

**EFFECT OF PUBLIC DEBT ON ECONOMIC DEVELOPMENT IN
NIGERIA**

BY

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OCTOBER, 2019

DECLARATION

I hereby declare that this dissertation has been written by me and it is a report of my research work. It has not been presented in any previous application of Masters of Science in Public Sector. All quotations are indicated and sources of information specifically acknowledged by means of references.

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CERTIFICATION

The dissertation entitled “Effect of Public Debt on Economic Development in Nigeria” meets the regulations governing the award of masters of Science degree in Public Sector Accounting, Faculty of Administration, Nasarawa State University, Keffi.

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DEDICATION

This dissertation is dedicated to God Almighty the fountain of knowledge and wisdom and my wife and my children for their endless love, unconditional support and incessant attention.

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ABSTRACT

Public debt is money that is owed by government to any other entity within or outside the country. Over the recent past decades, there has been growing literature linking public debts in developing and emerging economies with economic development. This is because the most essential objectives of macro-economic policies in recent years has been the achievement of sustainable economic growth and development of an economy most particularly those in the Less Developed and Emerging Countries (LDECs) like Nigeria. However, the effect of this strategy needs to be determined and examined from time to time especially for developing economies. In Nigeria, there has been growing public debt with no significant positive impact on the life of the citizenry. Evidence have also, existed in literature concerning the relationship between public debts and economic development with results advancing mixed reactions. Given these concerns and the gap existing in literature, this study examined the effect of public debts on economic development in Nigeria. public debt is explained using internal debt, external debt and debt servicing while economic development is explained by per capita income. The study aligned with the supply lending theory. The study adopted ex post facto research design and relied on documentary evidence from CBN statistical bulletin from 1983 to 2017. Data was analysed using vector auto-regressive model and wald test. The result from the analysis depicted that external debt and debt servicing has a statistically significant effect on economic development while internal debts has no significant effect on economic development in Nigeria. The study therefore recommends that government incur more of the external debt than internal debt and also, government should regularly service its debts non-servicing could amount to debt covenant violation.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Over the recent past decades, there has been growing literature linking public debts in developing and emerging economies with economic development. One of the most essential objectives of macro-economic policies in recent years has been the achievement of sustainable economic growth and development of an economy most particularly those in the Less Developed and emerging Countries (LDECs) like Nigeria. These countries are characterized by low capital formation due to low levels of domestic savings and investment (Adepoju, Salau & Obayelu, 2007). No government is an island on its own; it would require borrowings and assistance to perform efficiently and effectively. It is expected that these LDC's when facing a paucity of capital would resort to borrowing from either internal or external sources so as to supplement domestic saving (Aluko & Arowolo, 2010; Safdari & Mehrizi, 2011; Slueiman & Azeez, 2012). Hence, borrowing may be regarded as an auxiliary alternative to capital formation during periods of depression in an economy.

Basically, Oil revenues constitute the main source of financing government expenditures in Nigeria and imports of goods and services, as increasing oil prices over the years has boosted public expenditures on social and economic infrastructures (Hamdi & Sbia, 2013). Hence, Nigeria has an economy that is very dependent upon its oil sector. The oil sector accounts for about 95% of Nigeria's foreign exchange earnings, they have oil reserves estimated between 24 billion and 31.5 billion, and produce 90 million tons per year. Oil revenue constitutes about 14% of Nigeria's GDP and roughly 90% of its income (African Economic Outlook, 2012). Yet the

many years with oil money have not brought the population an end to poverty nor, at least until recently, have they enabled the economy to break out of what seems like perennial stagnation in the non-oil economy. The problem with Nigerian economy has been traced to failure of successive governments to use oil revenue effectively in the development of other sectors of the economy (Mathew & Mordecai, 2016).

Indeed, Nigeria has been a member of the Organization of the Petroleum Exporting Countries (OPEC) since 1971. Nigeria was the fifth largest producer in OPEC in 1986 and estimated to have reserves of sixteen billion barrels; 2.23% of the world reserves. Nigeria oil boom could rightly, be traced to the mid-seventies when there was crisis in the Middle East which led to an increase demand and sale of Nigeria oil. This resulted in considerable foreign exchange earnings by the government. The government embarked on fiscal policy expansion during the oil boom era of the 1970s. Public expenditure as a percentage of GDP increased from 13 per cent in the 1960-69 periods to 29.7 per cent in the late 1980s.

However, towards the end of the decade, the international oil market started experiencing a glut and the prices of oil fell drastically low. But as the oil boom declined in the 1980s, priorities of government expenditure did not change. In addition, the revenue base of the federal government in relation to the GDP declined continuously during the period (Rapu, 2003). From 19.5 percent of GDP in the 1970s, this declined to 11 percent of GDP in 1990s and further to 9 per cent in 2000. Consequently, the fiscal operations of the federal government resulted in large deficits. From an average of 0.8 percent of GDP in the 1970-1979 periods, the level of deficit increased persistently averaging 5.1 percent in 1980-1994 and 10.0 in 1990-94 (Asogwa & Ezema, 2005).

Again, in order to avoid economic problems like inflation, political and social crisis inherent in the period (1980-1985), the government of Shagari opened the gate way to borrowing. Loans were raised primarily to finance a number of projects. Being a loan from private sources, it attracted higher interest rates while the maturity period was shorter. At the end of 1990, the level of total debt outstanding increased more than two-fold from the preceding year's level of N1, 265.7million. Since then more loans have been raised in the private capital market as funds from the bilateral and multilateral institutions dwindled. This caused a remarkable shift in the structure of the debt outstanding and consequent increase in debt burden.

Essentially, the borrowing was done with the hope that there would be a turnaround in the international oil market perhaps in no distance future. It was equally, hoped that there would be a turnaround in the purchasing of domestic goods. However, the expected turnaround did not materialize. Following persistent budget deficits, Nigeria debt is now growing faster than the rate of Gross Domestic Product (GDP). Nigeria public debt data, which comprises federal and state governments' debts combined, shows that debt has been growing at double digit, compared to the growth of GDP at single digit. In 2013, debt grew at 33% compared to GDP growth of just above 5%. This pattern was repeated in 2014, 2015 and 2016, with debt growing 12%, 12.5 % and 17.5%, respectively, while GDP growth has remained in single digit with growth rate of 5%, 6.5%, 2.5% and negative growth in 2014, 2015 and 2016, respectively. Also, according to data from the Debt Management Office (DMO), Nigeria's public debt profile rose to 17.3 trillion at the end of 2016, compared to 12.6 trillion in 2015 and 11.2 trillion in 2014. External debt stood at US \$11.4 billion while domestic debt stood at N13.8 trillion. Indeed, since the historical debt

forgiveness of 2005, the growth in Nigeria's public debt increased by N8.3trillion between 2012 to 2016 while the growth in GDP has averaged 3.4%. The inflation rate, which had reached an all-time high of 29.3% in 1996, dropped in the early part of 2000 but has kept fluctuating. The performance of major monetary aggregates did not show any appreciable improvement. They have grown very rapidly in most of the years, exceeding set targets, sometimes by wide margins. The excessive fiscal operations of the three tiers of government were financed principally through increased debt (Asogwa & Ezema, 2005).

Consequently, there are two major sources of debts in Nigeria the internal and external sources: the internal sources include development stocks, treasury bills, treasury certificate, treasury bonds and ways and means of advances, while external debt sources include bilateral and multilateral sources such as world bank, International monetary fund (IMF), African Development bank. There are London group of creditors and the Paris club group of creditors (Aminu, Ahmadu & Salihu, 2013).

The objective of this study is therefore to determine the effect of public debt on economic development of Nigeria by assessing the individual effects of the country's domestic and external debt stocks and service payments on economic development in Nigeria.

1.2 Statement of the Problem

The absolute need for sustained economic development for emerging and developing economies cannot be overemphasized. Debt is one of the strategies whose implementation can quicken the pace of economic development. However, the effect of this strategy needs to be determined and examined from time to time especially for developing economies. Evidence abound in finance and accounting literature concerning the relationship between public debts and economic

development with mixed results. Some studies for instance, Abula and Mordecai (2016), Sheikh, Faridi, and Tariq (2010); Putunoi and Mutuku (2013); Mba, Yuni and Oburota (2013); Amassoma (2011); all expressed positive reaction regarding this assertion.

On the contrary, the study of Cunningham (1999); Sachs (1986); Deshpande (1997); Sawada (1994); Rockerbie (1994); Uma, Eboh, Obidike (2013); Adouful and Abula (2010); Tamonoimi (2013) all found a negative relationship between public debts and economic development in Nigeria and other economies. Some scholars have gone ahead to argue that certain variables such as interest rates, exchange rates, and inflation to mention a few must be stable to stimulate development with borrowed funds.

The studies of Uma, Eboh and Obidike (2013); and Mathew and Mordacai (2016) will anchor this study. Again, most of the studies conducted in Nigeria were mostly on public debt and economic growth, very few actually considered economic development, to the best of the researchers' knowledge. This study is therefore, considered imperative especially at this stage that the Nigerian economy is dwindling and characterized with poor standard of living.

Though Uma et., al (2013) investigated the influence of public debt and external debt servicing on economic development of Nigeria from 1970 to 2010. The study carried a test of stationarity of time series data using Augmented Dickey-Fuller test and johansen test for co-integration to ascertain the long-run relationship of the variables. Although the study is rich, this present study

intends to cover up to 2016 because between 2010 to 2016 a lot of debts have been borrowed by the government.

Similarly, the study of Mathew and Mordacai (2016) examined the impact of public debt on economic development in Nigeria using annual time series data spanning 1986 to 2014. The study employed the Augmented Dickey-Fuller test, Johansen co-integration test, Error Correction Method (ECM) and the Granger Causality test. The Johansen co-integration test results revealed the presence of a long-run relationship among the variables viz; external debt stock, domestic debt stock, external debt servicing, domestic debt servicing and economic development (proxied with GDP per capita) in Nigeria. The study started in 1986 to 2014, the current study will start from 1980 and cover to the period of 2016 with increased in public debt as the justification.

In view of this puzzle and limitation, this study will carry out an empirical analysis in Nigeria to examine the effects of public debts and debts servicing on economic development using real GDP to per capital income to proxy economic development which will serve as the explained variable while internal debt, external debt and debt servicing will serve as public debts indicators.

1.3 Research Questions

This study will be approached in such a way that it will among others, answer the following questions;

- i. What is the impact of external debt on economic development in Nigeria?

- ii. What is the effect of internal debt on economic development in Nigeria?
- iii. What is the effect of debt servicing on economic development in Nigeria?

