EE
E u r o E c o n o m i c a
Issue 1(41)/2022 *ISSN: 1582-8859*

EE
EuroEconomica

An Assessment of the Impact of Public Debts on Development in Nigeria (2003-2020)

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Abstract: This research determined the influence of Nigeria's public debt on the country's development. It especially looked at the link between the human development index, per capita income, growth rate, and public debt in Nigeria from 2003 to 2020, as well as the relationship between per capita income and public debt. The quantitative research design was used in this investigation. Important information about the under-studied variable was gathered from the Debt Management Office (2020) and the UNESCO Institute of Statistics (2020), and data was analyzed using the regression model developed by the University of Edinburgh. It was discovered by the research team, among other things, that there is co-integration (a long-run link) between the variables in the model. The t-statistics of -2.297997 with a p-value of 0.0388 indicate that there is a negative and significant relationship between foreign debt and the human development index, the t-statistics of 2.557340 with a p-value of 0.0239 indicate that there is a positive and significant relationship between foreign debt and per capital income, and the t-statistics of -0.658730 with a p-value of 0.5216 indicate that there A total of 4.109504 with a Prob.(F-statistic) of0.029617 for the f-statistics indicates that all of the explanatory factors have a statistically significant influence on foreign debt in both the short and long term. According to the findings of the research, there is a statistically significant association between public debt and development in Nigeria, depending on the variable of interest rate used. A similar recommendation was made in the study that the government should improve the efficiency and effectiveness of public debt management, citing the negative and significant influence of the human development index on both long-term and short-term development, as well as the negative and insignificant influence of foreign debt on development in Nigeria, which is a clear indication of ineffective public debt management practices in the country. Additionally, the component governments of Nigeria should minimize their public borrowing since it has a substantial negative impact on the long-term growth of the nation.

Keywords: Public debt; Per capital income; Human Development Index; Growth rate and Development

JEL Classification

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1. Introduction

In current law, there is no precise definition for the term "debt," although it might be interpreted as the amount of money that someone legally owes another person, or as the legal obligation on one's side to make a certain quantity of money payment. Most people believe that countries borrow for two main reasons: macroeconomic reasons, which literally states that increased investment will lead to greater consumption, such as in health and education; and finance transitory balance or deficit in payment to lower nominal interest rates abroad due to a lack of domestic long-term credit or to avoid hand budget constraints (Ajayi & Oke, 2012). This means that nations engage in debt in order to expand their economies and relieve poverty, and they do not suffer from macroeconomic instability policies, which prevent economic incentives from being generated or large unfavorable shocks from occurring. As a result, we can predict that growth will likely rise and that debt payments will be made on time. Microeconomic policies have a variety of important objectives, but the most significant is that they enable the achievement of sustainable economic growth and development in an economy, particularly in Less Developed Countries (LDCs), such as Nigeria, which are characterized by low levels of domestic investment and saving. It is pointless to assert that no nation can help itself and that it need assistance in order to function properly and successfully. The borrowing of funds from external or internal sources would be necessary whenever these nations were confronted with a lack of money. This would allow them to augment what little capital they had available domestically. As a result, borrowing may be seen to be the second-best option to capital production during times of economic downturn, behind capital formation. It is expected that if this becomes a regular occurrence over an extended length of time, it would have a favorable impact on per capita income, which is a prerequisite for poverty reduction. These forecasts have been shown to be accurate even with reasonable assumptions that governments would be able to borrow freely in the future due to the danger of debt cancellation (Matthew & Mordecai, 2016).

Theories of economics say that the levels at which developing nations borrow should be acceptable, and that if they are, it is probable that economic development will be boosted, and that when this occurs, the economy's poverty status will be improved by at least a 5 percent growth rate (Udoka & Ogege, 2012). Because of the dominance of small stocks of capital in early developing stages, countries borrow to augment what they have at that time in order to increase growth. As a result, there is a chance that they will have investment opportunities with higher rates of return than their counterparts in developed countries. This will occur as long as borrowed funds and some internally ploughed back funds are effectively and properly utilized for productive investment, and as long as the economy does not suffer a setback as a result of macroeconomic instability, policies that undermine economic incentives, or significant adverse shocks. Consequently, growth is likely to take place, allowing for timely debt repayments to be completed. When this cycle is maintained for an extended length of time, growth will have a favorable impact on per capita income, which is important in order to reduce extreme poverty. According to ideas based on the more realistic notion that countries may not be able to borrow when they need to do so due of the danger of debt denial, these forecasts have been shown to be correct (Egbetunde, 2012).

Obtaining long-term economic growth and development for an economy, particularly in Less Developed Countries (LDCs) (such as Nigeria), has been one of the most significant objectives of macroeconomic policy in recent years. No government can function successfully and efficiently on its own; it would need assistance in order to do so properly. When faced with a shortage of capital, it is envisaged that

these LDCs may turn to borrowing from either internal or foreign sources in order to replenish domestic savings. As a result, borrowing may be seen as a second-best option to capital development during times of economic slump. When the circle is maintained for an extended length of time, growth will have a favorable effect on percapital, which is a requirement for poverty alleviation. Although the forecasts are known to remain true even in theories that are based on the more realistic premise that nations may not be able to borrow freely due to the danger of debt denial, the predictions are not always accurate (Ashinye & Onwiodulait, 1996).

