

External Debt as an Explanatory Deterrent to Nigeria's Macroeconomic Solidity

Kelvin Chijioke Amadi^{1,*}

Abstract

External debt implies fund borrowed from international financial institutions but was not paid back. This study examines the impact of external debt on some selected macroeconomic forces in Nigeria: Inflation rate, exchange rate, interest rate, and balance of payment. Time series data were used for the analysis and were sourced from the Central Bank of Nigeria, Statistical bulletin, and other relevant publications. The data are covered from 1987 to 2020. The data were analyzed with some statistical tools; descriptive statistics, trend analysis, correlation matrix, unit root test, cointegration test, long run and autoregressive distributed lag short-run error correction model, post-estimation test, and stability test. The result of the long-run analysis indicates that there is a relationship between external debt and the explanatory variables. In the same vein, the result of the autoregressive distributed lag short error correction model shows that inflation rate, exchange rate, and interest rate influenced external debt and lag one of the balances of payment have a positive significant effect on external debt, respectively. The article recommends among others that debt should be avoided because of its dangerous tendencies, debt management boards should be checkmated because of the level of corruption, and money borrowed should be utilized and financial institutions should encourage local investors by giving financial assistance when there is need.

Keywords: Balance of payment, exchange rate, external debt, interest rate and inflation rate, macroeconomic factors

INTRODUCTION

Government and private individual needs are numerous and the means to satisfy these needs are limited in supply. Hence, there is a need to borrow to augment the available resources. Thus, the inability of government, corporate bodies, and private individuals to utilize the available resources create a situation for borrowing. Debt remains the sum of money borrowed but could not be paid back by the debtor. Money can be borrowed from financial institution corporate bodies and the government, especially in a situation whereby the government or private individuals gets a shortfall of funds to finance socioeconomic amenities, there is the tendency or possibility for the government to borrow from either interactional monetary fund (IMF) or other agencies to finance its financial projects. When the money borrowed is not paid as when due, it becomes a great burden to the government or the debtor. The effect of money borrowed outside the country, and not paid back as agreed upon becomes external debt.

*Author for Correspondence

Kelvin Chijioke Amadi
E-mail: kamadi620@gmail.com

¹Faculty of Foundation Studies, Captain Elechi Amadi Polytechnic, Port Harcourt, Nigeria

Received Date: March 04, 2023
Accepted Date: March 17, 2023
Published Date: April 10, 2023

Citation: Kelvin Chijioke Amadi. External Debt as an Explanatory Deterrent to Nigeria's Macroeconomic Solidity. NOLEGEIN Journal of Business Risk Management. 2022; 5(2): 14–25p.

The effect of external debt on Gross Domestic Product (GDP) and infrastructural development cannot be overemphasized. This is because the money that would have transformed into a

productive venture to promote the GDP and infrastructural development amongst other economic investment is been used to service debt, which is detrimental to the economic growth in Nigeria. This situation has been a great concern to the government and policy makers in Nigeria. There is no doubt that money borrowed can be used to stimulate different sectors of the economy. But in a situation whereby the money borrowed is not paid back, or used for the purpose for which is borrowed the debt will overrun the economy and the resultant effect will be that a reasonable proportion of foreign exchange earnings will be absorbed by debt servings as well as repayment, which will affect the economic growth of the country [1] to much of debt constitutes a problem to the sustainable economic growth of the notion.

Though some schools of thought accept the view that money borrowed externally can be used to promote economic growth and development that could reduce poverty in Nigeria. While some schools of thought disagree with this notion. They are of the view that money borrowed can be mismanaged because of the high level of corruption in Nigeria, hence do not support external borrowing by the Nigerian government for the fear of mismanagement. The fact remains that Nigeria is a practical example of a country having debt. It is sad to note that the first Nigeria external debt was in 1958 from World Bank. The money was then used for the railway construction.

Statement of the Problem

In recent times, Nigeria has witnessed serious external debt. This is a result of the accommodation of debt over the year past and the present government of Nigeria have been engaged in external borrowing of funds to finance Nigeria's budget. Consequently, the inability to pay back monies borrowed has brought about a debt burden. This is a great concern to well-meaning Nigerians, policy makers, private individuals, researchers, and the government because of its inherent predicaments. Nigeria's external debts are from multilateral agencies, the Paris club of creditors, the London club of creditor promissory note holders, and China financial institution [2]. Nigeria's first loan was from the Paris club of creditor nation worth \$13.1 million which was obtained from the Italian government in 1964 for the building of the Niger dam. However, the oil boom of 1970-1973 shielded Nigeria from repaying part of the fund borrowed. But following the recession in 1977-1978 Nigeria obtained a 1 billion US Dollars loan known as a jumbo loan from the international capital market to finance the internal infrastructural project [3]. In the same vein in 1980, there was a fall in oil prices, which led to borrowing from the international capital market. But there was no sincerity of purpose in managing the fund. Hence, the purpose for which the fund was borrowed was not achieved. The borrowing has continued from the government to government without proper management of the fund. Nigeria's debt has risen and is a problem that is capable of affecting all aspects of socioeconomic activities or programs [4].