1.4 Objectives of the Study

The broad objective of this study is to investigate the effects of public debts and debt servicing on economic development in Nigeria, other specific objectives are to;

- i. assess the impact of external debt on economic development in Nigeria.
- ii. ascertain the effect of internal debt on economic development in Nigeria.
- iii. identify the effect of debt servicing on economic development in Nigeria.

1.5 Research Hypotheses

- H₁** External debt has no significant effect on economic development in Nigeria.
- H₂** Internal debt has no significant effect on economic development in Nigeria.
- H₃** Debt servicing has no significant effect on economic development in Nigeria.

1.6 Significance of the Study

The goal of economic development is clearly the touch stone of judging major public policy decisions. Research in the last decade shows that countries with high level of public debt tend to post higher economic development. Therefore, exploring the impact of public debt on economic development is critical for policy design. Hence, the study would be valuable to policy makers who have to prioritize among multiple policy reforms to help the societies grow faster. Policy makers will also be aware of the relationship

between public debt and economic development when formulating and implementing macro-economic policies.

This study will be significant to scholars and other researchers, policy makers and investors. In the scholarly field much research has focused on how financial liberalization affects economic growth in the countries other than Nigeria, how investments affect GDP growth and how borrowing affects capital income. The findings of this study will provide research findings on how the public debts affect economic development in Nigeria. The findings will therefore provide input for further research discussion that will find the study relevant. It will generally contribute to the existing body of knowledge.

Government policy makers (designers) will also find this study useful, it is the objective of the Nigeria government to stimulate double digit economic growth rate. Policy designers need to have precise information that can help them come up with policies that can stimulate economic development through the promotion of the overall macro-economic policy to be able to manage debt and the need for proper coordination closely with fiscal, monetary and other economic policies.

1.7 Scope of the Study

This study is limited to the impact of public debt on economic development in Nigeria. Public debt is divided into external and internal while total debts is proxied on gross domestic product. The boundary of the study will be limited to Nigeria and specifically

public sector where data of relevance will be collected from C B N statistical bulletin and national bureau of statistics. The time period covers 1980 to 2016. The choice of the period is based on the availability of data and also the fact that heavy debts have been incurred within this period to finance developmental projects (DMO, 2017).

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Concept of Public Debt

Debt according to Oyejide, Soyede and Kayode (2004) is the resource or money used in an organization that is not contributed by its owner and does not in any other way belong to them. It is a liability represented by a financial instrument or other formal equivalent. Debt is an amount of money borrowed by one party from another. Debt is used by many corporations and individuals as a method of making large purchases that they could not afford under normal circumstances. A debt arrangement gives the borrowing party permission to borrow money under the condition that it is to be paid back at a later date, usually with interest. The public debt is defined as how much a country owes to lenders outside of itself. These can include individuals, businesses, and even other governments. The term "public debt" is used interchangeably with the term sovereign debt.

Public debt refers to national debt, but some countries also include the debt owed by states, provinces, and municipalities. Regardless of what it is called, public debt is the accumulation of annual budget deficits. It is the result of years of government leaders spending more than they take in via tax revenues. For more, see How the Debt and Deficit Affect Each other. Public debt" is money that is owed to any other entity. Public debt includes money that is owed to individuals, mutual funds, hedge funds, pension funds, foreign governments to mention.

2.1.2 External debt:

External debt arises as a result of the gap between domestic savings and investment (Ogbifin, 2007). As the gap widens, debt accumulates and this makes the country to continually borrow increasing amounts in order to stay afloat. He further defined Nigeria's external debt as the debt owed by the public and private sectors of the Nigerian economy to non-residents and citizens that is payable in foreign currency, goods and services.

Arnone, Bandiera and Presbiterio (2005) defined external debt as that portion of a country's debt that is acquired from foreign sources such as foreign corporations, government or financial institutions. External debt is that part of the total debt of a country that is owed to creditors outside the country. The debtors can be the government, corporations or private households (Abule & Ozovehe, 2016).

2.1.3 Internal debt:

According to Ozurumba and Kanu (2014) domestic debts refer to the portion of a country's debt borrowed from within the confines of the country. These loans are usually obtained from the central bank of Nigeria, deposit money banks, discount houses and other non-bank financial houses. Domestic Debts are debts that originate from within the geographical region of a country, which are contracted through debt instruments such as treasury bills, treasury certificates and treasury bonds. Others are development stocks, FGN bonds and Promissory notes (Mathew & Moddeccai, 2016).

Odozi (1996) defined domestic debt as the gross liability of Government, and properly considered should include Federal, State and Local governments transfer obligations to the citizens and corporate firms within the country. Consequently, the Central Bank of Nigeria (CBN) as banker and financial adviser to the Federal Government is charged with the responsibility for managing the domestic Public debt. Domestic debts are debt instruments issued by the federal government and denominated in local currency. State and local government can also issue debt instruments, but debt instrument currently in issue consists of Nigerian treasury bills, federal government development stocks treasury bonds and federal government bonds (Asogwa, 2005).

Domestic Debts originate from within the geographical region of a country, which are contracted through debt instruments such as treasury bills, treasury certificates and treasury bonds. Others are development stocks, FGN bonds and Promissory notes. Domestic Public Debt is mainly debt owed to holders of Government securities such as Treasury Bills and Treasury Bonds (Babu, Symon, Aquillars&Mose, 2015).

2.1.4 Debt Serving

Debt serving is a contractually fixed charge on domestic real income and savings. As the size of debt grows, or as interest rate rises, debt service charge increases. Debt services payment done only with the export earning, curtailed import, or with further external borrowing. Thus if the export earning diminishes, debt-service difficulties are likely to arise.

Debt sustainability

Debt Sustainability is defined as the ability to maintain a constant debt-GDP ratio over a period of time. Sustainability is challenged when the debt to GDP ratio reaches an excessive value. A number of factors come into play when establishing if a country is able to service its debt CBN (2013) and, Kasidi (2013). These factors include the existing debt stock and associated debt service, the prospective path of its deficits, the financing mix of the debt and the evolution of its repayment capacity in terms of foreign currency value of GDP, exports and government revenues.

The history of Nigeria's external debt dates as far back as to 1958 the period during which \$28 million was contracted for railway construction. Between 1958 and 1977, the level of foreign debt was minimal but as time went on, the debt of the nation escalated. In 2003, the debt crisis of Nigeria reached a maximum proportion when the country had to transfer a lump sum of \$2.3 billion to service its debt. This began to have deliberating effect on the economy. The high debt burden began to have grave impact on the economy and the welfare of the people. The servicing of the external debt severely encroached on resources available for socio economic development and poverty alteration. However, Nigeria took a decision since 1986 to limit debt service to not more than 30% of oil receipts but this did not bring much relief. According to Ajayi as cited by Okonjo-Iweala et al (2003), external debt pose serious challenges on the economy for a number of reasons; first, the external debt could be enormous relative to the size of the economy and this can lead to capital flight, discouragement of investments, etc; second, debt servicing payments absorb a major proportion of export earnings and other revenues that would have been used to provide essential facilities to improve the general welfare of the citizenry; third, it could lead to

debt burden with its attendant problems in a developing economy. In all, external debt just like capital flight could create unfavourable macroeconomic environment.

Between the period of 1985 and 2001, the country spent over \$32 billion just to service external debt. Prior to the recent rescheduling arrangement with the Paris Club, creditors annual debt service payment due was in the range of \$3 to \$3.5 billion. Debt service due as at 2000 was over \$3.1 billion which is approximately 14.5% of export earnings, excluding arrears of \$19.6 billion owed to members of Paris Club. Actual debt service outlay in year 2000 was \$1.9 billion (about 4 times federal government's budgeting to alleviate education and about 12 times the allocation to health). Yet the two sectors had immediate need for substantial public expenditure to upgrade the level of facilities and services for any meaningful alleviation of poverty to take place. This problem of debt overhang is adversely impacting on the Nigeria's economy in the inflow of foreign investments. Due to the problem with servicing her debts, Export Credit Guarantee Agencies (ECGAs) suspended insurance cover for exports of goods and services as well as investment capital to the country. Consequently, the much needed inflow of foreign resources for investment stimulation, growth and employment has so far been hampered. Without credit cover, Nigerian importers are required to provide 100% cash covers for all orders and this therefore place them on a very competitive disadvantage compared to their counterparts from other nations. This situation exacerbates the pains of external burden as it blocks off the relief that would have been received through speedy economic recovery, growth and development.

In addition, external debt burden has resulted in repudiation risk because the country is unable to obtain new loans due to little confidence placed on its ability to repay. The prospects are

therefore dim for immediate resumption of net resource transfer from international sources to Nigeria through traditional means. The IMF severe conditionality for Nigeria is a case point. A severe reduction in net capital inflows and the imposition of a net capital outflow over an extended period have consequences on the prospects of economic development in Nigeria. In the face of dwindling oil revenues due to oil glut and fast falling prices but rising imports, balance of payment difficulties are bound to rise i.e. external liabilities will rapidly increase, therefore raising the real resource cost of the original loans while leading to future foreign exchange crisis. Also, the cost of import substitution will rise. This is because, this sector contributes heavily to external debt service and to profit and dividend outflows. For example, as a result of the nation's inability to service her debt before year 2000, there were severe austerity measures on the nation in an attempt to survive the external debt crisis or burden.

2.1.5 Economic Development

The earliest concept of development was interpreted in terms of growth of output over time and later in terms of per capita output. The terms growth and development were used interchangeably. During 1950 and 1960s, many developing countries realized their economic growth targets but standard of living of the people did not change. In fact, existence of mass poverty, illiteracy and ill health continued to plague the developing countries. This impliedly means there was something wrong with this definition of economic development. Most of the economists clamored for dethronement of GNP and define development in terms of removal of poverty, illiteracy, disease and changes in the composition of input and output, increase in per capita output of material goods. Increase in output of goods and services and in income does not imply an improvement in the standard of living of the people because GDP is a narrow indicator

of economic development that does not include non-economic indicators such as leisure time, access to health, education, environment, freedom or social justice.

Economic development is thus a multivariate concept; hence there is no single satisfactory definition of it. Economic development is a process where low income national economies are transformed into modern industrial economies. It involves qualitative and quantitative improvements in a country's economy. Political and social transformations are also included in the concept of economic development in addition to economic changes.

Literally, economic development can be defined as "passage from lower to higher stage which implies change". Kindleberger and Herrick (1958; 162) point out: "Economic development is generally defined to include improvements in material welfare especially for persons with the lowest incomes, the eradication of mass poverty with its correlates of illiteracy, disease and early death, changes in the composition of inputs and output that generally include shifts in the underlying structure of production away from agricultural towards industrial activities, the organization of the economy in such a way that productive employment is general among working age population rather than the situation of a privileged minority, and the correspondingly greater participation of broad based groups in making decision about the direction, economic and otherwise, in which they should move their welfare".

