the majority of 60s and 70s, economist tend to define the process of development as the structural change that can be taken as the most important sources of economic growth through reallocating the labour force that is based on the agricultural sector to the industrial sector. The two sector model and the structural or pattern of development are two widely-known representatives of this approach. The labour movement in the two-sector model or theory of surplus labour is where the labour is becoming more and more removed out of the agricultural sector and into the industrial sector. But, as long as there is inexhaustible supply of labour in traditional sector, people will earn a wage and save to jumpstart investment that will lead to growth and as long as people will in turn transfer labour in human based agricultural sector to industrial sector, industries will be created which is on the verge of capital and thus borrowing. The structural change theory is concentrated on the process of how the underdeveloped economies are restructuring their internal economic system into a heavy and more manufacturing and service-oriented economy. This would create more funds in foreign sources of capital in form of debt. These debts might be invested and also constructed of infrastructures that would be needed to transform the economy into more urbanized and industrialized economy.

Debt crowding-out hypothesis firstly proposed by Frank Knight 1921 and popularized by John Maynard Keynes in 1936 in his work The General Theory of Employment, Interest and Money by incorporating the concept into his macroeconomic theory. It was extended by Milton Friedman who wrote in 1957 a piece titled A Theory of the Consumption Function. Where he coined the notion of financial crowding out, in which the government borrowing raises the interest rates, decreasing investment in the private sector. Crowding out hypothesis is not a recent concept and have been discussed in many forms over the past hundred years and most of it existed before the modern global economy came to be. The debt crowding out hypothesis argues that an increase in debt service payment has the potential to boost the budget deficit of a country and thus lower the savings of the population unless there is an increase in the level of savings of the citizens. According to the proponents of this theory, the more the external debt goes beyond the repayment capacity of a country, the lower the investment is discouraged in light of the greater future taxation; therefore, the uncertainty involved in high debt, low chances of debt relief and high chances of default (in that case) detracts the incentives of the investors and economic growth; consequently, the high debt service can push out the private investment (Cohen,

2.3 Empirical Review

The study by Sarker and Bhowmik (2025) was based on the cause-and-effect relationship between macroeconomic variables and external debt in Bangladesh with the help of econometric analysis. The paper uses annual time series data between 1986 and 2018 and estimates the relationship between foreign debt and macroeconomic variables that include interest rates, exchange rates, LIBOR rates, GDP growth, and inflation rates using the FOLS model. The study has revealed that macroeconomic factors have a high influence on the external debt. Conclusions of the study have practical implications on regulators that can assist them in developing methods of regulating foreign debt and sustaining economic development.

Okutimiren et al. (2024) also studied the complex association between macroeconomic variables and the external debt in the Nigerian economy. The paper resorts to the use of a thorough study in the symmetric Granger (1981) causality paradigm, covering the period of 1986 through 2020. Other than economic growth that shows direct relationship with foreign debt, the results showed that there was no relationship between external debt and investment, economic growth, or exchange rate. Therefore, these results have highlighted the need of the government to explore alternative sources of funds rather than over relying on foreign debt especially when the government is engaging in productive projects.

Using macroeconomic factors of real gross domestic product, primary balance, currency rate, real interest rate and trade openness, Kijjambu et al (2023) studied Uganda's debt sustainability determinants using secondary time series data. The research documented that primary balance, real interest rate, and real effective exchange rate have a positive and significant impact on debt to imply that they are major factors in mitigating debt and its sustainability. Additional results indicated that the current account balance is negatively and significantly affecting the debt as well as no significant effects of debt on the gross domestic product growth in Uganda. This research recommends that policymakers should focus on having a fiscal surplus, and sound fiscal administration.

Using the annual data ranging between 1981 and 2020, Chukwu (2023) examined the effects of external debt on the Nigerian economic growth by applying the least square regression estimation method and the test of causality. The independent variables used by the study were external debt, exchange rate, inflation rate and domestic debt whereas the dependent variable was the real gross domestic product. Results of the research showed that the external debt does not have any substantial impact on the growth of the Nigerian economy and therefore does not play any significant role in determining the growth of the Nigerian economy. The result of the causality test showed that there is no causality between the external debt and growth in Nigeria. Considering the results, the study recommends that the cost of governance should be reduced to allow the available funds to be used appropriately in developing the same.