Despite the fact that debt overhang models do not provide a thorough analysis of the consequences of debt on development, the fact remains that high levels of debt constrain growth by lowering investment, which has a negative impact on poverty. Furthermore, the incentive effects associated with debt stocks have a tendency to reduce the advantages from policy measures that, on the whole, would have increased efficiency and growth in the economy, such as trade liberalization and fiscal adjustment, among other things. This will cause the government to take measures with the goal of avoiding current costs if it is possible that the future benefits of increased output will accrue to foreign lenders in one way or another. Many people believe that when the government borrows, it crowds out investment, which in turn reduces future output and wages, and that when this happens, the welfare of the citizens is jeopardized. I disagree (Emmanuel, 2012).

To achieve faster development of the nation through increased investment and poverty reduction, Nigeria has borrowed large sums of money from external sources, often at exorbitant interest rates, for over two decades. However, all of these programs have been unable to be implemented, resulting in an excess of debt, which was not the original intent. It is clear at this point that the country's debt has reached an unsustainable level, and it is striking if the imposition of such limits is having a positive impact on the economy's pursuit of debt. In finance, public debt is the amount of money owed by a nation's government to the financial institutions, government bodies, and government agencies that are either located inside or outside of the country that is owing the money. Debate has raged about the definition of debt and what it means to be in debt internally. The International Monetary Fund (IMF) defines it as a responsibility owed to third parties by a financial apparatus or other kind of instrument. As defined by the World Bank, gross external debt refers to the total amount of contractual obligations that inhabitants of a specific nation owe non-residents, whether they are obligated to repay principle with or without interest or to pay interest with or without principal repayment. As a result, the primary objective of this study is to examine the impact of Nigeria's public debt load on the country's development from 1999 to 2020, as well as the effectiveness of the debt in advancing the country's growth (Soludo, 2003)

The rising level of public debt in Nigeria has been a source of worry and cause for concern. The country's debt profile has been steadily increasing without having a substantial beneficial effect on the general public. It is regrettable to see that the general population's level of life does not correspond to the nation's massive debt burden. Although incurring public debts is not a sin, the mismanagement and misapplication of such loans by numerous governments has tainted the noble intentions of the loan. The notion of public debt, as well as the extent to which it impacts the growth of any nation, has been a matter of discussion for centuries. Public debt is beneficial to any government since it allows it to bridge any funding gaps that may exist in the country's financial system. Economic growth and progress are often seen as the outcome of properly controlled governmental debt levels. For economic stability to

prevail, it is equally critical that the national government manages its own public debt portfolio in an appropriate manner. As a result, this research examined the effects of public indebtedness on development in Nigeria for the period 2003 to 2020, focusing on the country's public debt. In particular, the research examined the relationship between public debt and the Human Development Index (HDI), the relationship between public debt and the growth rate, and the relationship between public debt and the quality of life (per capita income -PCI)

2. Literature Review

2.1. Conceptual Framework Public Debt and Human Development Index (HDI)

Human development is a strategy that focuses on improving human abilities and providing individuals with opportunities to make better decisions that result in a higher standard of life (Edeme, Nkalu, & Ifelunini, 2017). The primary goal of government expenditure and distribution of cash to various sectors is to ensure that its population have access to the most basic necessities of life and are able to maintain a high level of living. The allocation of finances to human development provides a nation with the chance to have a healthy and competent work force, which can then contribute successfully to the growth of the country in question. This is due to the fact that the quality of human quality influences how long a nation's economy can be sustained and what degree of development it achieves. According to a United Nations Development Program (UNDP) report published in 1990, which is considered to be the world's first human development report, the primary goal of development is to provide people with a suitable and enabling environment in which they can live a healthy and comfortable lifestyle. The Human Development Index (HDI) is a study released by the United Nations Development Programme (UNDP) that is often used to compare the economic development of different countries. It is also a geometric device that shifts the focus away from the expansion of the economy and toward the improvement of the quality of living and educational well-being of human beings. After a few years, the United Nations Development Program took into consideration and accepted the idea in their Human Development Report Office as the basis and yardstick for measuring the performance of nations. The Human Development Index was initiated by Amartya Sen, an Indian Nobel Prize winner, and Mahbub Ul Haq, a Pakistani economist, with adequate support from Gustav Ranis of Yale University and Lord Meghnad Desai of the London School of Economics (Okeke & Idike, 2016).

When a new development pattern was discovered that is linked to growth and improves the quality of people's lives, public debt of particular sectors in the economy has taken on more significance in comparison to prior periods of time. This is especially true in light of the failure of most developing countries to achieve the Millennium Development Goals (MDGs), which have been rolled to them among the Sustainable Development Goals, which they are expected to achieve by 2030. At a time when Africa countries should be boasting of meeting these specific targets in health, poverty, and inequality reduction, water, education, and a sustainable environment, housing, and food security, which are all critical, this is not the case. In Nigeria, governments at the state and federal levels have taken significant measures to ensure that human development continues to improve, to the point that it is reasonable to predict a positive link between success in these areas and spending. But there is reason to be skeptical of this optimism since, despite increases in public spending on the areas indicated above, the speed of human progress has been modest, resulting in growth that has been unpredictable and erratic in recent

years. For example, the HDI saw positive growth of O.3 percent in 1986, but experienced a decline in growth to O.1 percent in 1988. It saw negative growth in 2015 and 2012, growing by - 0.2 percent and − 2.7 percent, respectively (Omodero, 2019).