Kindleberger (1997) while making a distinction between economic growth and economic development argues that: "Economic development implies more output and changes in the technical and institutional arrangement by which it is produced and distributed". Economic

development is as an increase in the absolute size of annual production regardless of the size of the population, or an increase in the economy's real income over a long period of time".

Consequently, in the words of Meier (1964: 67), "economic development is the process whereby an economy's real national income increases over a long period of time". This definition fails to take into account the changes in the growth of population. If a rise in real income is accompanied by faster growth in population, there will be no economic development but retardation. Thus, some economists define economic development in terms of an increase in per capita income. Drewnowski (1966) defines development in terms of economic and social welfare, "In the standard of living of people economic development is supportive and it involves increased per capita income and creation of new opportunities in education, healthcare, employment sectors. Development is of limited significance if it does not lead to economic welfare. Economic development implies increased per capita income and reduced income inequalities and satisfaction of the people as a whole".

In 1970's redistribution from growth became a common slogan. Dudley (1972) raised the basic question about the meaning of development succinctly when he asserted questions about a country's development, such as what has been happening to poverty? What has been happening to unemployment? What has been happening to inequality? If all three of these have declined from high levels, then beyond this constitutes period of development for the country concerned. If one or two of these central problems have been growing worse, especially if all three have, it would be strange to call the result development even if per capita income doubled".

The main reason for the growing popularity of "Economics of Development" as a separate branch of economic theory is the increasing tendency on the part of the newly independent countries of Asia and Africa to resort to developmental planning as a means to eliminate their age-old poverty and raise living standards.

Economic development is a process whereby an economy's real national income as well as per capita income increases over a long period of time (UN, 2005). Here, the process implies the impact of certain forces which operate over a long period and embody changes in dynamic elements. It contains changes in resource supplies, in the rate of capital formation, in demographic composition, in technology, skills and efficiency, in institutional and organizational set-up. It also implies respective changes in the structure of demand for goods, in the level and pattern of income distribution, in size and composition of population, in consumption habits and living standards, and in the pattern of social relationships and religious dogmas, ideas and institutions. In short, economic development is a process consisting of a long chain of inter-related changes in fundamental factors of supply and in the structure of demand, leading to a rise in the net national product of a country in the long run.

This refers to the increase in the standard of living in a nation's population with sustained growth from a simple, low-income economy to a modern high-income economy (Jhingen, 2010). It also involves achieving a balance in all sectors of the Economy in the process of production of goods and services be it agriculture, finance, manufacturing, health, education, etc. The Economic challenge inherent in the Nigeria Economy include social issues such as poverty, low per capital income, inequitable distribution of home, low capital formation, inefficiency in the mobilization

of resource, over- dependence on a singular commodity oil-as a major source of income, Unemployment, inflation to mention a few (Adejumo& Adejumo,2014).

The term 'economic development' is generally used in many other synonymous terms such as economic growth, economic welfare, secular change, social justice and economic progress. As such, it is not easy to give any precise and clear definition of economic development. But in view of its scientific study and its popularity, a working definition of the term seems to be quite essential. Economic development, as it is now generally understood, includes the development of agriculture, industry, trade, transport, means of irrigation, power resources, etc. It, thus, indicates a process of development. The sectorial improvement is the part of the process of development which refers to the economic development. Broadly speaking, economic development has been defined in different ways and as such it is difficult to locate any single definition which may be regarded entirely satisfactory.

2.2 Empirical Review

2.2.1 Internal Debt and Economic Development

Several studies have established the nexus between internal debts and Economic Development. Abula and Ozovehe (2016) examined the impact of public debt on economic development of Nigeria using annual time series data spanning 1986 to 2014. The study utilizes the Augmented Dickey-Fuller test, Johansen co-integration test, Error Correction Method (ECM) and the Granger Causality test. The Johansen co-integration test results revealed the presence of a long-run relationship among the variables viz; external debt stock, domestic debt stock, external debt

servicing, domestic debt servicing and economic development (proxied by GDP per capita) in Nigeria. The ECM results revealed that external debt stock and external debt servicing have insignificant negative relationship with economic development in Nigeria, however, domestic debt stock has a direct and significant relationship with economic development while domestic debt service payment was significant but inversely related to economic development in Nigeria. The lagged error correction terms in ECM 1 and ECM 2 equations are high and statistically significant judging from its high and negatively signed coefficient. The study therefore recommended that the government should reduce the level of external debt it accumulates overtime, but domestic debt accumulation would contribute significantly to the development of the economy.

Tamononimi (2013) investigated the relationship between domestic debt and the rate of poverty in Nigeria (1986-2012). Using Johansen Co-integration technique, estimated results revealed that a longrun relationship exist between poverty (measured by Gross Domestic Product, per capita gross domestic product, and basic secondary school enrolment) and domestic debt in Nigeria. The study equally revealed that the domestic debt has positive impact on bank credit and the impact is highly significant. Hence, the study recommended that government should make efforts to settle the outstanding domestic debt as it will give room for proper conduct of monetary policy in the economy. This is necessary because excessive domestic debt sometimes have negative effect on growth, if it persists.

Mba, Yuni and Oburota (2013) examined the relationship between government domestic debt and economic development of Nigeria using unit root and co-integration test. Findings of the study showed that domestic debt and credit have significant and direct relationships with GDP, while debt servicing has an inverse relationship with GDP, and also government expenditure has a direct but insignificant relationship with GDP. The study, based on its findings, concluded that domestic debt should be invested in productive sector of the economy and more specifically in the real sector, and further productivity gain will be achieved in the improvement on capital project expenditure. This study was carried out in 2013 which given the present economic conditions the results cannot stand the test of time. The current study will fill this research gap.

Putunoi and Mutuku (2013) studies the impact of domestic debt on economic development of Kenya over the period 2000-2010 using the Engel-Granger residual based and Johannes VAR based cointegration tests and revealed that domestic debt markets play an increasingly important role in supporting economic growth. They find that domestic debt expansion has a positive long-run and significant effect on economic growth.

Sheikh, Faridi and Tariq (2010) investigates the impact of domestic debt on economic development of Pakistan for the period 1972-2009 by applying ordinary least squares (OLS) technique. The study finds that domestic debt favorably affects economic growth in Pakistan implying that the funds generated through domestic borrowing have been used partially to finance those expenditures of government that contribute to growth of GDP. The principle is that domestic as well as external debt should be spent for long-term development purposes. Another

reason for the positive relationship between domestic debt and economic growth in Pakistan may be that domestic debt is marketable.

Maana, Owino and Mutai. (2008) explores the impact of domestic debt on Kenya's economy covering the period 1996 to 2007 using a modified Barro growth regression model. The study established that domestic debt expansion had a positive but not significant effect on economic growth during the period. However, the study found no evidence that the growth in domestic debt crowds-out private sector lending in Kenya. This study was carried out in a different economy with different economic indices and variables and as such its result cannot be valid in Nigeria. Moreover, the study period is also different.

Abbas and Christensen (2007) analyzed optimal domestic debt levels in low-income countries and emerging markets between the period 1975-2004 using Granger Causality Regression model and found that moderate levels of marketable domestic debt as a percentage of GDP have significant positive effects on economic development. The study also provided evidence that debt levels exceeding 35 percent of total bank deposits have negative impact on economic growth. This was carried out on low income countries and only Nigeria, this current study will be restricted to only Nigeria as a nation with its distinctive economic attributes.

Adoufu and Abula (2010) examine the effect of domestic debt on the Nigerian economy during the period 1986-2005 using OLS technique. The findings reveal that domestic debt has

negatively affected the growth of the economy and recommends that the government should introduce efforts to resolve the outstanding domestic debt. Although this study was carried out in Nigeria, but the study period is different which makes the findings in the former study not valid in the current economic conditions.

2.2.2 External Debt and Economic Development

There have been a number of empirical studies that indicate a negative association between debt and growth and development for developing countries. For example, Cunningham (1993) examines the relationship between the level of (total) debt and economic development for sixteen heavily indebted nations and concluded that the former has a negative effect on the later as the productivity of capital and labor are significantly reduced. Sachs (1986) argues that when indebted countries pay their debt; these payments require a transferring of resources from the private sector to the public sector. Feldstein (1986) furthermore argues that servicing external debt places pressures on foreign exchange reserves.

A particular aspect that has also concerned the literatures or scholars is the effects of external debt on the economic development rates for developing countries. Cunningham (1993) and Deshpande (1997) find a strong negative relationship between external debt and economic growth for developing countries. Sawada (1994) and Rockerbie (1994) indicate that external debt leads to a decrease in investment and economic growth. Pattillo et al. (2002) find that the average impact of external debt on per capita GDP growth is negative only for high levels of debt. Afxentiou (1993) examined the negative impact of foreign indebtedness on the growth of GDP for twenty developing countries for the 1971-1988 periods. The author concludes that in seven

out of twenty countries the debt service ratio (total debt service to exports of goods and services) seems to be as a growth suppressing factor, while in six out to twenty, the interest service ratio (total interest payments to exports of goods and services) was found to be the most significant factor. However, Pattillo et al. (2002) and Afxentiou and Serletis (1999) have concluded that there is no causal relationship between GDP growth and foreign debt service.

In Nigeria, Aminu, Ahmadu and Salihu (2013) investigated the impact of external debt and domestic debt on economic development in Nigeria between 1970 through the application of Ordinary least square method, Augmented Dickey-Fuller technique and Granger causality test. The results of the Causality test suggest that there is a bi directional causation between external debt and GDP while no causation existed between domestic debt and GDP, no causation existed between external debt and domestic debt well. The results of OLS also revealed that external debt possessed a negative impact on economic growth while domestic debt has impacted positively on economic growth (GDP). This study was carried out on economic growth and not development as the current study will cover development indices and also assess the effect of debt servicing which was not addressed in the old study.

They assert that good performance of an economy in terms of per capita growth therefore be attributed to the level of domestic debt and not on the level of external debt in the country; therefore, external debt is seen as inimical to the economic progress of a country.

Amassoma (2011) examined the causal nexus between external debt, domestic debt and economic development in Nigeria between 1970 and 2009 using a Vector Autoregressive (VAR)

and a Vector Error Correction (VEC) models. The study found that whereas there was no long relationship between domestic debt and economic growth external debt and economic growth showed a long-run relationship. The study also found a bi-directional causality between domestic debt and economic growth and a unidirectional causality from economic growth to external in Nigeria. This study did not take in cognizance debt servicing as variables impacting on economic development and it was done from 1970-2009 which makes its findings lack the required bases for decisions in the current economic situation.