Musa et al. (2023) studied the macroeconomic factors that affect the decision of non-financial firms to structure their debts in Nigeria. The research is based on secondary data of publicly-traded non-financial companies in Nigeria between 2008 and 2020. The analysis of the data collected was done using a Panel OLS. According to the panel regression findings, the business variables (size, earnings, fixed assets and non-debt tax shields) and the gross domestic product growth rates are some of the variables that affect the debt structure of a non-financial firm in Nigeria. The results show that the interest rates are negatively related with debt structure, the GDP growth rates and inflation rates are positively related with the private credit. The report recommends that corporate managers in the sector of Nigeria should evaluate the consequences of macroeconomic conditions on their funding decisions and how these will impact overall growth of the industry when making long-term funding decisions.

Hlongwane and Daw (2022) examined the determinants of public debt in South Africa using the annual secondary data in the form of South African Reserve Bank, Quantec Easy Data, Statistics South Africa and World Bank between 1990 and 2020. The analysis using the Simple Switching

Regression Model and the Granger Causality to estimate the data and using the determinants of debt in government spending, unemployment, inflation of consumer prices, government revenues among others, the study has reported that government deposits, business confidence, consumer prices inflation, government revenue and unemployment were significant determinants of the public debt in the two regimes under study whereas government spending was not found to be significant determinants of the public debt in The Gini-coefficient was seen to be an insignificant determinant of public debt only in the first regime. The outcomes of causality test demonstrated that there is a causality relationship between determinants of public debt and public debt. They advised on less dependence on the public debt to fund the fiscal activities in South Africa.

The article by Aimola and Odhiambo (2022) examined the dynamic Granger-causality between inflation and the public foreign and domestic debt in Nigeria using annual data between 1986 and 2019. Interest rate and economic growth are used as intermittent variables in the work with key variables to come up with a multivariate Granger-causality model that contains omission-of-variable bias. The testing method of cointegration with the use of Autoregressive Distributed Lag (ARDL) and the error correction model (ECM)-based Granger-causality test demonstrate that there is a strong unidirectional causal relationship between inflation and external debt. The findings show that there is a feedback relationship between domestic debt and inflation in the short-term, but causation runs in the opposite direction that is, domestic debt causes inflation in the long term.

In one of the studies, Onwe and Ugwuanyi (2020) used the Granger Causality Test and Error Correction Model (ECM) to analyse the relationship between debt servicing and external debt in Nigeria between 1981 and 2019. It was discovered that debt servicing and external debt have a two way causal linkage. Debt servicing costs are high leading to the necessity of external borrowing which further increases the servicing of the debt, hence a debt spiral. Refinancing and restructuring are effective methods of debt servicing that should be used to stop the trend towards external debt accumulation.

3.0 Methodology

Research Design: - Time series longitudinal research design was used in the design of this study. Since series of data points over a time period will be collected.

Sample and Sampling Techniques: - The research will address all the macroeconomic factors of external debt in Nigeria. The judgmental sampling method will be used because it will enable the researcher to choose the samples based on subjectivity of the mind of the researcher where no equal probability of occurrence of the chosen members of the sample.

Nature/ Source of Data: - The data set that the study will use are secondary in nature and will be obtained through Central bank of Nigeria Statistical Bulletin and will be ranging between 1981-2023 as was mentioned in the time scope of the study.

Model Specifications: - Relying on the structural change model, we can state that

Foreign Debt Balance = f(Macroeconomic Factors)……(3.1)

Factoring in our employed macroeconomic determinants of foreign debt (gross domestic product, domestic credit, production index, consumer price index, population, foreign reserve and balance of payment) into the above stated equation, we thus state further that;

FDB = f(GDP, DMC, PDI, CPI, PPT, FRS, BOP) ……..(3.2)

Where;

FDB = Foreign Debt Balance

GDP = Gross Domestic Product

DMC = Domestic Credit

PDI = Production Index

CPI = Consumer Price Index

PPT = Population

FRS = Foreign Reserve

BOP = Balance of Payment

For estimation purpose, equation (3.2) above can be rewritten as stated below;

$FDB_t = \alpha 0 + \alpha 1 GDP_t + \alpha 2 DMC + \alpha 3 PDI_t + \alpha 4\ CPI_t + \alpha 5 PPT_t + \alpha 6 FRS_t + \alpha 7 BOP_t + \mu ĭ$ ……(3.3)

Where;

α0 = Constant

α1 to α7 = Coefficients of the parameters

μĭ = error term and every other thing as earlier defined.

