

**THE IMPACT OF VALUE ADDED TAX ON
NIGERIAN ECONOMIC GROWTH
(1994 – 2010)**

BY

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TITLE PAGE

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**A PROJECT PRESENTED TO THE DEPARTMENT OF
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APPROVAL PAGE

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DEDICATION

This work is dedicated to Almighty God, the source of knowledge, wisdom and understanding and to immaculate Heart of Mary, the heart of love and to my Patron saint Vincent de Paul.

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My gratitude goes first to the Almighty God whose abundant grace and steadfast love have been with me without measure during the year that this programme lasted.

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ABSTRACT

This paper analyzed empirically the impact of Value Added Tax (VAT) on economic growth in Nigeria from 1994-2010. Data was collected from Central Bank of Nigeria (CBN) statistical bulletin. Ordinary Least Square techniques was used to estimate the model, which reveals a strong positive significant impact of VAT on economic growth in Nigeria. Therefore, this study recommends that the VAT should not be high on the infant industries, so as to enable them grow.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Value Added Tax (VAT) has become a major source of revenue in many developing countries like Nigeria. In sub Sahana Africa for example, VAT has been introduced in Benin Republic, Cote d'Ivoire, Guinea, Kenya, Madagascar, Mauritius, Niger Republic, Senegal, Togo. Evidence suggests that in these countries VAT has become an important contribution to total government tax revenue; (Ajakaiye 2000) the value Added Tax decree was established in 1993 and was imposed on 1994. Value Added Tax (VAT) in an ideal form of taxation in Nigeria tax system and has significantly contributed to resources mobilization as well as capital formation to the economy. It has positive and significant impact on revenue mobilization in Nigeria; it also has positive relationship with consumption.

VAT is a consumption tax that is relatively easy to administer and difficult to evade and it has been embraced

by many countries worldwide (Federal Inland Revenue Service 1993). Evidence so far supports the view that VAT revenue is already a significant source of revenue in Nigeria. For example, actual VAT revenue from 1994 was N8.189 billion which is 36.590 higher than the projected N6 billion for the year. Similarly, actual VAT revenue for 1995 was N21 billion compared with the projected N12 billion. In terms of contribution to total federally collected revenue, VAT accounted for about 4.06% in 1994 and 5.93% in 1995. As much as N404.5 billion was collected on VAT (5.1%) of total revenue in 2008.

VAT revenue is generated for distribution to the state and local government in Nigeria. Unlike the oil revenue whose market government has no control over. This helps to reduce over dependence on oil revenue, this assures a sustainable economic growth and development. While the performance of VAT as a source of revenue in Nigeria is encouraging, it means difficult to find attempts to systematically assess the impact on VAT on the economy.

Recent research work on the impact of taxation on the Nigeria economy impact up all the various taxes together without isolating VAT. How and in what direction VAT has be affecting the Nigeria economy? And the relationship of VAT on economic growth? Findings answers to these and other similar questions is the main trust of this paper.

1.2 STATEMENT OF THE PROBLEM

The attitude of Nigerians towards taxation is worrisome as many prefer not to pay tax if given the opportunity. The economy continues to lose hung amount of revenue through the unwholesome practice to tax avoidance and tax evasion this loss of revenue can change the fortune of many economies. Particularly, developing countries like Nigeria. This problem has been lingering for so long which urgent attention and solution is over due to the cost of collecting tax in Nigeria (both social and economic cost) is too high to the extent that if left unchecked the cost may soon outweigh the benefit or value derived from such operation and that will not the appropriate for the system. In Nigeria, VAT is

one of the instruments the federal government introduced to generate additional revenue. Yet, most prominent Nigerians and interest groups had spoken against its introduction. It would appear that VAT is froth with some problems. For the purpose of this paper work we shall examine the implication of VAT on revenue generation in Nigeria and how VAT affect the economic growth in Nigeria.

1.3 RESEARCH QUESTIONS

This research work is set to answer the research question below.

1. What is the impact of VAT on economic growth?

1.4 OBJECTIVE OF THE STUDY

The following are the objectives of the study:

1. To know the impact of value added tax on economic growth.

1.5 STATEMENT OF HYPOTHESIS:

The following assumptions which are subject to testing are made for the purpose of this research work.

HO₁: O₁ VAT has no Impact on economic growth.

1.6 SIGNIFICANCE OF THE STUDY:

The study will assist the government in policy formulation as it relates to value added tax. It will also help to broaden the nation's revenue base thereby making it less dependent on oil export.

CHAPTER TWO

LITERATURE REVIEW

2.1 THEORETICAL FRAMEWORK

Every government takes part in one activity or the other, which lead to some form of expenditure. To be able to attain success it raises funds through various means one of which is taxation.