The Nigerian government has been borrowing to improve its economy; yet there is no remarkable achievement as a result of mismanagement and corruption. The debt overhang has resulted in a situation whereby money that would have been used for meaningful development is used for debt servings and repayment. Literature evidenced that researchers have carried out studies on the subject matter. They expressed their views on the need and effects of external debt though, their different views revealed no consensus on its negative and positive effects on GDP and infrastructural development. Some are of the view that external debt will lead to overdependent on interactional communities if not properly checked, while some are of the view that external debt is normal, but that the money borrowed should be well utilized. Hence, this study tends to investigate the impact of external debt on some selected macroeconomic variables in Nigeria using empirical analysis. However, macroeconomic variables such as, exchange rate, interest rate unemployment, and inflation rate will be used to check the performance of the economy with heavy external debt. But this study intends to cover this gap in literature by using econometric analysis to ascertain the relationship

between external debt and the general economy in Nigeria. The study also extended to the duration from 1987 to 2020 for comprehensive studies results of external debt burden as a deterrent or stimulus to economic growth and infrastructural project development in Nigeria.

Objectives of the Study

The broad aim of the study is to investigate the external debt burden, a deterrent or stimulus to some selected macroeconomic variables in Nigeria. The specific objectives are to:

1. Examine the impact of external debt burden on inflation rate in Nigeria.
2. Investigate the impact of external debt burden on exchange rate in Nigeria.
3. Evaluate the impact of external debt burden on interest rate in Nigeria.
4. Examine the impact of external debt burden on balance of payment in Nigeria.

Hypotheses

This article is guided with the following hypotheses:

- *Hypothesis o_1* : External debt burden led to changes in inflation rate in Nigeria.
- *Hypothesis o_2* : External debt burden led to changes in exchange rate in Nigeria.
- *Hypothesis o_3* : External debt burden led to changes in interest rate in Nigeria.
- *Hypothesis o_4* : External debt burden led to changes in balance of payment in Nigeria.

LITERATURE REVIEW

This part of the study focuses on the three components of the literature on the subject matter: (1) conceptual clarifications, (2) theoretical framework, and (3) empirical review.

Conceptual Clarifications

This study focusses on the external debt burden as a deterrent or stimulus to some selected macroeconomic variables in Nigeria. The external debt is the dependent variable and the selected macroeconomic variables are the independent variables, respectively. The conceptual framework adopted in this study is that of Abdelbaki [5].

External Debt in Nigeria

External debt is the inability of the Nigerian government not to pay back money borrowed from international financial institutions. The debt profile in Nigeria is so much, such that the money that is supposed to be used for socioeconomic development is channeled to debt serving and not even the 20 payment of the debt itself. Money borrowed has become a cause instead of a blessing because the borrowed fund has not achieved the purpose for which it is sourced in Nigeria. Thus, external debt can be drastically reduced if the money borrowed is well utilized, otherwise, there will be a tendency for more borrowing and debt. Nigeria's government should check the external borrowing by utilizing the ones borrowed in the first instance.

Inflation Rate

This is the persistent rise in the price of goods and services. The rate of inflation in Nigeria can be referred to as a hyperinflationary situation because of overnight changes in the price of goods and services. This could be attributed to too much money chasing a few goods. Nigeria is a consuming nation rather than a productive nation. This situation has brought about overdependence on a few industries that are into productive ventures. Hence, there will be pressure on the existing goods and services and the resultant effect will be an inflationary situation. Countries all over the world try as much as possible to reduce the possibilities and tendencies of inflationary situations because of the inherent predicament of the currency losing its value. In an inflationary situation, the domestic currency loses its purchasing power because of a persistent increase in the price of goods and services. This situation is a signal of a bad economy. Hence, it is not good for any reasonable government.

Thus, economic analysis will be used to ascertain the extent to which external debt influences the inflation rate in Nigeria.