Uma, Eboh and Obidike (2013) investigates the influence of total domestic debt, total external debt cum servicing of external debt on the economic development of Nigeria from 1970-2010. The study started with the battery test of stationarity of time series data using Augmented Dickey-Fuller test and Johansen test for co-integration to ascertain the long-run relationship of the variables. Ordinary Least Squares was used to analyse the data. The results show that total domestic and total external debts are inversely related to real gross domestic product, a proxy for economic development, but at an insignificant level. Interest on total external debt relates positively on real gross domestic product contrary to our expectation but at an insignificant level. On this basis, they recommend among others that the government must be sincere and focus more on internally generated revenue to finance development projects until all the debts and its interests are finally settled.

Tajudeen (2012) examined the causal nexus between total public debt (external and domestic debt) and economic development in Nigeria between 1970 and 2010 using a Vector

Autoregressive (VAR). The results of the Augmented Dickey Fuller and Philip Peron test showed that the variables were stationary at first difference. Co integration test was also performed and the result revealed the presence of co-integration between public debt and economic growth. The co-integration results show that public debt and economic growth have long-run relationship. The findings of the VAR model revealed that there is a bi-directional causality between public debt and economic growth in Nigeria. He recommended that government should be sincere with the loans it obtains by channeling it towards development of the economy rather than diverting it into private pockets.

ThankGod (2014) examined the impact of public debt on private investment in Nigeria over the period 1981 – 2012 using the instrumental variable technique of estimation and bootstrapping technique for the computation of normal based standard errors for the turning points. The results show that domestic debt has a linear and positive impact on private investment; external debt has a U-shaped impact on private investment; and private consumption expenditure has a negative impact on private investment. The external debt turning point was estimated to be 124.69 percent and was statistically significant at the 1% level. The study therefore recommended that for Nigeria to benefit from government external borrowings such funds should be large enough compare to her GDP and should be invested in productive ventures.

Emmanuel (2012) focused on the impact of public debt on economic growth in Nigeria. He showed that the joint impact of debt on economic growth is negative and quite significant in the long-run but become positive in the short-run. This was attributed to incompetent debt

management. Jakob (2005) showed in his study that low income countries like Nigeria have a tradition in borrowing to finance huge capital projects like the debt procured by the government for its own use. He employed a cross - sectional survey of the role of domestic debt market in sub-Saharan African based on data set of 27 countries between (1980-2000) 20 years' periods. He finds out that domestic markets in these countries are more generally small, involves short and medium term and a very narrow investor's base. It also pinpointed that there exist significant differences among the size, cost, and maturity structure of domestic debt markets in heavily indebted poor countries. He further discovered from his study that domestic interest rate payment presents a significant burden to their budget despite much smaller domestic debt than foreign debt which in turn affects private investment and growth at large.

2.2.3. Debt Servicing and Economic Development

Literatures also, abound on debt servicing and economic development with results showing mixed results. Worlu (2011) studied the Strategies for External Debt Management in Nigeria (1993-2008). The aim of this study was to examine the difference in GDP before and after debt management strategies and to determine the extent to which external debt servicing influences economic development in Nigeria. The study revealed that there is no significant difference in GDP before and after debt management strategies, that there is a significant relationship between Nigeria's economic development and external debt servicing.

Adesola (2009), examined Debt Servicing and Economic Growth in Nigeria: An Empirical Investigation using ordinary least square multiple regression method to determine whether debt payment to Multilateral Financial creditors, Paris Club creditors, London Club creditors, Promissory notes holders and Other creditors (Non-Paris Creditors) have inverse relationship

with gross domestic product (GDP) and gross fixed capital formation at current prices (GFCF) from 1981 to 2004. The study revealed that debt payment to London Club creditors, Paris Club creditors, Promissory notes holders and other creditors have significant impact on the GDP and GFCF. Debt payment to Paris Club creditors and debt payment to promissory notes holders are positively related to GDP and GFCF, while debt payment to London Club creditors and other creditors showed a negative significant relation to GDP and GFCF.

Another study carried out by Ndubuisi (2011) on the Effect of External Debt Relief on Sustainable Economic Growth and Development in Nigeria using Chi-square, Regression and Correlation analysis to test the relationship between external and internal debt stock in relation to debt relief, he found that there is a relationship between external and internal debt stock in relation to debt relief, that debt relief affected the economic growth of the economy and that gradual reforms and investments will help bring back a healthy economy for the nation.

In a similar study Impact of External Debt Management on Selected Macroeconomic Indicators in Nigeria (1970 – 2010), Okegbe (2012) used Regression analysis to analyze the extent to which external debts and its service costs impacted on such macroeconomic indicators as Gross Domestic Product (GDP), Total Export, Total Revenue, Total Reserve and Exchange Rate. The study showed that debt utilization, diffusion in the management of loans, poor documentation and deficient external debt accounting and politics in the management of debt in the 80's and 90's, our macroeconomic indicators had a negative trend thus aggravating debt burden at that period.

One thing common with these studies is that they concentrated on debt stock and economic growth. So far, all the studies revealed that the burden of Nigeria's external debt cannot be overemphasized as it has a deliberating effect on the economic development of the nation.

There have been other attempts to empirically assess the external debt – economic development link – the debt overhang and crowding out effects – mainly by using OLS. Borensztein (1990) found that debt overhang had an adverse effect on private investment in Philippines. The effect was strongest when private debt rather than total debt was used as a measure of the debt overhang. Iyoha (1996) observed similar results for SSA countries. He concluded that heavy debt burden acts to reduce investment through both the debt overhang and the 'crowding out' effect. Using data from Cameroon, Mbanga and Sikod (2001) found that there exist a debt overhang and crowding out effects on private and public investments respectively. Elbadawi et al (1996) confirmed a debt overhang effect on economic growth using cross-sectional regression for 99 developing countries spanning SSA, Latin America, Asia and Middle East. They identified three direct channels in which indebtedness in SSA works against growth: current debt inflows as ratio of GDP (which should stimulate growth), past debt accumulation (capturing debt overhang) and debt service ratio.

The fourth indirect channels on public sector = expenditure. Elbadawi, et al (1996) concluded that debt accumulation deters growth while debt stock spurs growth. Their result also showed that the debt burden has led to fiscal distress as manifested by severely compressed budgets. Degefe (1992) also discovered a negative effect of external debt on growth. Fosu(1996) argued that debt can additionally influence economic growth via effect on the productivity of investment

and even if debt service payments do not reduce saving and investments significantly. They could still decrease output growth directly by diminishing productivity as a result of the adverse changes in investment mix. Ajayi (1991), Osei (1995) and Mbire&Atingi (1997) used the simulation analysis to show the impact of the debt burden indicators on economic growth under different scenarios.

Most studies confirm debt overhang/ crowding out effects. The only work that has shown favourable effect of external debt is Chowdhury (1994) for Bangladesh, Indonesia and South Korea. Were (2001) using an error correction formulation, the estimation result showed a debt overhang problem in both the growth and investment equation. This result, tally with result from similar studies (e.g. Elbadawi et al, 1996, Mbanga&Sikod 2001). The estimation result for the growth equation showed that not only does past debt accumulation deters growth but so do current debt flow in the short run. The error correction term also showed that external debt had negative implications on growth. Ali &Mshelia(2007) using Nigerian debt data found among others; positive and negative relations with GDP.

2.3 Theoretical Framework

Four theories will be used as the base of this study to explain the connection between public debts and economic development mainly indicated per capita income. The earliest considered theory is the Supply Leading theory first proffered by Schumpeter (1911) while the latest is the independent theory by Lucas (1988). Other theories are the demand-following theory and the bi directional causality theory. The theories are discussed below:

2.3.1 Supply Leading Theory

This theory was first put forth by Schumpeter (1911) and later supported by the works of McKinnon (1973), Shaw (1973), Gupta (1984), Fry (1988), Greenwood and Jovanovich (1990), Bencivenga and Smith (1991) among others. The supply-leading hypothesis suggests that public debts spurs development. The thrust of this theory is that the existence and development of the financial markets bring about a higher level of saving and investment and enhance the efficiency of capital accumulation. This hypothesis contends that well-functioning financial institution can promote overall economic efficiency, create and expand liquidity, mobilize savings, enhance capital accumulation, transfer resources from traditional (non-growth) sectors to the more modern growth inducing sectors, and also promote a competent entrepreneur response in these modern sectors of the economy. The recent work of Demirgüç-Kunt and Levine (2008) in theoretical review analytical methods used in finance literature, found strong evidence that financial development is important for growth. To them, it is crucial to motivate policymakers to prioritize financial development as a mechanism for promoting growth.

The conventional view of the supply-leading theory postulates that financial development causes economic growth. In a world with frictionless transaction, information and monitoring costs, no financial intermediaries are needed. If transaction, information and monitoring costs, are sufficiently high, no exchange among economic agents will take place. The desire to reduce those costs and enable exchanges led to the emergence of financial institutions and market that make up the financial sector.

The theory posits that a well-developed financial sector provides critical services to reduce transaction, information and monitoring costs increase the efficiency of intermediation. It mobilizes savings, identifies and funds good business projects monitoring the performance of managers, facilitate trading and the diversification of risks and fosters exchange of goods and service lead to efficient allocation of resources; lead to a more rapid accumulation of physical and human capital; and lead to faster technology innovation. This eventually results into a long-term economic growth (Schumpeter, 1911). This theory is related to this study since it provides one the possible explanation of how development in financial sector affects economic development. This relationship is the core of this study.

2.2.2 Demand Following Theory

This theory was put forth by Robinson (1952), Patrick (1966) and Demetriades and Hussein (1996), the demand –following theory postulates that it is economic growth that leads to financial development. According to this theory, the development of the economy induces increase demand for financial service. The induced increase in financial service, in turn, generate the introduction of new financial institutions and market to satisfy y. This theory is important to this study because not does it agree that there is a relationship between developments in public debts and economic development.

The demand-following view of the development of the financial markets is merely a lagged response to economic growth (growth generate demand for financial product). This implies that any early efforts to develop financial markets might lead to a waste of resources which could be allocated to more useful purpose in the early stages of growth as the economy advances; this

triggers an increase demand for more financial development. Some research work postulate that economic growth is a causal factor for financial development. According to them, as the real sector grows, the increase demand for financial service stimulates the financial sector. It is argued that financial deepening is merely a by –product or an outcome of growth in the real side of the economy, a contention recently revived by Ireland (1994) and Demetrius’s and Hussein (1996) according to this alternative view, any evolution in financial markets is simply a passive response to a growing economy.