2.2. Public Debt and Economic Growth Rate

Many developing countries are seeing a rise in public debt as a result of the decline in oil prices, fluctuations in the currency rate, and other factors, all of which have had a detrimental impact on the economy of these countries. In addition, the implications of the nation's economy on the nation's expanding debt should be thoroughly investigated and considered. Numerous emerging markets have been confronted with a significant issue of indebtedness, particularly since the beginning of the twenty-first century. It is critical to recognize that, if a country's debt levels continue to rise, this may be a highly detrimental effect to the country's economic development if not properly managed (Elom-Obed, Idenyi, Oge & Charity, 2017). In other words, public debt refers to the amount of money owed by the federal, state, and municipal governments to internal and foreign agencies at any one moment. When the government is experiencing a budget deficit, the public debt grows. In other words, public debt refers to the amount of money owed by the government at all levels, and it can take the form of services such as the payment of pensions to her employees both internally and externally, or it can take the form of any contract that the government entered into but was unable to pay. It is possible for a government facing a budget deficit to raise money by issuing bonds to other countries, after which individuals and groups of individuals can come to purchase them. If a government has gained trust from the world, particularly from economically stable countries, and if the economy facing the deficit is very strong and has been for a long time, this government can raise money by issuing bonds to other nations and then selling them to individuals and groups of individuals. This is followed by pledges to pay back the money at a reasonable interest rate when a certain amount of time has passed. The only alternative available to a country that does not have confidence in the world to issue bonds for people to buy is for such a country to borrow money from either external or internal institutions, which may charge favorable or unfavorable interest rates depending on the situation (Ogunmuyiwa, 2011).

No doubt, loans are obtained by the government in order to meet the gap between projected expenditures and revenues expected to be produced within a certain fiscal quarter (Ijirshar, Joseph & Godoo, 2016). Compromising macroeconomic stability, such as by printing more money and limiting the ability of the government to tax its citizens, may not be a step that some countries are willing to take; however, if they do not, their only option is to borrow money in order to provide social overhead capital for their citizens. The subject of foreign borrowing as a strategy to enhance economic development has sparked a significant deal of debate among economists and policymakers alike. There is much dispute on whether borrowing from foreign sources results in economic development for debtor countries, and this is the primary cause for the argument. When it comes to describing the link between external debt and economic debt, this specific issue has two sides. While both the Neoclassical and the Endogenous growth models suggested that there is a positive link between the two components, there is no evidence to support this claim. A key issue raised by the panelists was that debt is a source for financing capital creation, and if this source of financing is used to fund capital formation while also having a beneficial influence on investment, this might help to spur economic development. Domestic debt is defined as the amount of money a nation owes to its own internal institutions, and it is always denominated in the same

currency. Consequently, any obligations owing to the federal government on an internal basis, such as federal government development sticks, treasury bills, and treasury certificates, are treated as domestic debt. A situation in which the total value of the final output that a nation can produce within a year valued at market prices and adjusted for price changes plus the inputted value of the economy's produced goods and services that do not pass through the market channel minus the net income from abroad is considered to be economic growth, according to many economists. A country's growth rate may be determined in one of three ways: by measuring output or product, by measuring income, or by measuring spending. The output or product technique is the most often used. A country's economy might be described to be developing either upwards or downwards, depending on the situation. When there is a surge in the production of a given economy, this is referred to be a boom in that particular economy, and the economy is said to be expanding upwards. As the overall production of goods and services produced in a given year continues to decline when compared to the value of the previous year, this is referred to as a downwardly developing economy. Gross National Product (GNP) is a measure of a country's economic output that is used to compare the economy of one country with the economy of another. In this situation, the monetary worth of the nations involved will be expressed in a single currency in order to maintain consistency in the measurement, which will be directed by the buying power of the countries at the time of measurement (Adesola, 2009).

2.3. Public Debt and the Standard of Living (As Measured by per Capita Income, or PCI).

The accumulation of public debt has slowly but steadily become a major problem in recent years; fortunately, it has ceased to be a problem for the developing countries; however, it has spread to industrialized countries such as Greece, Japan, and even the United States, which are now dealing with a debt crisis. Debt is defined as the transfer of money from a wealthy company or institution to a poorer nation, with the funds being used for development and economic consumption reasons, with repayment conditions agreed upon by both sides. The term "public debt" refers to a country's entire debt record, which includes both domestic and international debt. It is possible to raise cash domestically in Nigeria through borrowing from internal or domestic sources, which allows the general people to invest in government assets such as treasury bills, development stock, treasury certificates, and bonds among other things. These methods of obtaining funds on a local level contribute to the improvement of economic growth in a country because the majority of them are securities that can be sold on the open market, which in turn helps to improve the operation of a country's capital market. It is widely believed that borrowing from external or foreign sources can be harmful to a country's economy; however, a country enters into such a state when domestic savings fail and it becomes necessary for them to finance budget deficits, investment opportunities, and other forms of public services, leaving them with no choice but to borrow from external sources to meet these needs. In order to pursue and achieve its economic objectives, the government depends heavily on public debt, which includes both foreign and domestic obligations. Public debt is a key source of finance for the country on which the government relies to pursue and acquire its economic objectives. This is very significant when there is a need to close a gap that exists between national investment and national savings, as is the case now. When a country's internal savings are insufficient to meet its investment needs, the scenario necessitates the nation borrowing money, which might come from either domestic or international sources. When it comes to the short run, economists tend to believe that a rise in public debt as a result of fiscal expansion

will stimulate aggregate demand, which will in turn boost economic growth. However, when it comes to the long run, economists are debating whether or not a rise in public debt will have an impact on the nation's economy (Cordelia, 2020).