3.5 Method of Data Analysis

In order to obtain the goal of the study, the next method of data estimation will be used.

Descriptive Statistics: - The descriptive statistics will assist us in summarizing and describing the major features of a dataset that will be used. It will encompass the following main aspects in comprehending the fundamental characteristics of the data, which makes it possible to pinpoint the trends and patterns.

Mean: The mean also known as the average is a central tendency measure, which is used to summarize a group of values.

Range: The range refers to a dispersion measure that is used to show the spread of data set. It is obtained by the difference between the minimum and the maximum in the data set. The difference between the minimum and the maximum values is the difference.

Variance: Variance is used to determine the extent of the difference between the values in a dataset and the mean. It measures the extent of dispersion of the data. The larger the variance the more the data points are distributed across a broader range of values whereas the smaller the variance the less the data points are far away.

Standard Deviation: Standard deviation is a statistical technique to indicate the dispersion of the values in a data set like the variance, but it measures the data in the same unit hence it is easy to understand. It is a square root of the variance.

Skewness: Skewness is a value that is used to measure the asymmetry of a data set distribution. It shows if the data are skewed towards the left (negative skewness) or to the right (positive skewness) against the mean.

Kurtosis: Kurtosis is a term used to define the shape of the tails of a distribution relative to the shape of the distribution. It gives information about the tail of the distribution, which is the use of the data on the tails versus the center. Kurtosis can Mesokurtic which implies normal distribution with a kurtosis of 3. This means that the tail thickness is moderate or Leptokurtic that represents a distribution with a value of kurtosis that exceeds 3, therefore, having heavier tails and a stiffer peak than a normal distribution. This shows higher outliers and extreme values and Platykurtic implying that the distribution has less kurtosis of less than 3, and hence the tails are lighter and the peak is flatter. This shows that there are fewer outliers as opposed to normal distribution.

Granger Causality Test: - According to Brooks (2009), the Pairwise-Granger Causality test tries to assess the degree of how fluctuations in a specified group of explanatory variables are likely to favor or encourage the shifts in the dependent variable. In addition, it demonstrates how much the inclusion of lagged values of the variables can enhance the explanation and vice versa as per equations below;

$$\gamma t = \beta 0 + \sum_{i=k}^{n} \beta i \gamma t - i + \sum_{i=k}^{n} \beta \mu \, Xt - i + \mu t \quad (1)$$

$$Xt = \alpha 0 + \sum_{i=k}^{n} \alpha i \gamma t - i + \sum_{i=k}^{n} \alpha i \, \gamma t - i + Vt \quad (2)$$

4.0 Data Presentation and Analysis

4.1 Descriptive Statistics

Table 4.1 Descriptive Statistics Results

	FDB	GDP	CPI	DMC	MFI	BOP	PPT	RSV
Mean	3991.043	51324.77	120.8789	3817094	2.218578	-4255456	1.45E+08	262295.5
Median	961.8768	20411.64	59.96	2565242	2.198512	-1742069	1.39E+08	218301.2
Maximum	38219.85	229912.9	643.78	12997004	21.7971	-4517.6	2.24E+08	701674.6
Minimum	41.4524	196.1692	0.88	68417.4	-17.51047	-17105980	85804185	18922.05

Std. Dev.	7191.885	63313.92	151.7021	4003119	9.537635	5063757	41811255	207784
Skewness	3.306297	1.243741	1.767675	0.646701	-0.003032	-1.209122	0.328395	0.275293
Kurtosis	15.03492	3.555422	5.752463	2.080777	2.746088	3.354423	1.873206	1.566344
Jarque-Bera	298.5625	10.28542	31.78503	3.986608	0.102138	9.458078	2.69331	3.734314
Probability	0.00000	0.005842	0.00000	0.136245	0.950213	0.008835	0.260109	0.154562
Sum	151659.6	1950341	4593.4	1.45E+08	84.30595	-1.62E+08	5.50E+09	9967230
Sum Sq. Dev.	1.91E+09	1.48E+11	851500.8	5.93E+14	3365.76	9.49E+14	6.47E+16	1.60E+12
Observations	38	38	38	38	38	38	38	38