According to Anyanwu (1993), he assumed tax as a more or less compulsory, non-returnable contribution of money (or occasionally for goods and services) from private individuals, institutions or groups to the government. It may be levied upon wealth or income or inform of surcharge on prices.

John (1978) said that tax can be seen as a compulsory charge made by the government to pay from the services he/she provides to the country. When making these charges government tries to observe certain rules. They prefer to make none from those who are wealthy than from those who are poor.

Mayo (1990), He observed tax to be a compulsory contribution imposed on persons, corporate bodies as well as goods and services. Taxes therefore generate revenue to government to enable her meet its traditional responsibilities of maintaining law and order, general administration and other obligations of providing social and infrastructural facilities to aid economic welfare and development of a country.

Gyani (1990) observed tax as a compulsory contribution imposed by the government on citizens in accordance with legislative provision and paid by them through agents to defray the cost of administration.

Famoyin (1990), justified tax as a compulsory contribution imposed upon persons for the general purpose of the government. Once levied, every taxable person must pay tax. He also added that taxes are benefit, but for providing the government with funds necessary for the general administration of the country.

Smith (1776), said that the primary goal of the economy is to increase its productivity capacity or the economy growth. He said to achieve this goal is through the principles which he set out and to what he called the canon of taxation namely: canon of equity, canon of certainty, canon of convenience and canon of flexibility.

From the various definitions, it can be seen that the economic history of both developed and developing countries reveals that taxation is an important weapon in the hands of government, not fiscal goals such as influencing the direction of investment and timing the consumption of certain goods and services. Taxation is divided into major types, they are direct and indirect taxes, for the purpose of this project, only indirect taxes would be discussed briefly in which value added tax (VAT) will be examine in details.

According to Naiyeju (1996), VAT is a multi stage consumption tax, collected at each stage as goods and services pass from production distribution to consumption.

Okpe (2000), defined VAT as a “multi stage tax imposed on the value added to goods and services as they proceed through various stages of production and distribution and to services as they are rendered” which is eventually borne by the final consumer but collected at each stage of production and distribution chain.

Ola (2001), He said that VAT is a tax paid at each stage of value added. It is a multi-stage tax which applies whenever goods and services are supplied by the producers. He also said that VAT are levied on the value gained or added on the products before being sold, VAT is an output tax less input tax. He went further to say that VAT is one of indirect taxes collected by the government in this case the incidence of tax is borne by either the producer or the final consumer or shared by both.

2.1.1 GENESIS OF VAT

Simply called the goods and services tax (Gst). It is levied on the value added that results from each exchange. It is an indirect tax collected from someone other than the

person who actually bears the cost of the tax or the tax burden. Value Added Tax (VAT) has been reduced in most countries of the world on record. The first country that introduced or imposed VAT, as is known in modern sense is France on April 10, 1954. Most countries of the European Economic Community (EEC), have value added tax as a means of ensuring uniformity of trading, since goods and services more relatively freely among these countries. Owing to the close economic relationship between France and its colonies, VAT was introduced almost immediately after 1954 in most of France's African Countries, beginning with Cote Divoire in 1957 within ten years of its administration, VAT in one form or the other was operational in most French speaking African countries.

The first developing country to implement VAT was Brazil in 1967 when the state government abolished the multiple sales tax system, in order to ensure financial and economic co-ordination among 26 states in the country. The latest countries that imposed VAT were India and China both

in 1990. Nigeria introduced VAT in 1st September, 1993 and was imposed on 1st January 1994. In the United States in spite of the autonomy of the states in tax matters. The state that operates value added tax is Michigan which was introduced in 1965, but was replaced in 1974 and was re-introduced in 1981. All the other states still operate the sales tax system.

Today, VAT is used as an important instrument for fiscal and economic policies in over 100 countries of the world. In Europe, Austria, Belgium, Denmark, Germany, Finland, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Turkey, and United Kingdom operated value added tax. Hungary, Poland and Czech are among the emerging East European free market economies still considering the introduction of VAT. In Latin America-Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Honduras, Nicaragua, Panama, Peru, Uruguay, Dominican Republic, Haiti, all operate VAT system. In Asia-China, India, Indonesia, Korea, Taiwan,

Pakistan, Philippines, Japan and Thailand all operate VAT system. In the middle East-Israel and Turkey still use VAT system. In Africa – Benin Republic, Botswana, Burkina Faso, Guinea Bissau, Kenya, Lesotho, Madagascar, Mali, Mauritania, Morocco, Niger, Senegal, South Africa, Swaziland, Togo and Nigeria all operate VAT system.