Making a determination on whether borrowing from sources is appropriate or inappropriate is dependent on the purpose for which the funds will be utilized and the circumstances to which the funds will be subjected. In the early 1970s, the industrialized nations urged the developing countries to borrow money from foreign lenders in order to cover their current account deficits, so assisting their economic progress. Since the 1980s, international financial organizations have provided financial assistance to debtor countries in order to aid in the reduction of poverty and the achievement of their stated aims and objectives. Some countries, on the other hand, have been unable to overcome poverty, civil instability, a large level of foreign debt, and sluggish economic development. In the second part of the 1990s, policymakers and economic analysts all over the globe began to voice their concerns about the burden of debt on the shoulders of emerging countries, which they believe is substantially impeding their ability to develop further. Several studies were conducted as a consequence of this argument in order to better understand the influence of foreign debt on economic development and the performance of their respective economies. When debt is incurred primarily for the sake of infrastructure development, such as the construction of refineries, industries, and power plants, the debt becomes reproductive... Some schools of thought argue that the primary reason for the government entering into debt is to solve emergency situations such as war, finance recurring and capital spending, and generally to provide services to the general population. That is to say, governments that have difficulties in generating income often borrow money in order to satisfy their recurring and capital spending needs, respectively. When evaluating the progress of a country, the standard of life of its population should be the primary consideration. When all economic variables are taken into consideration in a nation like Nigeria, the living conditions of the people are very important and must be addressed. When determining a country's economic development, the quality of life of the people in that country is primarily assessed, with a particular emphasis on education, health care services, and work opportunities to assure money generating opportunities for the population. Among the objectives of this study is to determine the extent to which public borrowing has an adverse effect on the quality of life in Nigeria. This is represented by per capita in none, which explains the amount of income that each Nigerian is assumed to earn over the period of time covered by this study (Mojekwu & Ogege, 2012).

2.4. Theoretical Framework

2.4.1. The Profligacy Theory

Growth-cumulative debt theory attempts to rectify some of the limitations of the growth-cumulative debt theory by taking into account the institutional framework in which a loan was negotiated.

The profligacy thesis, which is a component of the stability theory system, asserts that the nation's debt crisis is the result of a weak policy system and weak institutions that have wasted state resources through uncontrolled corruption in state offices, resulting in lower living standards and slower economic development. Because of these rules, pricing changes occurred, which resulted in an increase in the number of capital flights. In short, there are a variety of factors contributing to the disparity between debt and economic growth in low-income developing countries. A number of these factors include:

wastage of funds and resources due to policy shortages; hostile terms of trade; ineffective government in economies dominated by the public sector; laughable debt management manifested by continuous borrowing at unfavorable terms; careless lending and in financing policies, which is primarily motivated by the desire of lenders to encourage their own export; and political motives such as social tension with a devastating economic impact (Udoka & Ogege, 2012).

2.5. The Dependency Theory

Dependency theory is predicated on the premise that resources migrate from poor and underdeveloped countries to a wealthy state, which in turn benefits the wealthy states at the cost of poor and underdeveloped countries in turn. In contrast to what many free-market economists will argue, the theory clearly states that the poverty of the countries in the 'periphery' is not due to their failure to fully integrate into the world system; rather, the theory emphasizes that these countries are in such a state as a result of the manner in which they have been integrated into the system. The situation of underdeveloped nations and their continued reliance on industrialized countries throughout the globe, according to them, is a consequence of their own internal misfortunes and mismanagement. It is their opinion that difficulties such as inadequate leadership, a low level of technology, a lack of institutional structure, corruption, manipulation of public finances, the diversion of cash to unneeded projects, and a lack of tight integration may be explained by these and other factors. According to them, the cause for these nations' continued underdevelopment and reliance on other wealthy countries is a result of internal factors rather than an external one. According to proponents of the Dependency Theory, a strategy to bring countries in such circumstances together is to seek foreign support in the form of aid, loans, investments, and other types of assistance, while allowing multinational corporations to operate freely (MNCs). Because of the dependency nature of underdeveloped countries, they rely on developed countries for virtually everything, including technical assistance, aid, culture, technology, and so on. As a result, underdeveloped countries are vulnerable to the products of Western Metropolitan countries and Breton Woods institutions. The theory provides a thorough description of the circumstances that have resulted in the country's continual reliance on external forces for the growth of their economy, including (Matthew & Mordecai, 2016).

2.6. The Keynesian Theory

The Keynesianism school of thought believes that fiscal theory is the most effective strategy for expanding the economy because it operates in the best interests of the general people. According to this theory, when the government decides to enter the money lending business, unused funds are taken from private pockets, allowing the level of consumption by private individuals to remain unchanged. As a result of the reintroduction of these funds into the economy, the aggregate demand rises, resulting in an increase in employment and production. As a result, the borrowed money may be utilized to improve the overall performance of the economy in terms of macroeconomics. The influence of public lending on investment, on the other hand, is an indirect consequence of the practice. One of the long-term effects of debt on growth is a decline in the amount of resources available for investment. Furthermore, public debt may operate as an implicit tax on the resources developed over a period of time, resulting in a difficulty for future generations that may manifest itself in the form of a decreased flow of income from

a lesser stock of private capital. This might, in the long run, result in a rise in borrowing rates, which would reduce private investment, which could have resulted in productivity growth in the short term (Matthew & Mordecai, 2016).

2.7. Empirical Review

Panizza and Presbitero (2013) conducted a review of a number of academic publications on the relationship between public debt and economic development in industrialized nations. The results in those literatures revealed that public debt had a detrimental impact on advanced nations, but that the magnitude of these negative impacts was quite small. Although the research did not specifically state it, it did imply that expansionary fiscal policies might have a favorable impact on economic growth in the long term. From 1996 to 2010, Dinca and Dinca (2013) examined the relationship between public debt and GDP growth in five formerly communist bloc countries – Romania, Hungary, Bulgaria, the Czech Republic, and Slovakia – for the period 1996 to 2010. They found a positive relationship between public debt and GDP growth in all five countries. After conducting the research, the findings revealed that when public debt increased by 44.42 percent over GDP, it had a negative impact on economic growth. Due to the structural flaws and the difficulty of having access to financial markets during a recession, these results were particularly noteworthy in the nations under consideration. Panizza and Presbitero (2014) conducted a second research in which they used a variable method to investigate the impact of public debt on economic growth using a sample of OECD nations to uncover how public debt has an impact on economic growth. The findings of the research clearly demonstrated that there is a link, however the association between debt and economic development is on the negative side of the spectrum.