Source: Extract from E-views 10 Output

Descriptive statistics is a field of statistics, which aims at summarizing and structuring data in a significant manner. It deals with methods that assist us in comprehending and making sense of the attributes of a dataset probably using numerical and graphical approaches. The above descriptive statistics result provides the mean which is the average of our individual variables. It is observed that the average value for Foreign Debt Balance (FDB) is 3991.043 while that of Gross Domestic Product (GDP) is 51324.77. The average value of Consumer Price Index (CPI) was 120.8789, Domestic credit (DMC) was 3817.94, Manufacturing Index (MFI) stood at 2.218578 and Balance of payment (BOP) had an average value of -4255458. Population (PPT) posted and average value of 145.000 whereas Reserve (RSV) obtained average value of 262295.5. The value above provides the mean of all the data used set that have been used. The median is taken to represent the central value of the variables utilized when they are ordered either upwards or downwards. From our table above the median values for FDB, GDP, CPI, DMC, MFI, BOP, PPT and RSV were 961.8786, 20411.64, 59,96, 2565242, 2198512, -1742069, 139.000 and 218301.2 respectively.

The difference between the largest and the lowest values of our used variables. It is observed that the maximum and minimum value for EDS is 38219.65 and 41.4524 while that of GDP is 229912 and 196.1092. maximum and minimum values for CPI, DMC, MFI and BOP were 643.78 and 0.88, 12997004 and 68417.4, 21.7971 and 17.51047 and -45176 and 1710589 respectively. PPT had the highest value of 224.000 and minimum value of 85804584 whereas RSV had the highest value of 701674.6 and the minimum value of 18922.05.

The variance on the other hand measures the distance of each data point to the mean when compared to the standard deviation which is the square root of the variance and gives a measure of the average distance between each data point and the mean and as per our table of descriptive statistics above the standard deviation of FDB is 7191.866 and that of GDP is 63313.92. CPI, DMC, MFI and BOP recorded a standard deviation value of 151.7-21, 4003119, 9.537655 and 5063757 respectively. PPT recorded a standard deviation of 41811255 against the 207784 in RSV.

The skewness is a measure of the asymmetry of used dataset. The value in a skew that is positive means that the distribution has a long right tail whereas, the value in a skewness that is negative means that the distribution has a long-left tail. Based on our above findings, all our variables took a positive value meaning that they all have a long right tail. FDB, GDP, CPI, DMC, MFI, BOP, PPT and RSV values were 3.306297, 1.743741, 1.767675, 0.646701, 0.00302, 1.209122, 0.328395 and 0.275293 respectively. The Kurtosis in its turn is the measure of the tailedness. A large kurtosis indicates that the data has fat tails or outliers and a small kurtosis indicates that the distribution is light-tailed. It can be observed from our above table that FDB (15.03492), CPI (5.752463), GDP (3.555422) and BOP (3.354423) recorded high kurtosis implying that they have a very heavy tail while DMC (2.080777), MFI (2.740088), PPT (1.873206 and RSV (1.566344) have low kurtosis suggesting a light tailed.

4.2 Granger Causality

Table 4.2 Result of Granger Causality Test

Pairwise Granger Causality Tests
Date: 12/16/24 Time: 11:12
Sample: 1986 2023
Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
BOP does not Granger Cause FDB	37	0.00282	0.9580
FDB does not Granger Cause BOP		1.35802	0.2520
CPI does not Granger Cause FDB	37	1.13284	0.2947
FDB does not Granger Cause CPI		6.59751	0.0148
DMC does not Granger Cause FDB	37	0.77753	0.3841
FDB does not Granger Cause DMC		1.26525	0.2685
GDP does not Granger Cause FDB	37	0.43823	0.5124
FDB does not Granger Cause GDP		11.1356	0.0021
MFI does not Granger Cause FDB	37	0.02288	0.8807
FDB does not Granger Cause MFI		0.14698	0.7038
PPT does not Granger Cause FDB	37	0.12009	0.7311
FDB does not Granger Cause PPT		28.4596	6.E-06
RSV does not Granger Cause FDB	37	5.3E-06	0.9982
FDB does not Granger Cause RSV		0.08848	0.7679