Exchange Rate

This is the rate at which domestic currency is exchanged for foreign currency. The exchange is determined based on the value of the domestic currency. Stronger domestic currency withstands the rate of exchange, but weak currency is affected by the exchange rate. The rate at which Naira is exchanged for dollars is very low because Naira has low purchasing power. In today's economy, Naira is being exchanged for dollars for Eight Hundred Naira (₦800) for one dollar. This is a bad economic situation because it makes goods and services to be much more expensive especially foreign goods. Thus, the extended external debt-influenced exchange rate will be determined through economic analysis results.

Interest Rate

In any loan given to financial institutions, interest is paid. Interest paid on the loan is the profit from the loan given. Thus, the rate of interest in most cases determines the cost of goods and services, because the interest paid on the money borrowed for the productive activities is added to the end product of the production process. Therefore, external debt may attract a high-interest rate because the money borrowed attracts interest. Thus, more interest is required by the domestic financial institution to enable the government to generate funds for the repayment of the money borrowed. The econometric analysis will determine the extent of the impact of external debt on the interest rate.

Balance of Payment

The balance of payment is associated with international trade. This implies that international trade is between two countries that are engaged in trade transactions and receipts are kept as a record of transactions carried out between these countries. Hence, balance of payment is a document showing financial transactions between two countries that are engaged in international trade. Though, this transaction may be favorable or unfavorable. A situation whereby the receipts are more in a country is called favorable balance of payment; otherwise, it is unfavorable balance of payment. Thus, the extent external debt influence balance of payment will be determined through econometric analysis.

Theoretical Framework

The theoretical approaches of the classical economist which revealed that they share the same notion of external debt with other schools of thought. The classical economist believed that borrowing money to finance socioeconomic infrastructure is not a bad idea for any nation. The reason put forward was that inability to pay back the money borrowed will lead to the accumulation of debt. Thus, the money that would have been used for productive ventures will be used for payment of debt interest or settlement of the debt. This is detrimental to the economy and the result will be low-economic development low per capita income and unemployment among other economic problems. Hence, external debt should be discouraged, because of the low level of management in less developed countries [6].

Empirical Review

This part of the study reviewed different empirical studies carried out by different scholars on the subject matter [7] defined debt as money borrowed from an external financial institution or internally borrowed but was not paid back. In carrying out a study on the impact of external debt on infrastructural development in Nigeria, secondary data, from 1980 to 2000 were used for the analysis. Macroeconomic variables: inflation rate, exchange rate, and interest rate were used to test their impact on economic infrastructure. Unit root test and autoregressive distributed lag were employed for the analysis. The result revealed that there is a long-run and short-run relationship between external debt

and the underlined variables. Hence, the article recommended that the Nigerian government should pay back money borrowed because of its negative implications on the economy.

Attari MI (2013) [8] examined the implications of external debt on the economic growth in Nigeria. The article used secondary data, from 1987 to 2015 for the study. GDP, production price index, and exchange rate were used as explanatory variables to justify the impact of external debt on economic growth in Nigeria. The econometric method employed was the ordinary least square method. The result revealed that external debt has an impact on the GDP and production price index. The money that would have been used for a productive venture is used for the serving of debt. This affects economic growth. Therefore, the article recommended that the Nigerian government should stop borrowing and utilize the available resources so that GDP will increase as well as employment opportunities.

Ekpenyong [3] investigated the impact of external debt on the economic growth of Tanzania using time series from 1990 to 2010 ordinary least square was used for the analysis. The variables tested for the empirical studies to measure their relationship with economic growth were GDP, which was a proxy for economic growth as well as the dependent variable, while the explanatory variables were interest rate, exchange rate, and balance of payment. The study revealed that external debt affected negatively on economic growth exchange rate and balance of payment, but did not affect interest rate in Tanzania. The study recommends that debt borrowed should be managed properly so that there will be a reduction in borrowing.

Adjasi [9] evaluated the effect of external debt on the sustainable economic development of Nigeria time series of 1990-2015 was used. Per capita income was a proxy for economic development. Unit root test and autoregressive distributed lag (ARDL) error correction model and long-run coefficient were employed for the analysis.

The result revealed that external debt has a negative significant impact on per capita income. Exchange rate, production price index, and broad money supply which were used as independent variables were affected by external debt within the period under study. The article recommended that the Nigerian government should have a proper Audit of the money borrowed in the past and present so that there will be proper accountability as well as utilization or management of the fund borrowed.