Kurihara (2015) elaborated on the difficulties Japan experienced in dealing with its public debt profile, as well as the impact of the debt on the country's economic development. The amount to which Japan's debt had grown was investigated, and the results of the review revealed that the nation's public debt was having a detrimental impact on the nation's economy. As a result, the research advised that exports be used to lessen the country's reliance on debt. Lee and Ng (2015) conducted research in Malaysia to determine the link between economic growth and state debt. Other economic pressures such as debt load, budget deficit, budget spending, government consumption, and foreign debt payment were included in the research from 1991 to 2013, which lasted for a total of 25 years. According to the findings of the research, the general public had a negative impact on GDP over a lengthy period of time.

To investigate the relationship between public debt and economic development in Swaziland, Ntshakala (2015) used the Ordinary Least Squares (OLS) technique to analyze the data, which spanned a period from 1988 to 2013. The findings revealed that there was no evidence of a relationship between foreign debt and economic development in Swaziland, as expected. Domestic debt, on the other hand, had a significant positive relationship with economic growth. As a result, the report advised that funding be raised from both local and international sources that were sustainable. Using cross section time series data from 43 LDCs, Savvides (1992) attempted to determine the impact of debt overhang on a country's economic performance but ran into a data problem. He used a Two Stage Limited Dependent Variable Model (2SLDV) procedure to solve the problem (LDCs). The study comes to the conclusion that debt overhang combined with a decrease in foreign capital flows has a negative impact on investment.

Recognizing and accepting the hypothesis proposed by Savvides (in 1992), Deshpande (1997) attempted to explain the debt overhang argument by an experimental investigation of the investment engagement of 13 heavily indebted nations in his own effort. Several indebted countries, according to the author, have implemented restructuring procedures, which have had a significant impact on their economies. This is because the investment crisis has inevitably resulted in a growth disaster for the highly indebted countries. Bauerfreund's (1989) results also revealed that the necessity on Turkey to pay its foreign loans resulted in a reduction in investment levels in the country in 1985. According to him, local and foreign economic policies were both contributing factors to the debt overhang.

According to Cohen (1993), an investment computation for a model of 81 emerging nations was projected across three subperiods, using the OLS technique of projection. It was shown by him that the slowdown in investment in heavily distressed developing nations cannot be explained just by the degree of debt held by the country in question. For 13 less developed nations during the years 1982-1989, Warner (1992) sought to quantify the impact of the debt crisis on investment by using Least Square estimate. His acknowledgement of the fact that declining export prices, high world interest rates, and sluggish growth in developed countries are all contributing factors to the decline of many nations' investment is primarily due to these indebted countries' declining export prices, high world interest rates, and sluggish growth in developed countries. Over a sample period of 1965-1990, Rockerbie (1994) employed the O.L.S for each of the 13 nations in his study, indicating that the debt crisis of 1982 had consequences for the economies of less developed countries, most notably in the form of a major slowdown in domestic investment.

3. Research Methods

A quantitative research design was chosen because it was determined to be appropriate for the qualitative research model that served as the foundation for this study.

Second-hand information was obtained from the Debt Management Office (DMO-2020) and the UNESCO Institute of Statistics, respectively (2020). This covers the period 2003 to 2020. A regression analysis was utilized to assess the information that had been gathered. Furthermore, the panel regression method is a reliable method for repeating the observation of the same variable over a period of time or over several periods of time (Pesaran, Shin, & Smith, 2000). Among the dependent variables are the Human Development Index (HDI), per capita income (PCI), and growth rate (Gtr), which are all proxies for national debts. The independent variable is public debt, which is comprised of local (LDt) and foreign debt (FDt) components proxies for national debts. Furthermore, in order to ensure the reliability of the results, robustness tests, which included panel regression analysis, were carried out while taking into account all of the assumptions that surround regression.

Models Specification

The following regression models were developed. The board objective was formulated as follow;

$$Pbt = f(Hdi, Pci, Gtr) \quad 1$$

Where:

Pbt = Public Debt

Hdi = Human Development Index.

Pci = Annual Per Capital Income

Gtr = Annual Growth rate

$Pbt = \beta 0 + \beta_1 Hdit + \beta_2 Pcit + \beta_3 Gtrit + et$ *……..2(Local Debts)*

$Pbt_{it} = \beta_0 + \beta_1 Hdi_{it} + \beta_2 Pcit + \beta_3 Gtr_{it} + et$ *……..3(Foreign Debts)*

4. Analysis and Result

4.1. Analysis of Assumptions

Test for Normality

One of the assumptions of linear regression is even distribution of the residuals. Jarque-Bera value for figure 1 & 2 implies residuals are normally distributed since their respective probabilities were greater than 0.05 level of significance