2.1.2 **IMPLEMENTATION OF VAT IN NIGERIA**

The key facts which will help to understand the implementation of VAT in Nigeria.

- VAT is a tax on spending. The tax is borne by the final consumer of goods and services because it is included in the price paid, although the VAT element is to be separately indicated in the tax invoice.
- The tax is presently at a flat rate of 5%.
- The tax is collected on behalf of the government by businesses and organizations which have registered with the FIRS local VAT offices for VAT purposes.
- All businesses and organizations are to register for VAT in the local VAT office nearest of their offices or

operating bases. Branches of such business and organizations are to register independently in their own areas of operation. A business or organization which has registered for VAT is classified as “registered person”

- A registered person will pay 5% on goods and services purchased but claim credit for this tax (called input tax) when sold 5% VAT (called output tax) is included in the price of all goods and services supplied by the registered persons.
- The registered person has to make regular VAT return and either pays to, or recruits from the FIRS (VAT Directorate) the difference of the input tax and output tax. To claim a credit for input tax and output tax, a registered person must hold a “Tax Invoice”.
- VAT returns (and payments) are normally made monthly to the local VAT office on or before the 30th day of the month following that in which the supply was made.

- Records and accounts have to be kept on all business transactions.
- No individual, business organization or government agency is exempted from the tax only good and services and specially specified activities are exempted.
- FIRS (VAT Directorate) provide a free information and advisory service to help you with VAT.

This guide above is based on the provisions of the value added tax decree, 1993 as amended.

2.1.3 THE NATURE OF VAT

Value added tax is a consumption tax that has been embraced by many countries worldwide because it is a consumption tax, it is relatively easy to administer and difficult to evade. The yield from VAT is a fairly accurate measurement of the growth of an economy since purchasing power (which determines yield) increases with economic growth VAT is a self-assessment tax that is paid when returns are being rendered. L- built in the net tax is the refund or credit mechanism which eliminates the cascading

effect that is a feature of the retail sales tax. The input – output tax mechanism in VAT also makes itself policing because of the need to obtain receipts at each steps of the transaction.

In essence, it is the output tax less input tax that constitutes the VAT payable. It is the equivalent of the VAT paid by the final consumer of the product that will be collected by the government. Although VAT is a multiple stage tax, it has a single effect and does not add non than the specified rate to the consumer price no matter the number of stages at which the tax is paid.

2.1.4 VAT AMENDMENT ACT: (2007)

The Nigerian federal government enacted the VAT Amendment Act in 2007; this act empowered the federal government to fix the rate of value added taxes to be imposed in Nigeria. The rate was increased to 10%. However, discussion regarding the possibility of a 50% reduction in the rate is on. In Nigeria, value added taxes are also imposed on sale of land, as well as check transactions.

The number of payment to be made is 12 and the amount of time is 160 hours.

The value added taxes are one of the major sources of financing in a number of economically developing countries across the world. The situation is similar in Nigeria as well. During 1994 the revenue earned from value added taxes in Nigeria exceeded the projections. They contributed 4% of the total revenue raised by the federal government in that year. In 1995 the rate of contribution was 5.39%. However, there have been teething issues as far as value added taxes in Nigeria is concerned.

2.1.5 VAT AMENDMENT BILL (2005)

The summary of recommendation of the position paper on value added tax. The VAT amendment bills 2005 are as follows:

- Companies operating in oil and gas sector should not be treated like government agencies.
- VAT rate should remain 5%.

- VAT base and administration should not be extended to untapped areas.
- Exemption granted to goods and services should be limited to imports.
- Goods and services purchased for use for donor funded agencies should be zero rated.
- Zero rates should be limited to those producing for exports.
- There should be consistency in the use of either "taxation person" or "tax payer" to produce on confusion.

2.1.6 **VAT POLICIES**

VAT is a fair consumption tax levied at a flat rate of 5% on the goods and services. The introduction of VAT was to replace the former sales tax adjusted to be progressive and has the advantage of broadening the tax revenue base equitably shared among imported and domestically produced goods and services. As consumption tax VAT is easy to administer, the difficult to evade, it also gives a fairly

accurate measurement of the growth of the economy since purchasing power increases with economic growth. So, VAT as an instrument of development requires a lot of instrument in order to reap the stream of benefit.

According to Chukeln (1993), A turnover tax was changed at every transaction made, many people regarded value added tax as merely a misguided form of a sale tax on consumption from the other sales taxes.

Naiyegu, Chairman federal Inland Revenue Services, said that when talking about effects of VAT in the consumption behavior of people, it makes the consumer rational.