METHOD OF STUDY

This part of the study discusses the different methods used for the study. These consist of research design, data collection, model specifications, and method of analysis. In analyzing external debt burden as a deterrent or stimulus to some selected macroeconomic variables in Nigeria, external debt is the dependent variable and inflation rate, exchange rate, interest rate, and balance of payment are the explanatory variables [10]

Thus,

$$Exd = F(\text{Inflr}, \text{Exar}, \text{Inter}, \text{Bop})$$

Given the functional relationship, the econometric model is specified below:

$$Exd = a_0 + a_1\text{inflr} + a_2\text{excr} + a_3\text{Inter} + a_4\text{BoP} + \epsilon_i \quad (1)$$

Where;

Exd= External debt

Inflr = Inflation rate

excr = Exchange rate

Inter= Interest rate

BoP = Balance of payment

E_i = Error term in the above equations

a_0 = constant

a_1, a_2, a_3 , and a_4 , are coefficient of the variables

Time series were sourced to carry out these studies which were got from the Central Bank of Nigeria statistical bulletin and other publications on the subject matter. The data sourced will be analyzed by applying, descriptive statistics, trend analysis, correlation matrix, unit root test, cointegration (bound) test, ARDL long-run and ARDL short-run error correction model, post estimation test, and stability test.

RESULT AND DISCUSSION

This part of the study will focus on the discussion of findings based on the analysis conducted. The descriptive statistics analysis (Table 1) revealed that between 1987 and 2020 Extd, Infl, exc, inter, and BoP averaged 3.23E+10, 13.58382, 188.4033, 7.237824, and 9.20E+09.

The arrangement of variables within the period under review is, 1.30E+10 to 7.06E+10 for EXTD, 5.400000 to 29.30000 for infl, 4.00000 to 358.8110 for exc, 11.06000 to 7.300000 for inter, and 1.46E+10 to 3.65E+10 for BoP. The results of the descriptive statistics indicate that there is instability in dependent and independent variables. Therefore, there is a need to further probe the features of the time series.

Trend analysis shows a graphical representation of data on external debt, inflation rate, exchange rate, interest rate, and balance of payment.

Figure 1 shows the fluctuations in the external debt situation with a rise in the direction from 2002 to 2004 and there was fall in 2006. The debt fluctuates from 2007 with a high rise in 2020. This shows that the debt profile in Nigeria within the period under review has been on the increase without a solution for paying back money borrowed.

Figure 2 indicates a rise in the fluctuation of the inflationary situation from 1988 to a higher level in 1998 and a fall in 1999 as well as a rise in 2000 and fluctuations up to 2020. The result shows that the inflationary situation has been at a higher level from 1987 till date. This could be a result of the of limited production of goods and services and consequently, too much money chasing few goods.

Table 1. Descriptive statistics.

	EXTD	INFL	EXC	INTER	BOP
Mean	3.23E+10	13.58382	118.4033	7.237824	9.20E+09
Median	3.05E+10	12.90000	123.2000	7.300000	6.21E+09
Maximum	7.06E+10	29.30000	358.8110	11.06000	3.65E+10
Minimum	1.30E+10	5.400000	4.000000	0.870000	-1.46E+10
Std. Dev.	1.21E+10	4.920962	99.32561	2.139975	1.17E+10
Skewness	1.210597	0.858541	0.739169	-0.629775	0.655759
Kurtosis	5.013643	4.369659	2.841496	4.049746	3.120815
Jarque-Bera	14.04900	6.834479	3.131691	3.808617	2.457457
Probability	0.000890	0.032803	0.208911	0.148926	0.292664
Sum	1.10E+12	461.8500	4025.711	246.0860	3.13E+11
Sum Sq. Dev.	4.81E+21	799.1236	325564.0	151.1233	4.48E+21
Observations	34	34	34	34	34

Descriptive statistics of external debt model and selected macroeconomic variables in Nigeria from 1987 to 2020.

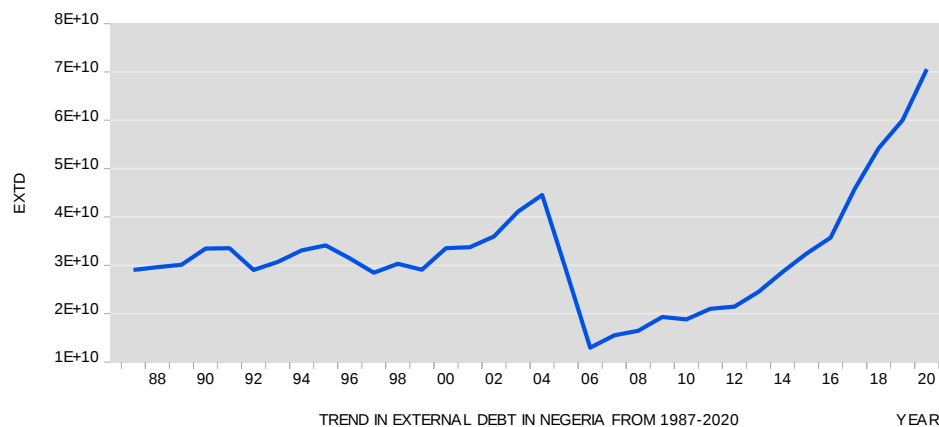


Figure 1. Trend analysis of external debt in Nigeria.