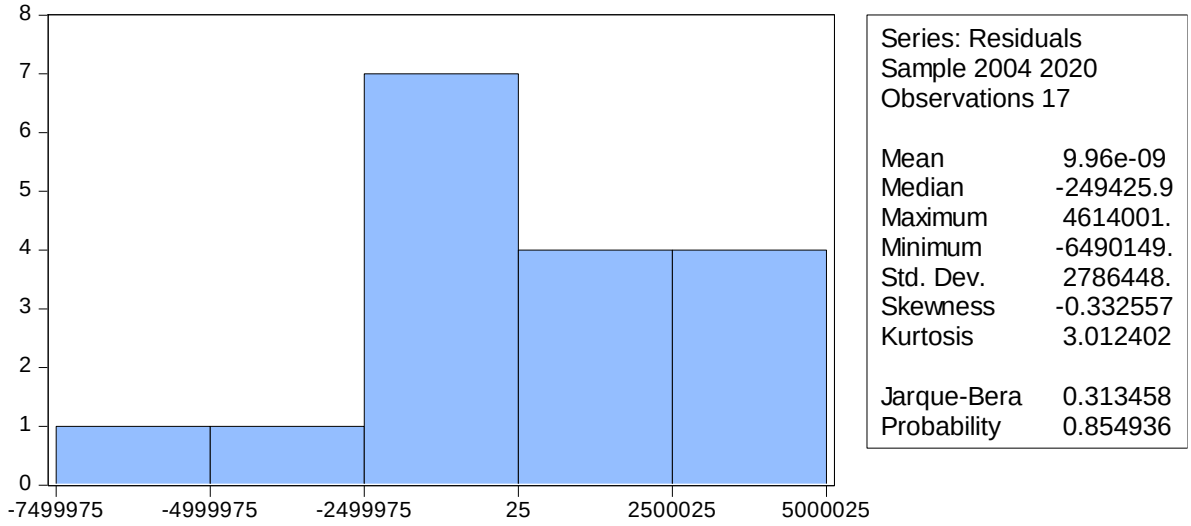

Figure 1. Normality Test

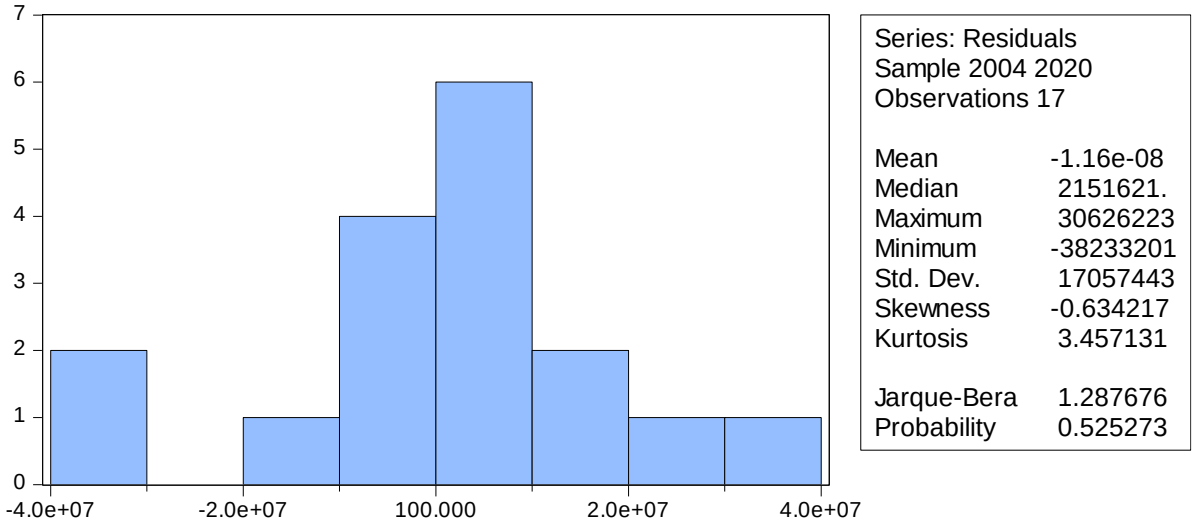

Figure 2. Normality Test

4.2. Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test was used to test the existence of autocorrelation among the error terms. It is evident in Breusch-Godfrey Serial Correlation LM Test tables that the models were free from autocorrelation problems since the p-values of Chi-square for the two models were higher than 5% significance level.

Table 1. Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.818748	Prob. F(2,11)	0.4661
Obs*R-squared	2.202765	Prob. Chi-Square(2)	0.3324

Table 2. Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.555577	Prob. F(2,11)	0.5890
Obs*R-squared	1.559688	Prob. Chi-Square(2)	0.4585

4.3. Test for Stationary

Unit Root Test

This is conducted using Dickey Fuller GLS (ERS) test on the data collected to determine whether there is existence of short run equilibrium relationship among the variable(s) in the model: The rule of thumb here is that, if the GLS value at level or first difference is greater than the critical values at 5% level. Then, we conclude that the variable(s) has a unit root. That is, there is existence of short run equilibrium relationship among the variables.

Unit Root Test at Level

Table 2 revealed that all the variables were not stationary at level since GLS test statistics value was less than the critical values at the 5% level of significance. Thus, the finding concluded that there existed no short run relationship between domestic debt, foreign debt, human development index, per capital income, and growth rate at level.

Table 3. Unit Root Test at Level

Variables	Test Statistic	5% Critical Value	REMARKS
DD	/1.524566/	/1.962813/	NS
FD	/1.689631/	/1.962813/	NS
HDI	/1.125050/	/1.966270/	NS
PCI	/1.656350/	/1.962813/	NS
GROWTH	/0.488553/	/1.966270/	NS

Unit Root Test at First Difference

Table 3 revealed that all the variables were stationary at level since GLS test statistics value was greater than the critical values at the 5% level of significance. Thus, the finding concluded that there existed short run relationship between domestic debt, foreign debt, human development index, per capital income, and growth rate at first difference.