Source: Extract from E-views 10 Output

Based on the above causality result, it is noted the causality between the balance of payment and foreign debt balance is not causal. This implies that the balance of payment and foreign debt balance do not either further or favor one other as is shown by the F-statistics probability values of 0.9580 and 0.2520. It means that the balance of payment in Nigeria at the time frame of the study do not favor the external debt contracting in Nigeria and the stock of external debt in Nigeria do not support the balance of payment. A one-way causality was established between

consumer price index and external debt stock having causality running out of the external debt stock to the consumer price index. This is shown by the F-statistics probability of 0.2947b and 0.0148 assigned to them. This means that consumer price index does not sustain foreign debt balance as well as in turn, external debt stock when contracted, encourage or augment the growth of consumer price index. In other words, it implies that external debt stock increases the rate of inflation in Nigeria.

In Nigeria, there was no causality between domestic credit and external debt balance in the time that this study was conducted. This is supported by their probability values of 0.3840 and 0.2685 respectively as this further indicates that credit provided locally does not encourage or facilitate the contraction of external debt in Nigeria since more credit in the economy will deter contracting external debt and that when the external debt is contracted do not encourage the growth of domestic credit as indicated by their F-statistics probability values of 0.5124 and 0. The unidirectional causality observed was observed to be moving in the direction of external debt stock to the gross domestic product. It means that a shrunk external debt investment in productive use will foster and encourage the growth of gross domestic product and that a growing economy as manifested by its growing gross domestic product is not supportive and encouraging of external debt.

Additionally, manufacturing index and the external debt balance were not found to have any causality as they have F-statistics P-values of 0.8807 and 0.7038 respectively. This means that there is no promotion or support of manufacturing index and external debt. Moreover, there was no causality between population and external debt as shown by their corresponding F-statistics probability value of 0.7311 and 0.6006 respectively indicating that population and external debt balance do not promote or support each other and the F-statistics P-values of external reserve and external debt are 0.9982 and 0.7679 respectively indicating causality between the two. This implies that the external debt does not encourage external reserve and neither does the external reserve encourage external debt.

5.0 Conclusion and Recommendations

5.1 Conclusion

The paper looked at the macroeconomic determinants of external debt in Nigeria by undertaking the Granger causality test through the gross domestic product, inflation proxied by consumer price index, domestic credit, productivity index, population, balance of payment and foreign reserve as the macroeconomic determinants. Therefore, based on its findings, the study finds that the variables are not promoting or supportive of each other except for the foreign debt that was found out to promote/support the inflation and gross domestic product since it has one directional causality with the consumer price index (proxy of inflation) and gross domestic product.

5.2 Recommendations

According to our findings, the following can be recommended.

i. Conscious effort should be consciously made by the government in ensuring that borrowed fund are invested into economic activities that have the capability to drive the growth of the economy since foreign funds have the capacity to promote gross domestic product.
ii. Although the Government borrow through international markets, it is advisable that government establish a bench mark in borrowing through international market since excessive borrowing is always accompanied by high interest payments that may strain the economy and drive inflation to high levels.
iii. The government should be advised to use borrowed money in infrastructural development that can assist in providing employment to the people since this will assist in sustaining the population hence stimulating the economy which is a win/win scenario.

References

Aimola, A. U., & Odhiambo, N. M. (2022). External debt, domestic debt and inflation in Nigeria: A multivariate granger-causality test. *Econometric Research in Finance*, *7*(2), 143-169.

Audu, I. (2004). The impact of external debt on economic growth and public investment: The case of Nigeria (Abstract), *African institute for Economic Development and Planning (IDEP).*

Chukwu, C. B. (2023). Impact of external debt on economic growth in Nigeria (1981–2020). Available at SSRN: https://ssrn.com/abstract=4426733 or http://dx.doi.org/10.2139/ssrn.4426733

Cohen, D. (2003). Slow growth and large LDC debt in the eighties: An empirical analysis. CEPREMAP Working Paper No. 9002, November

Dawood, M., Baidoo, S. T., & Shah, S. M. R. (2021). An empirical investigation into the determinants of external debt in Asian developing and transitioning economies. , Development Studies Research, 8:1, 253-263, DOI: 10.1080/21665095.2021.1976658; https://doi.org/10.1080/21665095.2021.1976658

De Soyres, C., Kawai, R., & Wang, M. (2022). Public debt and real GDP: Revisiting the impact., IMF Working Paper WP/22/76, Washington DC: International Monetary Fund.