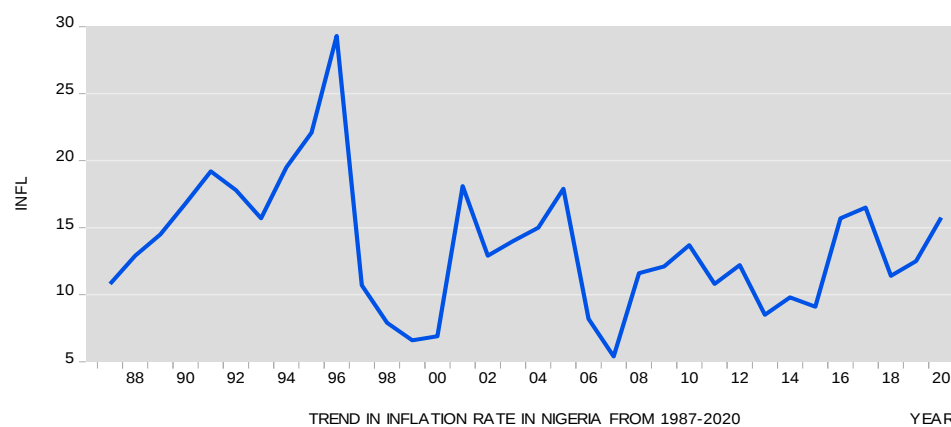


Figure 2. Trend analysis of inflation rate in Nigeria.

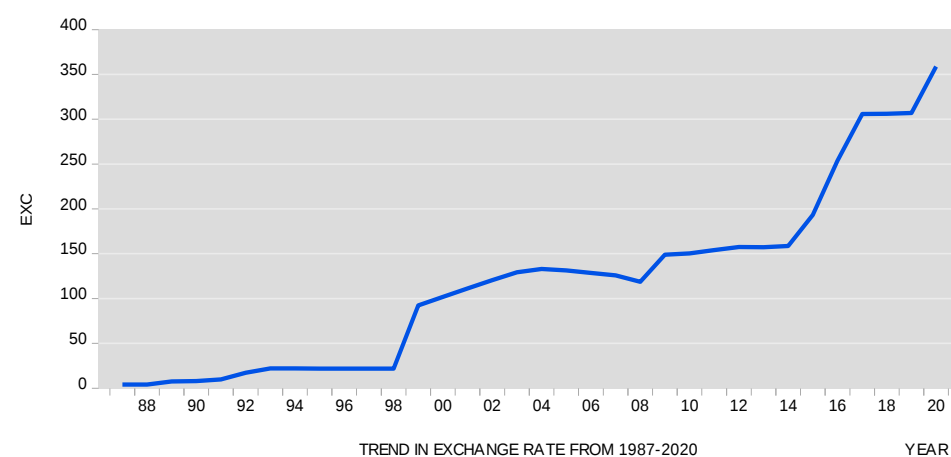


Figure 3. Trend analysis of exchange rate in Nigeria.

Figure 3 reveals that there was a stable exchange rate with the total currency from 1987 to 1998 and there was fluctuation from 1998 with an increase in exchange rate in 2020. This situation implies that Nigeria's domestic currency has been low as a result of overdependent on foreign goods.

Figure 4 indicates that there has been a rise in interest rate from 1987 through with fluctuations. There was a fall and rise in interest rates from 2008 to 2020. This shows instability in interest rates within the period of study.