2.3.3 Bidirectional Causality Theory

The theory was suggested by Greenwood and Jovanovic (1990) and got support from Saint-Paul (1992), Barthelemy and Varoudakis (1996); Harrison, Sussman man Zeira (1999). The bi-directional causality theory unites the supply- leading and demand following theory. This theory postulates that public debt and economic development are mutually or bi-directionally causal feedback and induces further economic development. This theory is important to this study since it also agrees that there is a connection between public debt and economic development. However, it suggests that the two variables affect each other simultaneously.

2.3.4 The Independent Theory

The independent theory postulates that public debt and economic development is causally independent. Lucas (1988) argued that, at best, financial deepening plays a very minor role in economic growth; Stern (1989) ignores the role of financial development in the growth process. This theory provides the final alternative to the explanation of the relationship between financial deepening and economic growth. It suggests the two are independent of each other. The theory is

important to this study since it is providing a theoretical prediction of what the relationship between economic development and public debts might be like in Nigeria.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

Descriptive research design has been adopted for the purpose of this study. Descriptive research is utilized because it enables exploring relationship between two or more variables. Also, it is appropriate for testing the hypothesis of the study and help to answer the research question concerning the public debt and the economic development which are crucial concern of this study.

3.2 Population, Sample and Sampling Techniques

The population of this study is the indicators and variables that contribute to economic development of the Nigeria economy for the period of 1983 to 2017.

The sample chosen for this study is arrived at by non-probability sampling. It entails selecting those element having particular characteristic of interest to the researcher and is accessible to him. The sample size comprises of external debt, domestic debt, debt servicing and the per capita income.

3.3 Method of Data Collection

The data used in this study were collected from secondary source. Documentary data were collected via the Central Bank of Nigeria (CBN) statistical bulletin. The study utilized the secondary source because it provides a basis for purposeful research work and also gives a direction for the research work.

3.4 Technique for Data Analysis and Model Specification

The study makes use of regression to analyse the data. However, it incorporates multivariate, co-integration and error correction in order to undertake a thorough examination of the characteristic of time series and economic data. Four (4) analytical procedures were used. First, the unit root test will be carried out for each of the variable so as to ascertain the time series properties of the data set and obtain the stationary status. This is necessary in order to ensure that the variables are stationary and that shocks are only temporary and will dissipate and revert to their long mean. The second step was to obtain the error correction representation for the model which helps to analyzed the Dynamic short run and long run behavior of the model. Again, wald test is used to determine the statistical significance of the study since hypotheses were tested in a null form. The import of this is that wald test, assesses **constraints** on **statistical parameters** based on the weighted distance between the **unrestricted estimate** and its hypothesized value under the **null hypothesis**, where the weight is the **precision** of the estimate. Eview version 9 is applied for the analysis.

Model Specification

The economic model for the study as stated below to test for possible relationship between the dependent variable and independent variables. The study was guided by the following VAR models.

This can be stated as an econometric equation thus:

$$PCI_t = \beta_0 + \beta_1 PCI_{t-1} + \beta_2 PCI_{t-2} + \beta_3 EXDBT_t + \beta_4 EXDBT_{t-1} + \beta_5 EXDBT_{t-2} + U_t$$

$$PCI_t = \beta_0 + \beta_1 PCI_{t-1} + \beta_2 PCI_{t-2} + \beta_3 DOMDBT_t + \beta_4 DOMDBT_{t-1} + \beta_5 DOMDBT_{t-2} + U_t$$

$$PCI_t = \beta_0 + \beta_1 PCI_{t-1} + \beta_2 PCI_{t-2} + \beta_3 DS_t + \beta_4 DS_{t-1} + \beta_5 DS_{t-2} + U_t$$

Where:

PCI = per capital income

B0 = Constant

EXDBT= External debt

DOMDBT= Domestic debt

DS= Debt servicing

u_t = Error Terms

Robustness Test

In order to cleanse the data for the study and improve the validity of inference from the results, the following test were conducted?

1. Autocorrelation Test-Durbin Watson (D.W)
2. Heteroscedasticity test

3.5 Justification of Method Use

The technique deployed for this study is based on the parametric tool. A multiple regression tool will be preferred because it assist the researcher in ascertaining the relationship between the public debt and economic development in which the Per Capita Income (PCI) was used as indices of economic development which is significantly influenced by external debt. Overall, the technique is appropriate for achieving the set objectives of the study. One of the merits of the achieving the set objectives of the study. One of the merits of the model is because it produced optimal result in predicting numeric output when properly structured

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Data Presentation

In this chapter, the data collected is described and analysed. The hypotheses of the study were also, presented. The chapter finally, discussed the findings of the study. basically, the data used for the analysis is on public debt as measured by external debt, domestic debt and debt servicing while economic development is measured by per capita income in Nigeria.

4.2 Data Analysis

Table 4.1: Descriptive Statistics

	PCI	EXDBT	DOMDBT	DS
Mean	1225.266	1148.071	1755.049	62944.13
Median	794.9529	617.3200	560.8302	2168.300
Maximum	3221.678	4890.270	8836.996	351619.1
Minimum	270.0636	2.331200	11.19260	129.5210
Std. Dev.	896.6588	1354.158	2503.991	119346.5
Skewness	0.815964	1.433373	1.633113	1.688995
Kurtosis	2.248515	3.930633	4.395433	4.033713
Jarque-Bera	4.707380	13.24796	18.39756	18.19910
Probability	0.095018	0.001328	0.000101	0.000112
Sum	42884.30	40182.48	61426.70	2203045.
Sum Sq. Dev.	27335900	62347280	2.13E+08	4.84E+11
Observations	35	35	35	35

Source: E-View Output, 2019

Table 4.1 shows the result of the thirty-five (35) years observations. It shows the per capita income (PCI) as normally distributed with a probability of Jarque-Bera greater than 5% and the mean value of ₦1225.266 while its median is ₦794.9529. The maximum per capita income of an average Nigeria which indicates Nigeria development is ₦3221.678. This is shown in year 2014 hence, it can be said that as at that year Nigerian averagely spent ₦3221.678 billion while the corresponding minimum value shows the average amount spent by Nigeria to be ₦270.0636 which is in the year 1993. Also, from the result the per capita income has a skewness and kurtosis of 0.815964 and 2.248515 while the standard deviation is 896.6588. In like manner, external debt has a probability of 0.001328 which is less than 5%. It therefore indicates that external debt is not normally distributed indicating the presence of outliers. while maximum external debt in Nigeria was in the year 2004 and the value stood at ₦4890.27 billion and the minimum external debt collected by Nigeria government is ₦2.331200 billion in the year 1981. Hence, it can be said that since then, external debt has been on increase. The mean of external debt is 1148.071 and the median is 617.3200 while the standard deviation is 1354.158. In the same way, its skewness and kurtosis is 1.433373 and 3.930633 respectively.

Furthermore, internal debt is not normally distributed because it has a probability of 0.000101 which is less than 5% and the maximum internal debt collected by government in 2015 is ₦8836.996 billion in the year 2015. In like manner, the minimum internal debt collected by the government is ₦11.19260 billion in the year 1981. Hence, it can be said that since then, internal debt has been on increase as collected by Nigeria government during the period of

this study. The mean of internal debt is 1755.049 and the median is 2168.300 while the standard deviation is 2503.991. In the same way, its skewness and kurtosis is 1.633113 and 4.395433 respectively.

From the findings, debt servicing is not normally distributed within the period of this study because it has a probability which is less than 5% and a corresponding mean value of 62944.13 as well as median of 2168.300. Also, the result indicates that the maximum and minimum debt servicing in Nigeria is 351619.1 billion and 129.5210 as at 2011 and 2007 respectively. The result also indicates that the skewness and kurtosis of debt servicing in Nigeria is 1.688995 and 4.033713 accordingly.

Table 4.2: Correlation Matrix

	PCI	EXDBT	DOMDBT	DS
PCI	1.000000			
EXDBT	-0.032219	1.000000		
INDBT	0.848084	0.190499	1.000000	
DS	0.802061	0.050055	0.918381	1.000000

Source: E-View Output, 2019

From the table 4.2 the correlation matrix shows the relationship between the public debt indicators and the Per Capital Income. It is evident that per capita income has a negative correlation with per capita income which means that increase in external debt will reduce the per capita income of an average Nigerian. Also, the result indicates that domestic debt has

positive relationship with per capita income to the extent of 84%. Finding also indicates that debt servicing is positively correlated with per capita income in Nigeria within the period of this study.

Table 4.3: Stationarity Unit Root Test Summary

Augmented dickey fuller	PCI 2 ND difference		EXDBT 2 nd difference		DOMDBT 2 ND difference		DS 1 st difference	
	t-statistics	Prob.	t-statistics	Prob	t-statistics	Prob	t-statistic	Prob.
	-4.173345	0.0031	-5.969101	0.0000	-5.657777	0.0000	-11.71904	0.0000
1% Level	-3.689194		-3.661661		-3.653730		-3.646342	
5% Level	-2.971853		-2.960411		-2.957110		-2.954021	
10% Level	-2.625121		-2.619160		-2.617434		-2.615817	

Source: E-View Output, 2019

From the unit root table 4.3, PCI was not stationary at level and first difference but however become stationary at second difference with ADF statistic value of -4.173345 and the associated one-sided p-value of 0.0031. In addition, the critical values at the 1%, 5% and 10% levels are greater than the statistic value which indicates the presence of stationarity at second difference.

The unit root of External Debt indicates that it was not stationary at level and first difference but however become stationary at second difference with ADF statistic value of -5.969101 and the associated one-sided p-value of 0.0000. Furthermore, the critical values at the 1%, 5% and 10%

levels are greater than the statistic value which indicates the presence of stationarity at second difference.

Also, domestic debt was not stationary at level and first difference but however become stationary at second difference with ADF statistic value of -5.657777 and the associated one-sided p-value of 0.0000. Furthermore, the critical values at the 1%, 5% and 10% levels are greater than the statistic value which indicates the presence of stationarity at second difference.

Furthermore, debt servicing is stationary at first difference with ADF statistic value of -11.71904 and the associated one-sided p-value of 0.0000. In addition, the critical values at the 1%, is -3.646342, 5% is -2.954021 and 10% is -2.615817. All the values at 1%, 5% 10% levels are greater than the statistic value which indicates the presence of stationarity.