Debt Management Office (2013). www.dmo.gov.ng

Debt Management Office (2016), Domestic debt stock by instrument as at June 30, 2016. https://dmo.gov.ng/debt-profile/domestic

Din, M. U., Saeed, K., Khattak, S. W., Arooj, F., Imtia, S., & Ullah, S. (2020). Macroeconomic determinants of foreign indebtedness: Evidence from Pakistan. *Indian Journal of Economics and Business*, *19*(2), 117-130.

Dirir, S. A., & Aden, K. (2025). Evidence-based exploration of macroeconomic dynamics in ensuring the sustainability of external debt: A case study of Djibouti. *Transnational Corporations Review*, 200114.

Dumitrescu, B. A., Enciu, A., Hândoreanu, C. A., Obreja, C., Blaga, F. (2022). Macroeconomic determinants of household debt in OECD Countries. *Sustainability*, *14*, 3977.

Easterly, W. & Fischer, S. (1990). The economics of Government Budget Constraint. World bank Research Observer, 5(2), 127-142

Eravwoke, K. E., & Oyovwi, D. O. (2013). External burden and its impact on growth: An essential of major economic variables in Nigeria. *Academic Journal of Interdisciplinary Studies*, *2*(2)

Essien, S. N., Agboegbulem, N. T. I., Mba, M. K., & Onumonu, O. G. (2016). Empirical analysis of macroeconomic impact of public debt in Nigeria. *CBN Journal of Applied Statistics*, *7*(1a), 125-145

Hlongwane, N. W., & Daw, O. D. (2022). Determinants of public debt in South Africa: A regime-switching approach. *MPRA Paper no*. 113203.

International Monetary Fund (2023). Nigeria: Article IV Consultation. Retrieved from IMF(https://www.imf.org).

International Monetary Fund (2024). "Nigeria: Article IV Consultation." Retrieved from IMF(https://www.imf.org).

Khalif, M. A. (2022). Macroeconomic determinants of external debt in Somalia. *IOSR Journal Of Humanities And Social Science*, *27*(7), 8-16.

Kijjambu, F. N., Musiita, B., Katarangi, A. K., Kahangane, G., & Akampwera, S. (2023). Determinants of Uganda's debt sustainability: The public debt dynamics model in perspective. *Journal of Economics and Behavioral Studies*, *15*(4(J), 106-124.

Mbah, S.A., Agu, O.C., & Umunna, G. (2016). Impact of external debt on economic growth in Nigeria: An ARDL bound testing approach. *Journal of Economics and Sustainable Development, 7 (10), 16-26.*

Musah, I. (2023). An empirical investigation of macroeconomic determinants of public debt in Ghana. *Cogent Economic and Finance, 11*(2), 1-29

Nnamdi, I. S., & Omojefe, G. O. (2009). A prediction model for Nigeria's external debt: A revisit. *Journal of Finance, Banking and Investment,3 (1), 131-139.*

Nwinee, B. F., & Torbira, L. L. (2012). Public financial management in Nigeria. University of Port Harcourt Press: Port Harcourt Nigeria.

Okutimiren, A., Maku, O., Adelowokan, O., & Ogunjobi, F. (2024). Evaluating symmetric causality between external debt and macroeconomic variables in Nigeria. *Econ Insights-Trends Chall*, *13*(2), 45-53.

Onwe, A., & Ugwuanyi, J. (2020). Debt servicing and external debt in Nigeria: A causal relationship. *Journal of Economic Studies, 47(*4), *789-804.*

Rafindadi, A. A. & A. Musa (2019). An empirical analysis of the impact of public debt management strategies on Nigeria's debt profile. *International Journal of Economics and Financial Issues 9(2): 125*

Sarker, N., & Bhowmik, P. K. (2025). The causal relationship between macroeconomic factors and external debt in Bangladesh: An econometric analysis. *Review of Economics and Finance*, *22*, 264-272.