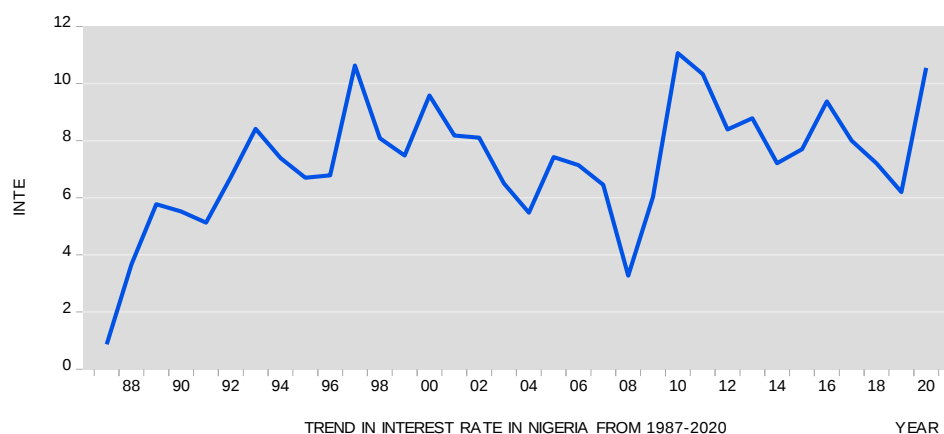


Figure 4. Trend analysis of interest rate in Nigeria.

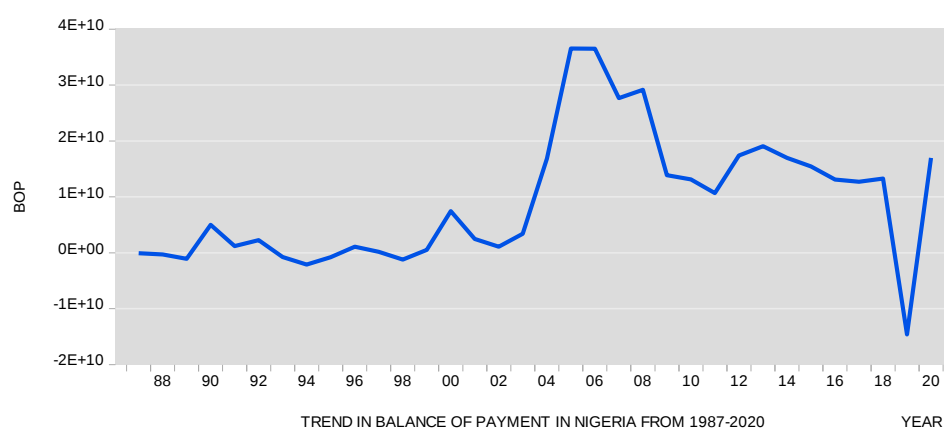


Figure 5. Trend analysis of balance of payment in Nigeria.

Table 2. Correlation matrix.

	EXTD	INFL	EXC	INTER	BOP
EXTD	1	0.2538110814940294	0.5290756580845871	0.1044140342736436	-0.3477719156966175
INFL	0.2538110814940294	1	-0.2045303378617733	-0.07826526417482285	-0.2751944802433075
EXC	0.5290756580845871	-0.2045303378617733	1	0.370342549916732	0.3462550595211386
INTER	0.1044140342736436	-0.07826526417482285	0.370342549916732	1	0.09018390176442288
BOP	-0.3477719156966175	-0.2751944802433075	0.3462550595211386	0.09018390176442288	1

Figure 5 shows fluctuations in the balance of payment from 1987 with a great rise in 2022. There was fail in the balance of payment in 2008 with fluctuations from 2012 and a significant drop in 2018 and a rise again from 2019 to 2020. This indicates instability in balance of payment as a result of dependence on the importation of goods and services in Nigeria.

The correlation result of the external debt model in Table 2 revealed that all the explanatory variables have a weak relationship with external debt except inflation rate and balance of payment. This shows that all the independent variables can be included in the model.

The unit root test (Table 3) was conducted using the Augmented Dickey–Fuller Test, which is a statistical tool to measure the stationarity of the variables.

From Table 3, the unit root test revealed that inflation rate, interest rate and balance of payment attained stationarity of 5% at level 1(0) while, external debt and exchange rate attained stationarity of 5% at difference 1(1), respectively.

Table 4 indicates the cointegration (bound) test of the external debt model. The result revealed that there is a long-run relationship between the dependent and independent variables given the F-statistics and critical value.

From Table 5, the result revealed that inflation rate, exchange rate, interest rate, and balance of payment have a positive relationship with external debt in Nigeria within the period of study. The implication of the result is that increase in external debt will bring about an increase in inflationary rate; high-interest rate and deficit balance of payment because the fund that is supposed to be used for productive ventures is used for the serving and repayment of the loan in Nigeria.

Table 3. Unit root test.

Variables	Variables of level	Variables of first difference	Order of integration
Extd	−0.565732	−3.075894	I(1)
Infl	−3.4273	—	I(0)
Exc	−1.648149	−3.915821	I(1)
Inter	−3.888639	—	I(0)
BoP	−4.329239**	—	I(0)

Table 4. Cointegration test result.