Table 4. Unit Root Test at First Difference

Variables	Test Statistic	5% Critical Value	REMARKS
DD	/3.214288/	/1.964418/	S
FD	/4.009135/	/1.964418/	S
HDI	/2.709227/	/1.964418/	S
PCI	/2.744547/	/1.964418/	S
GROWTH	/4.491936/	/1.966270/	S

4.4. Cointegration Test

Again, the Jonanson and Juselius (1990) maximum likelihood estimation test was conducted. Specifically, the approach was employed to verify whether a stable longrunequilibra relationship exists between the decomposed dependent and independent variables. Result from Table 4 shows statistical long run relationship exists between the dependent variable and independent variables since both trace statistic and maximum Eigenvalue statistic were more than the critical values at 0.05 level of significance.

Table 4. Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.987699	165.7522	69.81889	0.0000
At most 1 *	0.945776	95.38283	47.85613	0.0000
At most 2 *	0.769946	48.74876	29.79707	0.0001
At most 3 *	0.709288	25.23772	15.49471	0.0013
At most 4 *	0.289606	5.470972	3.841466	0.0193

Trace test indicates 5 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.987699	70.36938	33.87687	0.0000
At most 1 *	0.945776	46.63406	27.58434	0.0001
At most 2 *	0.769946	23.51104	21.13162	0.0227
At most 3 *	0.709288	19.76675	14.26460	0.0061
At most 4 *	0.289606	5.470972	3.841466	0.0193

4.5. Regression Analysis of Domestic Debt and Human Development Index (HDI), Per capital Income (PCI), and Growth Rate (Growth)

The coefficient value of -17163931 in tables 3.4 implies increase change in domestic debt when lagged once would result to a decrease change in human development index. The coefficient value of 35897.70 and 6.40 means positive relationship exists between domestic debt when lagged once and per capital income and growth rate respectively. Similarly, t-statistics of 0.038121 with -0.9702 p-values implies negative and insignificant relationship exists between domestic debt when lagged once and human development index. Also, t-statistics of 2.627217 with 0.0209 p-values shown in table 1 is an indication that positive and significant relationship exists between domestic debt when lagged once and per capital income. Still in the same vein, t-statistics of 2.146014 with p-value of 0.0513 implies positive and significant relationship exists between domestic debt when lagged once and growth rate.

The adjusted R-square of 0.616534 shows that change in domestic debts are 62% captured by the model while 38% of changes in the dependent variables are other factors affecting domestic debt outside the model. This shows the goodness fit of the model. The f-statistics of 9.574900 with Prob(F-statistic) of 0.001325 shows that all the explanatory variables jointly have impact on domestic debt. Also, the Durbin-Watson stat of 1.452894 approximately 1.5 is an indication that the model is free from autocorrelation problem.

Table 5. Regression Analysis of Domestic Debt and The explanatory Variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-67398831	2.18E+08	-0.309117	0.7621
HDI	-17163931	4.50E+08	-0.038121	0.9702
PCI	35897.70	13663.78	2.627217	0.0209
GROWTH	6.40E+08	2.98E+08	2.146014	0.0513
R-squared	0.688434	Mean dependent var		32815254
Adjusted R-squared	0.616534	S.D. dependent var		30558981
S.E. of regression	18923534	Akaike info criterion		36.55204
Sum squared resid	4.66E+15	Schwarz criterion		36.74809
Log likelihood	-306.6923	Hannan-Quinn criter.		36.57152

F-statistic	9.574900	Durbin-Watson stat	1.452894
Prob(F-statistic)	0.001325		

4.6. Regression Analysis of foreign Debt and, Human Development Index (HDI), Per capital Income (PCI), and Growth Rate (Growth)

The coefficient value of -1.53 shown in table 5 implies increase change in foreign debt would result to a decrease change in human development index when lagged once. The coefficient value of -32976525 means negative relationship exists between foreign debt and per capital income when lagged once. Also, the coefficient value of 5841.074 implies positive relationship exists between foreign debts per capital income. Similarly, t-statistics of -2.297997 with 0.0388 p-value implies negative and significant relationship exists between foreign debt and human development index when lagged once. Also, t-statistics of 2.557340 with 0.0239 p-values shown in table 1 is an indication that positive and significant relationship exists between foreign debt and per capital income. Also, t-statistics of -0.658730 with p-value of 0.5216 implies negative and insignificant relationship exists between foreign debt and growth rate when lagged once.

The adjusted R-square of 0.368301 shows that change in domestic debts are 37% captured by the model while 63% of changes in the dependent variable are other factors affecting foreign debt outside the model. The f-statistics of 4.109504 with Prob.(F-statistic) of0.029617 shows that all the explanatory variables jointly have significant impact on foreign debt. Also, the Durbin-Watson stat of 1.470596 approximately 1.5 is an indication that the model is free from autocorrelation problem.

Table 6. Regression Analysis of Foreign Debt and The explanatory Variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	69781474	31886098	2.188461	0.0475
HDI(-1)	-1.53E+08	66744381	-2.297997	0.0388
PCI	5841.074	2284.043	2.557340	0.0239
GROWTH(-1)	-32976525	50060772	-0.658730	0.5216
R-squared	0.486744	Mean dependent var		3773734.
Adjusted R-squared	0.368301	S.D. dependent var		3889413.
S.E. of regression	3091286.	Akaike info criterion		32.92840
Sum squared resid	1.24E+14	Schwarz criterion		33.12445
Log likelihood	-275.8914	Hannan-Quinn criter.		32.94788
F-statistic	4.109504	Durbin-Watson stat		1.470596
Prob(F-statistic)	0.029617			

Stability Test

Recursive coefficient measures the stability of data. The graph in figure 3 and 4 shows the stability analysis during the year 2008-2020. Figure 3 shows slight change in stability of data during the interval 2008-2014, while significant change occurred in the year 2015-2016, after 2017 the data looks more

stable than before. Whereas, figure 4 shows slight change in the stability of data during the interval of 2008-2013, while significant change occurred in the year 2013-2020.