Table 4.4: Summary of Diagnostics Results

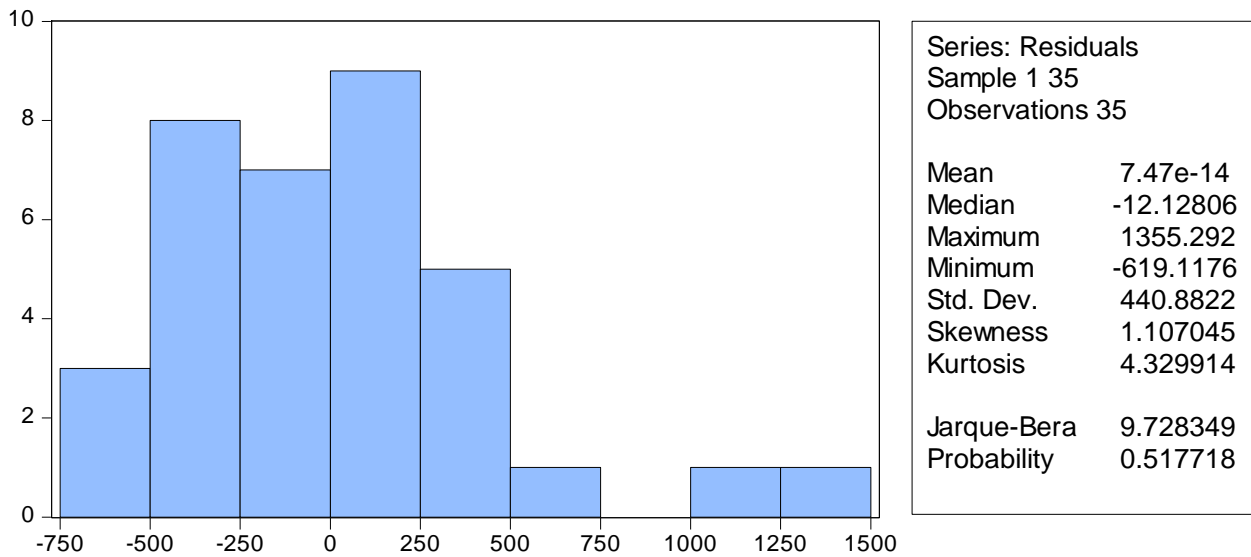
Variables	Prob	VIF
Exdbt		1.157293
Domdbt		7.372691
DS		7.122984
Heteroskedasticity Obs. R-Square	2.661287	
Heteroskedasticity Prob.	0.4770	

Source: E-View Output, 2019

The multicollinearity was checked with variance inflation factor. The variance inflation factor indicates that the public debt variables have no multicollinearity problem because their centered VIF values are below 10.

The heteroskedasticity test showed that there is no heteroskedasticity problem because the Obs R-square of 2.661287 and prob. of 0.4770 are all greater than 5%.

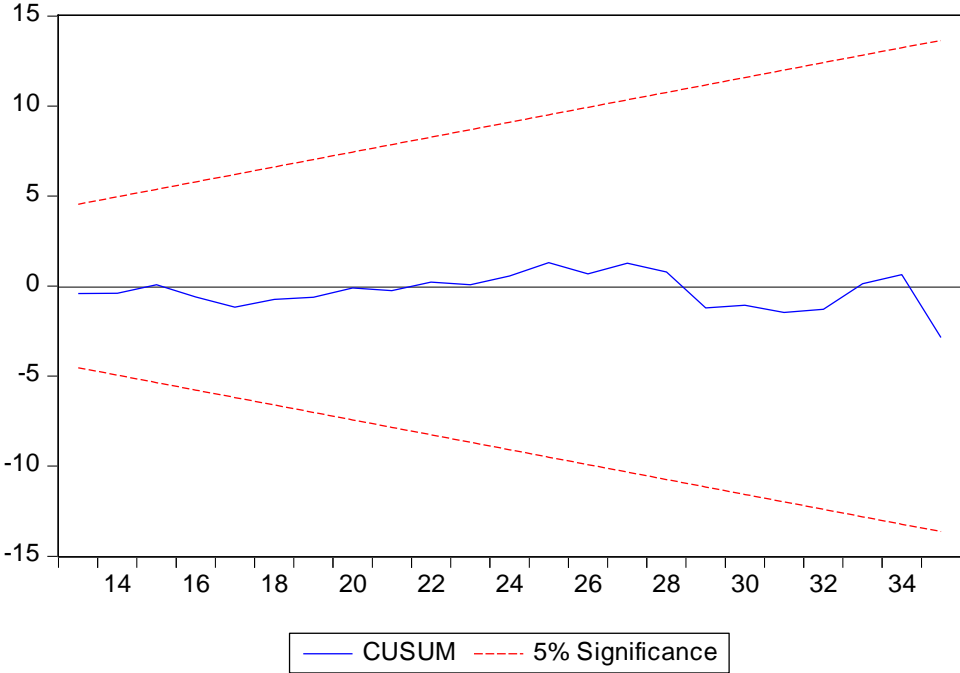
Table 4.5: Histogram Normality Test



Source: E-View Output, 2019

The residual test of normality indicates that the data were normally distributed because the probability of Jarque-Bera is 0.517718 which is greater than 5%.

Table 4.6 Cusum Stability Test



Source: E-View Output, 2019

The Cusum stability test indicates that public debt is stable because the best line of fit is stable within the two bisecting lines in the result above.

Table 4.7 Regression Analysis

Vector Autoregression Estimates

Date: 05/16/19 Time: 19:38

Sample (adjusted): 3 35

Included observations: 33 after adjustments

Standard errors in () & t-statistics in []

	PCI	EXDBT	DOMDBT	DS
PCI(-1)	0.694519 (0.34236) [2.02861]	-1.935934 (1.15184) [-1.68073]	0.088248 (0.34298) [0.25730]	175.3677 (84.3067) [2.08012]
PCI(-2)	0.029876 (0.28353) [0.10537]	1.279767 (0.95391) [1.34160]	0.007282 (0.28404) [0.02564]	-112.3759 (69.8196) [-1.60952]
EXDBT(-1)	-0.105986 (0.06417) [-1.65165]	1.007320 (0.21589) [4.66582]	-0.047394 (0.06429) [-0.73725]	26.38948 (15.8018) [1.67003]
EXDBT(-2)	0.150924 (0.05778) [2.61211]	-0.305779 (0.19439) [-1.57302]	0.024871 (0.05788) [0.42967]	-37.32184 (14.2280) [-2.62313]
DOMDBT(-1)	0.679655 (0.20355) [3.33897]	0.913910 (0.68483) [1.33451]	1.727627 (0.20392) [8.47220]	32.75688 (50.1246) [0.65351]
DOMDBT(-2)	-0.576829 (0.17581) [-3.28097]	-0.137309 (0.59150) [-0.23214]	-0.639069 (0.17613) [-3.62848]	-23.41218 (43.2933) [-0.54078]
DS(-1)	-0.000554 (0.00122) [-0.45550]	-0.007303 (0.00409) [-1.78337]	-2.43E-05 (0.00122) [-0.01989]	0.041633 (0.29971) [0.13891]
DS(-2)	-0.000971 (0.00092) [-1.05161]	-0.002971 (0.00311) [-0.95603]	-0.001744 (0.00093) [-1.88477]	0.202561 (0.22742) [0.89067]
C	75.07417 (80.4331) [0.93337]	469.0336 (270.609) [1.73325]	-27.13642 (80.5774) [-0.33677]	-31426.21 (19806.6) [-1.58665]
R-squared	0.969701	0.850507	0.996180	0.900298
Adj. R-squared	0.959602	0.800676	0.994907	0.867065
Sum sq. resids	786857.1	8906565.	789683.0	4.77E+10
S.E. equation	181.0683	609.1854	181.3931	44587.99
F-statistic	96.01463	17.06782	782.4128	27.08979
Log likelihood	-213.1333	-253.1705	-213.1925	-394.8427
Akaike AIC	13.46263	15.88912	13.46621	24.47532
Schwarz SC	13.87076	16.29726	13.87435	24.88346
Mean dependent	1177.651	1217.313	1860.621	66052.95
S.D. dependent	900.8697	1364.488	2541.790	122291.8

Determinant resid covariance (dof adj.)	4.42E+23
Determinant resid covariance	1.24E+23
Log likelihood	-1064.621
Akaike information criterion	66.70428
Schwarz criterion	68.33684

Source: E-View Output, 2019

The result indicate that Exdbt (-1) is negative with coefficient of -0.105986 but is positive at Exdbt(-2) with coefficient of 0.150924. Also, domestic debt has positive effect on per capita income at Domdbt(-1) with coefficient of 0.679655 but at Domdbt (-2) is negative with coefficient of -0.576829. Furthermore, debt servicing has a negative effect on per capita income in Nigeria with coefficient of -0.000554 and -0.000971 at DS (-1) and DS (-2) respectively. Hence, this means that an increase in debt servicing reduces per capita income. The model explained variation on economic development to the extent of 0.969701 while the remaining variation is explained by other variables not captured in the model.

Table 4.8: Wald Test on Exdebt

Wald Test:
System: %system

Test Statistic	Value	Df	Probability
Chi-square	8.712177	2	0.0128

Null Hypothesis: C(1)=C(3)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	0.694519	0.342363
C(3)	0.679655	0.203552

Restrictions are linear in coefficients.

Source: E-View Output, 2019

From the Wald statistics test, the probability of Chi-square is not zero (0) but is less than 5% (0.0128). This indicates that the null hypothesis which states that $C(1) = C(2) = 0$ is rejected but the alternate is accepted that the variables are not equal to zero. Hence, the external debt has a positive significant effect on per capita income in Nigeria.

Table 4.9: Wald Test on Domdebt

Wald Test:

System: %system

Test Statistic	Value	Df	Probability
Chi-square	1.286148	2	0.5257

Null Hypothesis: $C(11) = C(21) = 0$

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(11)	1.007320	0.215893
C(21)	1.727627	0.203917

Restrictions are linear in coefficients.

Source: E-View Output, 2019

The result above indicates that probability of Chi-square is not zero (0) but is greater than 5% (0.5257). This indicates that the null hypothesis which states that $C(11) = C(21) = 0$ is accepted but the alternate is rejected that the variables are not equal to zero. Hence, the domestic debt has positive insignificant effect on per capita income in Nigeria because the probability value is greater 5%.

Table 4.10: Wald Test on DS

Wald Test:
System: %system

Test Statistic	Value	Df	Probability
Chi-square	8.480791	2	0.0144

Null Hypothesis: $C(30)=C(31)=0$
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(30)	26.38948	15.80183
C(31)	-37.32184	14.22797

Restrictions are linear in coefficients.

Source: E-View Output, 2019

From the Wald statistics test, the probability of Chi-square is not zero (0) but is less than 5% (0.0144). This indicates that the null hypothesis which states that $C(30) = C(31) = 0$ is rejected but the alternate is accepted that the variables are not equal to zero. Hence, the debt servicing variables have significant effect on per capita income in Nigeria within the period of this study.