F-Bounds test		Null hypothesis: No levels relationship		
Test statistic	Value	Signif	I(0)	I(1)
			Asymptotic: n = 1000	
F-statistic	5.818506	10%	2.2	3.09
K	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37
Actual sample size	30		Finite Sample: n = 30	
		10%	2.525	3.56
		5%	3.058	4.223
		1%	4.28	5.84

Table 5. Long run coefficients of the variables.

Levels equation				
Case 2: Restricted constant and no trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFL	4.26E+08	1.23E+08	3.459043	0.0086
EXC	1.41E+08	7127140.	19.75123	0.0000
INTER	−3.26E+09	3.42E+08	−9.552900	0.0000
BOP	−1.168702	0.058118	−20.10919	0.0000
C	4.54E+10	3.64E+09	12.46354	0.0000

Table 6. Short run ARDL error correction (ECM) of external debt model.

ARDL Error Correction Regression				
Dependent Variable: D(EXTD)				
Selected Model: ARDL(2, 4, 3, 4, 4)				
Case 2: Restricted constant and no trend				
Date: 10/26/22 Time: 09:36				
Sample: 1987-2020				
Included observations: 30				
ECM Regression				
Case 2: Restricted constant and no trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EXTD(-1))	0.397261	0.164320	2.417605	0.0420
D(INFL)	2.11E+08	97751642	0.000000	0.0000
D(INFL(-1))	-5.85E+08	1.00E+08	0.000000	0.0000
D(INFL(-2))	-2.88E+08	1.01E+08	0.000000	0.0000
D(INFL(-3))	-2.40E+08	1.03E+08	0.000000	0.0000
D(EXC)	48979246	21310146	0.000000	0.0000
D(EXC(-1))	-26397507	31159675	0.000000	0.0000
D(EXC(-2))	-69610651	30426587	0.000000	0.0000
D(INTER)	-2.04E+09	3.17E+08	0.000000	0.0000
D(INTER(-1))	1.62E+09	5.11E+08	0.000000	0.0000
D(INTER(-2))	7.43E+08	3.08E+08	0.000000	0.0000
D(INTER(-3))	-1.07E+09	2.53E+08	0.000000	0.0000
D(BOP)	-0.285912	0.043630	-6.553030	0.0002
D(BOP(-1))	1.253987	0.251666	4.982754	0.0011
D(BOP(-2))	0.710324	0.158384	4.484832	0.0020
D(BOP(-3))	0.508822	0.104776	4.856270	0.0013
CointEq(-1)*	-1.859130	0.246832	-7.531961	0.0001
R ²	0.959519	Mean dependent var		1.24E+09
Adjusted R ²	0.909696	SD dependent var		5.74E+09
S.E. of regression	1.73E+09	Akaike info criterion		45.67229
Sum squared residuals	3.87E+19	Schwarz criterion		46.46631
Log likelihood	-668.0844	Hannan-Quinn criterion		45.92631

From Table 6, the result of ARDL short-run error correction model shows that for the current year, external debt, inflation rate, exchange rate, interest rate, and lag one balance of payment have significant positive relationships. While, lag one inflation rate, exchange rate has negative relationships with external debt. This result implies that external debts have positive relationship with inflation rate, exchange rate, interest rate, and balance of payment. While, lag one inflation rate and exchange rate have negative significant impacts on external debt within the period of study under review. R² value of 0.96 indicates that 96% of the impact of external debt is explained by the explanatory variables.

From Table 7, the result of the post-estimation test indicates that the error term is not a probability value of 0.973009. In this instance, the result shows no evidence of autocorrelation, given the correlation LM test probability value of 0.5618. The Ramsey reset test indicates that there are no variables missing in the model, given the probability of 0.5327. Hence, the model is good for prediction and forecast.

Table 7. Post estimation diagnostics test for the model.