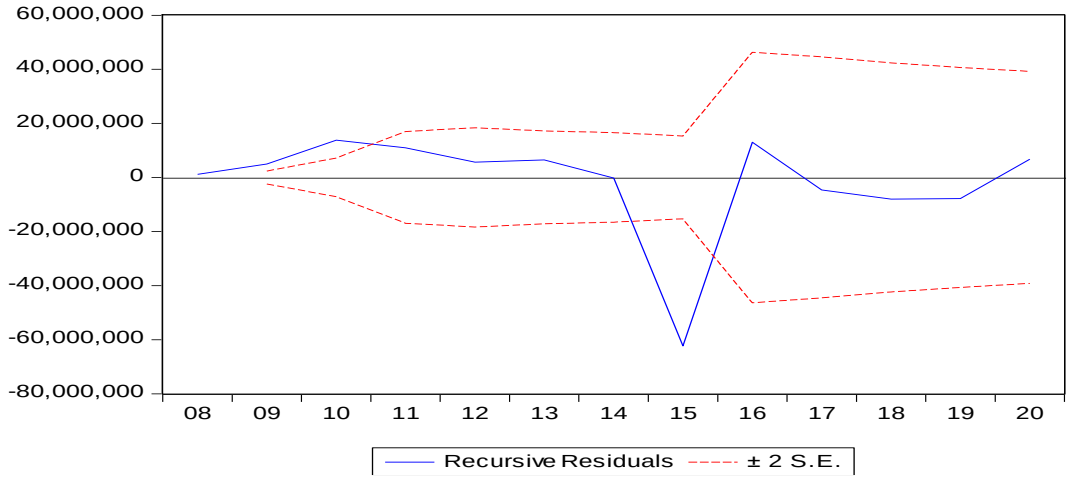

Figure 3.

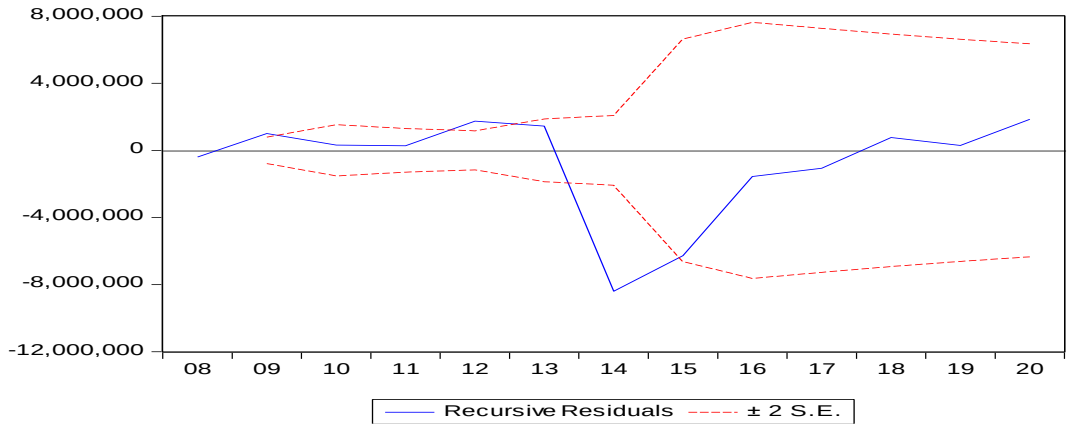

Figure 4

5. Findings Discussion Summary and Recommendations

5.1. Findings and Discussion

The study established a relationship between public debts and development in Nigeria, depending on the variable of interest.

Public debt have a consistent influence on the development of Nigeria, as there is no disparity between its influence on the independent variables. Thus, the finding concluded that there existed short run relationship between domestic debt, foreign debt, human development index, per capital income, and growth rate, because based on the findings foreign debt exert positive influence of t-statistics of 2.557340 with 0.0239 p-values on per capital income. Also foreign debt exert negative and significant relationship of t-statistics -2.297997 with 0.0388 p-value on human development index in the short run and the long run respectively. This is an indication of public debt in Nigeria due to the inconsequential of effect on development of Nigeria. This is also the same with foreign debt of t-statistics of -0.658730

with p-value of 0.5216 as it exerts negative and insignificant effect on growth rate both in the short and long run equations.

Public debt is negatively and significantly related to development, which implies that Nigeria's economy tends to improve as government ability to service public debt increases. The rate of Nigerian government borrowing over the years have negatively contributed to the development of the nation as the study found out that in the long run, the development of Nigeria has been negatively and significantly influenced by public debt.

Recommendations

In respect of the findings,

- The study recommends that government should ensure efficiency and effectiveness in the public debt management due to the insignificant influence of public foreign debt on development both in the long run and short run which is a pure indication of poor public debt management in country, contrary to the developed countries where their foreign debt causes development. This is as a result of lack of efficiency of the revenue collection agencies of the government,
- Therefore, the Nigerian government should reposition its revenue base to cover more sources of revenue as evident in the developed economies
- Also ensure that the agencies responsible for revenue collection are highly efficient by using a carrot and stick approach in which promotion and entitlement of individuals in such agencies correlates with their level of efficiency.
- The tiers of governments in Nigeria should reduce it public debt as it has a significant inverse effect on the development of the country. That is increase in public debt hinders the development in Nigeria. In other words, economic growth tends to reduce as government becomes more indebted to local and foreign debt. Government should engage in the servicing of its debt as it has a positive and significant influence on the development in Nigeria, which implies that an increase in actual public debt service would lead to development in Nigeria.

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