4.3 Discussion of Findings

4.3.1 External Debt and Economic Development

The result of the analysis indicates that external debt has significant positive effect on economic development in Nigeria. The implication of the result is that changes in external debt will affect the per capita income of the average Nigerian. This finding supports the supply lending theory which supports that public debts spur economic development. This finding is also consistent with the studies of Aminu, Ahmadu and Salihu (2013), Tajudeen (2012) but disagree with the findings of Amassoma (2011), Uma, Eboh and Obidike (2013) that external debt has no significant on the economic development.

4.3.2 Domestic Debt and Economic Development

From the result of the analysis, it was discovered that domestic debt has insignificant positive effect on per capita income as economic development indicator in Nigeria. This means domestic debt has not contributed to economic development neither have it improved the per capital income of an average Nigerian. This finding contradicts the supply lending theory which states that public debts spur economic development. This outcome is in tandem to the findings of Abula and Ozovehe (2016), Aminu, Ahmadu and Salihu (2013), Amassoma (2011), Uma, Eboh and Obidike (2013) but not in line with the outcome of Tamononimi (2013), Mba, Yuni and Oburota (2013), Sheikh, Faridi and Tariq (2010), Maana, Owino and Mutai. (2008), Abbas and Christensen (2007), Tajudeen (2012) that internal debt has significant effect on economic development

4.3.2 Debt servicing and Economic Development

From the result, it was found that debt servicing has a positive significant effect on economic development in Nigeria. Impliedly, this means that a change in debt servicing will bring a corresponding change in economic development in Nigeria. This means that the acquired debt if efficiently and transparently applied will generate more to the economy that it will not be affected by the amount used in servicing it. Hence, debt servicing has significant effect on per capita income in Nigeria within the period of this study. This finding is in line with the outcome of Worlu (2011), Ndubuisi (2011) but disagree with Amassoma (2011), Adesola (2009).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Over the recent past decades, there has been growing literature linking public debts in developing and emerging economies with economic development. One of the most essential objectives of macro-economic policies in recent years has been the achievement of sustainable economic growth and development of an economy most particularly those in the Less Developed and emerging Countries (LDCs) (like Nigeria). No government is an island on its own; it would require borrowings and assistance to perform efficiently and effectively. It is expected that these LDC's when facing a paucity of capital would resort to borrowing from either internal or external sources so as to supplement domestic saving. Hence, borrowing may be regarded as an auxiliary alternative to capital formation during periods of depression in an economy. Debt is one of the strategies whose implementation can quicken the pace of economic development. However, the effect of this strategy needs to be determined and examined from time to time especially for developing economies. However, evidence have existed in literature concerning the relationship between public debts and economic development with results advancing mixed reactions. It is as a result of these unresolved issues that this study seeks to ascertain the effect of public debt on economic development in Nigeria. In this study, public debt was separated into domestic, external debts and also debt servicing. Economic growth was measured using Per Capita Income. The study aligned with Supply Lending Theory. Meanwhile the duration of the study was 1983 to 2017 (35 years). Secondary sources of data were collected from the CBN statistical bulletin. The study used Vector auto-regressive estimates for the purpose analysis.

5.2 Conclusion

From the result of the analysis, it was found that public debt can be used to predict economic development in Nigeria. Based on the individual explanatory variables, it was found that external debts have significant effect on economic development while domestic debt have no significant effect on economic development in Nigeria. Also, it was found that debt servicing had a significant effect on economic development in Nigeria within the period covered by the study.

5.3 Recommendations

Based, on the findings and conclusion, the following recommendations were provided;

1. It is recommended that external debts should be acquired by the government. This is because from the study external debts have been found to contribute to the Per Capita Income of the average Nigerian. Although, care should be taken in terms of utilization of debts for the solely purpose it was collected.
2. Based on the fact that domestic debts do not contributes to the economic development in Nigeria, it is recommended that government should acquire less debts domestically.
3. It is also, recommended that Government should regularly service her debts as non-servicing of the debts could amount to debt covenant violation charges which could mean more cash outlay for the government. But government should also be cautious when entering into debt covenants in order not to incur a high interest burden on the country beyond proportion.

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APPENDIX

DESCRIPTIVE STATISTICS

	PCI	EXDBT	INDBT	DS
Mean	1225.266	1148.071	1755.049	62944.13
Median	794.9529	617.3200	560.8302	2168.300
Maximum	3221.678	4890.270	8836.996	351619.1
Minimum	270.0636	2.331200	11.19260	129.5210
Std. Dev.	896.6588	1354.158	2503.991	119346.5
Skewness	0.815964	1.433373	1.633113	1.688995
Kurtosis	2.248515	3.930633	4.395433	4.033713
Jarque-Bera	4.707380	13.24796	18.39756	18.19910
Probability	0.095018	0.001328	0.000101	0.000112
Sum	42884.30	40182.48	61426.70	2203045.
Sum Sq. Dev.	27335900	62347280	2.13E+08	4.84E+11
Observations	35	35	35	35

CORRELATION MATRIX

	PCI	EXDBT	INDBT	DS
PCI	1.000000	-0.032219	0.848084	0.802061
EXDBT	-0.032219	1.000000	0.190499	0.050055
INDBT	0.848084	0.190499	1.000000	0.918381
DS	0.802061	0.050055	0.918381	1.000000

STATIONARITY UNIT ROOT TEST

DS

Level

Null Hypothesis: DS has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	0.820299	0.9929
Test critical values:		
1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

1st difference

Null Hypothesis: D(DS) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-11.71904	0.0000
Test critical values:		
1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

Exdbt

Level

Null Hypothesis: EXDBT has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.383194	0.1540
Test critical values:		
1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

1st difference

Null Hypothesis: D(EXDBT) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.613701	0.0108
Test critical values:		
1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

2nd difference

Null Hypothesis: D(EXDBT,2) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.969101	0.0000
Test critical values:		
1% level	-3.661661	
5% level	-2.960411	
10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Indbt

Level

Null Hypothesis: INDBT has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	1.658935	0.9994
Test critical values:		
1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

1st difference

Null Hypothesis: D(INDBT) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.038535	0.7276
Test critical values:		
1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

2nd difference

Null Hypothesis: D(INDBT,2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.657777	0.0000
Test critical values:		
1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

*MacKinnon (1996) one-sided p-values.

PCI

level

Null Hypothesis: PCI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.225511	0.9256
Test critical values:		
1% level	-3.639407	
5% level	-2.951125	
10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

1st difference

Null Hypothesis: D(PCI) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.590035	0.0115
Test critical values:		
1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

2nd difference

Null Hypothesis: D(PCI,2) has a unit root

Exogenous: Constant

Lag Length: 4 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.173345	0.0031
Test critical values:		
1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

*MacKinnon (1996) one-sided p-values.

VARIANCE INFLATION FACTOR

Variance Inflation Factors

Date: 05/15/19 Time: 22:20

Sample: 1 35

Included observations: 35

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
EXDBT	0.003957	2.013603	1.157293
INDBT	0.007373	11.10114	7.372691
DS	3.14E-06	9.162571	7.122984
C	12516.14	2.054830	NA

Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey
 $c(28)=c(29)=0$

F-statistic	0.850373	Prob. F(3,31)	0.4770
Obs*R-squared	2.661287	Prob. Chi-Square(3)	0.4468
Scaled explained SS	3.476019	Prob. Chi-Square(3)	0.3239

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 05/16/19 Time: 20:24

Sample: 1 35

Included cases: 35

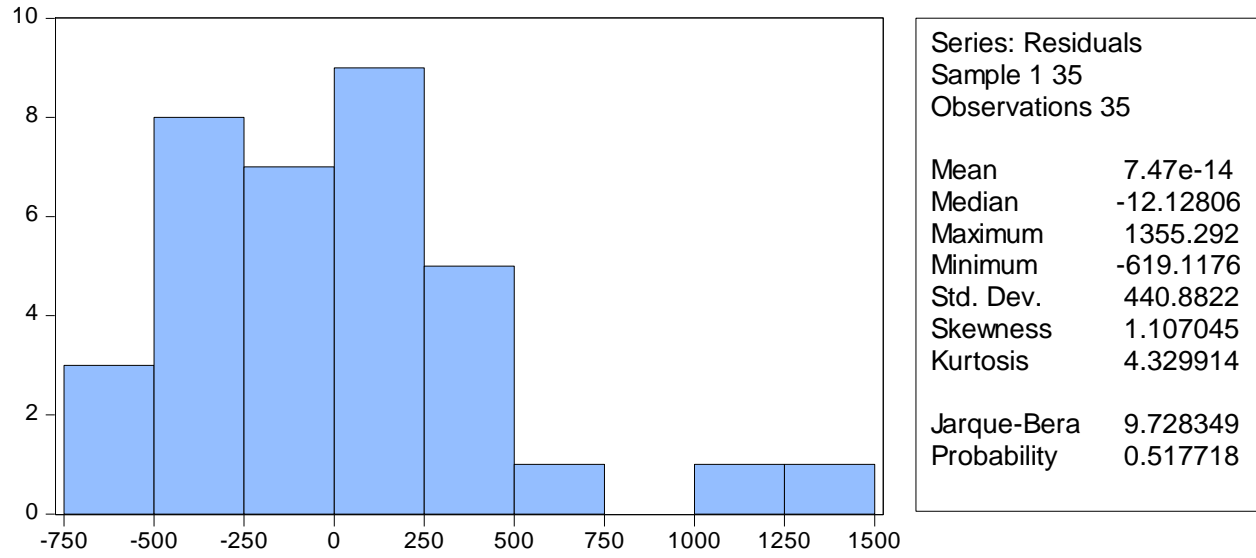
Total observations: 35

Frequency weight series: 175.367717558989=26.3894795427175=0

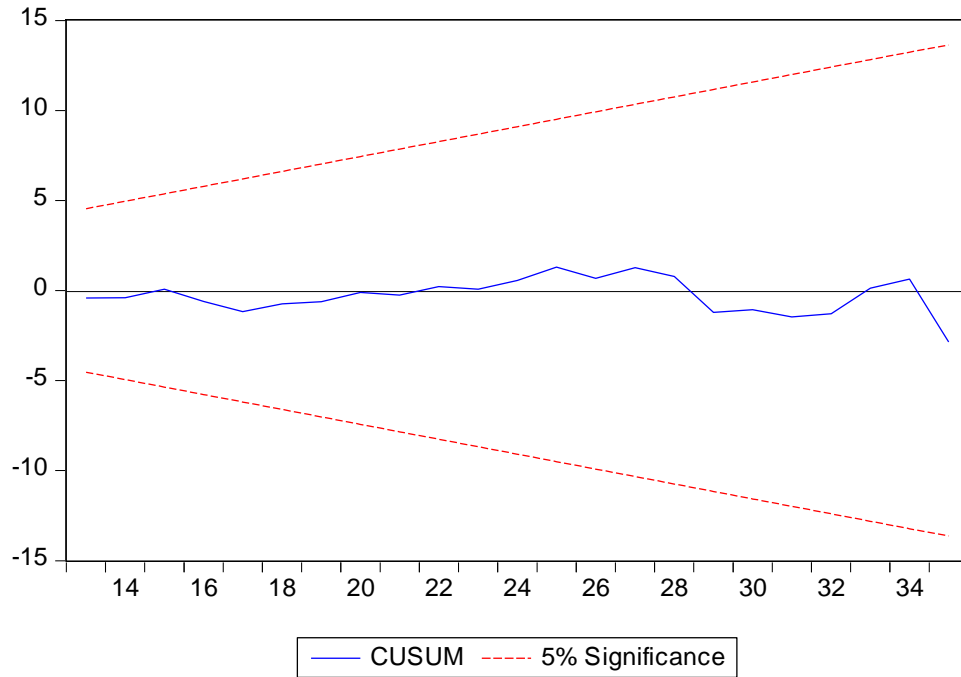
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	280749.6	85272.11	3.292397	0.0025
EXDBT*WGT	-61.57215	47.94750	-1.284158	0.2086
INDBT*WGT	8.076475	65.44764	0.123404	0.9026
DS*WGT	-0.562587	1.349693	-0.416826	0.6797