Diagnostics test	F-Statistic	Probability
Jarque–Bera Test for Normality	0.54723	0.973009
Breusch Series Correlation LM	7.949184	21.62727
Arch: Heteroskedascity test	0.960840	0.5618
Ramsey reset test for Specification Error	0.4304999	0.5327

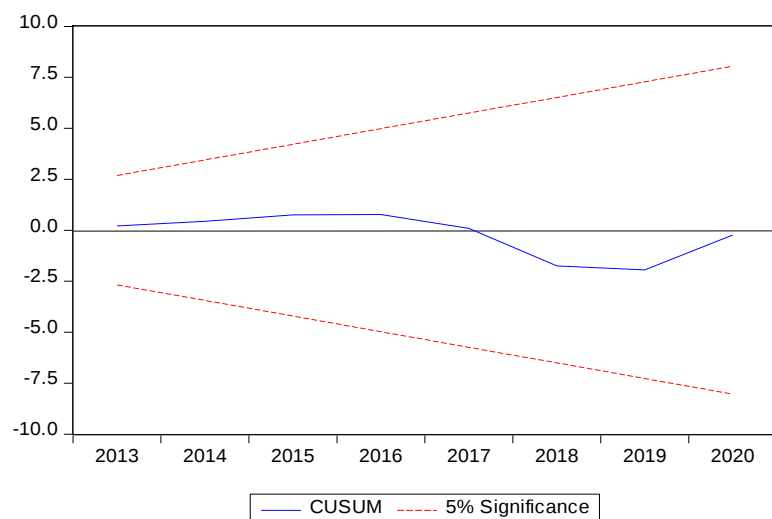


Figure 6. Stability test for external debt model.

This stability test (Figure 6) incorporates the short-run and long-run dynamics, in the long run, permanent of the model. It is a necessary condition that the recursive cumulative sum value stays within the 5% critical value band. Therefore, I conclude that the short-run and long-run dynamics of external debt existed and relatively stable within the period of study.

CONCLUSION AND RECCOMENDATIONS

1. The result of the study revealed that there is a long-run relationship between external debt and explanatory variables as indicated in the cointegration (bound) test result.
2. In the ARDL short-run error correction model, the result revealed that the current year inflation rate, external debt, exchange rate and interest rate have positive significant relationships.
3. Lag one balance of payment has significant positive relationship with the external debt.
4. These results imply that external affects the selected macroeconomic variable in the short and long run within the period of study.

Recommendations

Based on the findings, the article recommends as following:

1. The government of Nigeria should consider debt as a deterrent so it could be avoided to the barest minimum.
2. The debt management bound should be checkmate by the ministry of finance to make sure that the fund budgeted for repayment and interest is well channeled for the purpose for which was planned.
3. Money borrowed should be utilized so that macroeconomic variables will be managed and controlled. This implies that if an investment is made in the area of production of goods and services, the inflationary situation will reduce, and export will increase.
4. Financial institutions should encourage local investors by giving out loans with low-interest rates. This will motivate them to invest in productive ventures that will promote the balance of payment for Nigeria.

REFERENCES

1. Dickey DA, Fuller WA. Distribution of the estimators for autoregressive time series with a unit root. *J Am Stat Assoc.* 1979; 74 (366a): 427–431. doi: 10.1080/01621459.1979.10482531.
2. Ezema NJ, Orji A. Dynamics of budget deficit and macroeconomic fundamentals: further evidence from Nigeria. *Int J Acad Res Bus Soc Sci.* 2015; 5 (5): 31–42.
3. Ekpenyong DB, Obieke II. Functional relationship between macroeconomic aggregates and stock prices in the Nigerian economy: A statistical test. *J Financ Manag Anal.* 1994; 4 (2): 32–38.
4. Muhammad AZ, Haseeb M, Samsi AB, Raji JO. Stock market development and economic growth: evidences from Asia-4 countries. *Int J Econ Financ Issues.* 2016; 6 (3): 1200–1208.
5. Abdelbaki HH. Causality relationship between macroeconomic variables and stock market development: evidence from Bahrain. *Int J Bus Fin Res.* 2013; 7 (1): 69–84.
6. Diacogiannis GP. Arbitrage pricing model: A critical examination of its empirical applicability for the London stock exchange. Bath, United Kingdom: University of Bath; 1983.
7. Adam AM, Tweneboah G. Macroeconomic factors and stock market movement: evidence from Ghana. *SSRN Journal.* 2008. doi: 10.2139/ssrn.1289842.
8. Attari MI, Safdar L. The relationship between macroeconomic volatility and the stock market volatility: empirical evidence from Pakistan. *Pak J Com Soc Sci.* 2013; 7 (2): 309–320.
9. Adjasi C, Harvey SK, Agyapong DA. Effect of exchange rate volatility on the Ghana stock exchange. *Afr J Acc Econ Fin Banking Res.* 2008; 3 (3): 28–47.
10. Chinzara Z. Macroeconomic uncertainty and conditional stock market volatility in South Africa. *S Afr J Econ.* 2011; 79 (1): 27–49. doi: 10.1111/j.1813-6982.2011.01262.x.