R-squared	0.076037	Mean dependent var	188823.5
Adjusted R-squared	-0.013379	S.D. dependent var	349596.6
S.E. of regression	351927.4	Akaike info criterion	28.48745
Sum squared resid	3.84E+12	Schwarz criterion	28.66520
Log likelihood	-494.5303	Hannan-Quinn criter.	28.54881
F-statistic	0.850373	Prob(F-statistic)	0.477041

Histogram Normality Test



Cusum Stability Test



Regression Analysis

Vector Autoregression Estimates

Date: 05/16/19 Time: 19:38

Sample (adjusted): 3 35

Included observations: 33 after adjustments

Standard errors in () & t-statistics in []

	PCI	EXDBT	INDBT	DS
PCI(-1)	0.694519 (0.34236) [2.02861]	-1.935934 (1.15184) [-1.68073]	0.088248 (0.34298) [0.25730]	175.3677 (84.3067) [2.08012]
PCI(-2)	0.029876 (0.28353) [0.10537]	1.279767 (0.95391) [1.34160]	0.007282 (0.28404) [0.02564]	-112.3759 (69.8196) [-1.60952]
EXDBT(-1)	-0.105986 (0.06417) [-1.65165]	1.007320 (0.21589) [4.66582]	-0.047394 (0.06429) [-0.73725]	26.38948 (15.8018) [1.67003]
EXDBT(-2)	0.150924 (0.05778) [2.61211]	-0.305779 (0.19439) [-1.57302]	0.024871 (0.05788) [0.42967]	-37.32184 (14.2280) [-2.62313]
INDBT(-1)	0.679655 (0.20355) [3.33897]	0.913910 (0.68483) [1.33451]	1.727627 (0.20392) [8.47220]	32.75688 (50.1246) [0.65351]
INDBT(-2)	-0.576829 (0.17581) [-3.28097]	-0.137309 (0.59150) [-0.23214]	-0.639069 (0.17613) [-3.62848]	-23.41218 (43.2933) [-0.54078]
DS(-1)	-0.000554 (0.00122) [-0.45550]	-0.007303 (0.00409) [-1.78337]	-2.43E-05 (0.00122) [-0.01989]	0.041633 (0.29971) [0.13891]
DS(-2)	-0.000971 (0.00092) [-1.05161]	-0.002971 (0.00311) [-0.95603]	-0.001744 (0.00093) [-1.88477]	0.202561 (0.22742) [0.89067]
C	75.07417 (80.4331) [0.93337]	469.0336 (270.609) [1.73325]	-27.13642 (80.5774) [-0.33677]	-31426.21 (19806.6) [-1.58665]
R-squared	0.969701	0.850507	0.996180	0.900298
Adj. R-squared	0.959602	0.800676	0.994907	0.867065
Sum sq. resids	786857.1	8906565.	789683.0	4.77E+10
S.E. equation	181.0683	609.1854	181.3931	44587.99
F-statistic	96.01463	17.06782	782.4128	27.08979
Log likelihood	-213.1333	-253.1705	-213.1925	-394.8427
Akaike AIC	13.46263	15.88912	13.46621	24.47532
Schwarz SC	13.87076	16.29726	13.87435	24.88346
Mean dependent	1177.651	1217.313	1860.621	66052.95
S.D. dependent	900.8697	1364.488	2541.790	122291.8

Determinant resid covariance (dof adj.)	4.42E+23
Determinant resid covariance	1.24E+23
Log likelihood	-1064.621
Akaike information criterion	66.70428
Schwarz criterion	68.33684

System: UNTITLED
 Estimation Method: Least Squares
 Date: 05/16/19 Time: 19:41
 Sample: 3 35
 Included observations: 33
 Total system (balanced) observations 132

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.694519	0.342363	2.028607	0.0453
C(2)	-0.105986	0.064170	-1.651646	0.1019
C(3)	0.679655	0.203552	3.338972	0.0012
C(4)	-0.000554	0.001217	-0.455505	0.6498
C(5)	0.029876	0.283532	0.105370	0.9163
C(6)	0.150924	0.057779	2.612115	0.0104
C(7)	-0.576829	0.175810	-3.280970	0.0014
C(8)	-0.000971	0.000924	-1.051607	0.2956
C(9)	75.07417	80.43307	0.933374	0.3530
C(10)	-1.935934	1.151844	-1.680726	0.0961
C(11)	1.007320	0.215893	4.665825	0.0000
C(12)	0.913910	0.684830	1.334506	0.1852
C(13)	-0.007303	0.004095	-1.783366	0.0777
C(14)	1.279767	0.953913	1.341597	0.1829
C(15)	-0.305779	0.194390	-1.573018	0.1190
C(16)	-0.137309	0.591496	-0.232139	0.8169
C(17)	-0.002971	0.003107	-0.956028	0.3415
C(18)	469.0336	270.6088	1.733254	0.0863
C(19)	0.088248	0.342977	0.257299	0.7975
C(20)	-0.047394	0.064285	-0.737248	0.4628
C(21)	1.727627	0.203917	8.472195	0.0000
C(22)	-2.43E-05	0.001219	-0.019892	0.9842
C(23)	0.007282	0.284040	0.025637	0.9796
C(24)	0.024871	0.057882	0.429674	0.6684
C(25)	-0.639069	0.176126	-3.628478	0.0005
C(26)	-0.001744	0.000925	-1.884767	0.0625
C(27)	-27.13642	80.57737	-0.336775	0.7370
C(28)	175.3677	84.30667	2.080117	0.0402
C(29)	26.38948	15.80183	1.670027	0.0982
C(30)	32.75688	50.12463	0.653509	0.5150
C(31)	0.041633	0.299711	0.138910	0.8898
C(32)	-112.3759	69.81958	-1.609519	0.1108
C(33)	-37.32184	14.22797	-2.623132	0.0101
C(34)	-23.41218	43.29326	-0.540781	0.5899
C(35)	0.202561	0.227424	0.890675	0.3753
C(36)	-31426.21	19806.61	-1.586652	0.1159

Determinant residual covariance	1.24E+23
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Equation: $PCI = C(1)*PCI(-1) + C(2)*EXDBT(-1) + C(3)*INDBT(-1) + C(4)*DS(-1) + C(5)*PCI(-2) + C(6)*EXDBT(-2) + C(7)*INDBT(-2) + C(8)*DS(-2) + C(9)$

Observations: 33

R-squared	0.969701	Mean dependent var	1177.651
Adjusted R-squared	0.959602	S.D. dependent var	900.8698
S.E. of regression	181.0683	Sum squared resid	786857.1
Durbin-Watson stat	2.077847		

Equation: $EXDBT = C(10)*PCI(-1) + C(11)*EXDBT(-1) + C(12)*INDBT(-1) + C(13)*DS(-1) + C(14)*PCI(-2) + C(15)*EXDBT(-2) + C(16)*INDBT(-2) + C(17)*DS(-2) + C(18)$

Observations: 33

R-squared	0.850507	Mean dependent var	1217.313
Adjusted R-squared	0.800676	S.D. dependent var	1364.488
S.E. of regression	609.1854	Sum squared resid	8906565.
Durbin-Watson stat	1.955289		

Equation: $INDBT = C(19)*PCI(-1) + C(20)*EXDBT(-1) + C(21)*INDBT(-1) + C(22)*DS(-1) + C(23)*PCI(-2) + C(24)*EXDBT(-2) + C(25)*INDBT(-2) + C(26)*DS(-2) + C(27)$

Observations: 33

R-squared	0.996180	Mean dependent var	1860.621
Adjusted R-squared	0.994907	S.D. dependent var	2541.791
S.E. of regression	181.3931	Sum squared resid	789682.9
Durbin-Watson stat	2.077580		

Equation: $DS = C(28)*PCI(-1) + C(29)*EXDBT(-1) + C(30)*INDBT(-1) + C(31)*DS(-1) + C(32)*PCI(-2) + C(33)*EXDBT(-2) + C(34)*INDBT(-2) + C(35)*DS(-2) + C(36)$

Observations: 33

R-squared	0.900298	Mean dependent var	66052.95
Adjusted R-squared	0.867065	S.D. dependent var	122291.8
S.E. of regression	44587.99	Sum squared resid	4.77E+10
Durbin-Watson stat	2.435253		

Wald Test on Exdebt

Wald Test:
System: %system

Test Statistic	Value	df	Probability
Chi-square	8.712177	2	0.0128

Null Hypothesis: $C(14)=C(15)=0$
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(14)	1.279767	0.953913
C(15)	-0.305779	0.194390

Restrictions are linear in coefficients.

Wald Test on Indebt

Wald Test:
System: %system

Test Statistic	Value	df	Probability
Chi-square	1.286148	2	0.5257

Null Hypothesis: $C(19)=C(20)=0$
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(19)	0.088248	0.342977
C(20)	-0.047394	0.064285

Restrictions are linear in coefficients.

Wald Test on DS

Wald Test:

System: %system

Test Statistic	Value	df	Probability
Chi-square	8.480791	2	0.0144

Null Hypothesis: $C(30)=C(31)=0$

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(30)	26.38948	15.80183
C(31)	-37.32184	14.22797

Restrictions are linear in coefficients.