According to Bayo (1994), He said that with the introduction of VAT, the economic problems of the marginalized masses would further be compounded under the present state of runaway inflation.

2.1.1.7 DIFFERENT TYPES OF VALUED ADDED TAX (VAT)

According to Shoup (1969), there are four different types of VAT, namely:

- 1. PRODUCTION VAT OR GNP TYPE:** Here, the tax is base on any capital goods. Only the value on non capital purchase from other firms is deducted such that for the economy as a whole the value added become equal to the GNP, if there is external trade.
- 2. CONSUMPTION VAT:** Here the tax is base on the sum of wages, profit and depreciation less investment. That is, the definition of value added as not of all fiscal capital purchase instead of the net of depreciation. The form is allowed to deduct from the gross value of production not only the capital input purchased from other funds, but also the capital equipments so leaving the purchased as reminder consumption.
- 3. INCOME VAT:** This type of VAT allows the firm to deducts the full value of its non-capital purchases from other firms. The tax base becomes the total sales minus material minus depreciation for each form such

that for the economy as a whole the tax base (in the absent of external trade) is the NNP (Net National Products).

- 4. WAGE VAT:** This form of tax allows firm to deduct the net earnings from its capital in order to arrive at the tax base. If income is defined as the sum of wages, profit and interest then after the deduction of profit and interest, what is left is wages, it has the least appeal to government.

2.1.8 STRUCTURE OF VAT: VAT applies to goods and services sold to consumers, and therefore it is a tax on consumption, unlike a retail sales tax, which is collected once on final sales to consumers, a VAT is imposed and collected at every stage in the production and distribution chain. Rather than regaining collection exclusively at the retail level, this structure spreads collection across all firms, which spreads the compliance costs of the VAT and helps prevent the tax from being entirely evaded at the retail level. Overall

compliance and administrative costs, however, would be higher under an add on VAT since it represents a new revenue source.

2.1.9 VAT INCREASE AND ITS IMPLICATION

On May 2007, there was an increase in VAT from 5% to 10%. African Economic Research Consumption (AERC), in a work carried on VAT system in Nigeria conducted some years ago. Stated that Nigeria companies treat VAT is expenses as input costs, and pass these to the consumers while the government injects most of the VAT revenue back into the system of consumption expenditures causing huge disruption to the economy. In a country where basic physical infrastructures such as transport, communication and power, information technology strengthen. Competitiveness and expand productive capacity are lacking the increase in VAT.

Apart from the Negative implication of VAT increase as highlighted above, the following with its increase.

1. RISE IN INFLATION:

The increase in VAT rate will automatically increase inflation rate. Already, analysis are projecting rise of inflation to 1890 arising from ratchet effect of the increase of VAT rate.

2. UNEMPLOYMENT:

It leads to high rate of unemployment. Already it is estimated that over 18 million graduates of tertiary inclined operating crime social vices like armed robbery which are already increased are likely to become unprounced.

2.1.10 PROSPECTS AND PROBLEMS OF VAT IN NIGERIA

PROSPECT:

A good tax system according to Mudgrave (2003) should be designed so as to meet the requirements of equity, effective on the case of administration, while it is admitted that tax system should strive to achieve those three Es of taxation. The fact that both small and large business organizations are involved in the payments of M.V.A.T (Modified Value Added Tax). It

suggests that principles of non exclusion and centrality are satisfied by the new method of taxation. As almost all organization are involved in the payments, the federal and state government are likely to be at better position to derive greater revenue from this system of taxation than from the former sales tax and the organization that keep adequate records of all transaction will enable the use of VAT to easily expose defaulters records of all transaction meaning that tax authorities will find it very easy to defect those that are involved in tax evasion.

PROBLEMS:

The effectiveness of any tax is a reflection of the quantity of the fiscal system which is the reflection of domestic economy which in turn, is a mirror of the level of development of the socio-polity. In most situations, especially in Nigeria, VAT is a fiscal policy that rarely creates its own problems, rather it merely mirror on accentuates the weakness existing in the society such as:

- Smuggling of goods into the country:- This hereby reduces the revenue that should have been generated by the government through VAT thereby causing weaknesses to the country.
- Locally manufactured goods should be exempted from VAT or it should be give ten (10) years tax holiday to encourage the industrialist to develop and stabilize.
- False and under declaration of imported goods.
- False collection and remittance of VAT returns to the government. VAT staff and offices do not exhibit transparency and honesty in collection and remittance of VAT returns to the government which would have enable it discharge it responsibilities hence causing great weakness to the country.
- Another problem is that Nigeria sees VAT as an excuse to raise price of goods and services arbitrarily inadequate, and lack of information also makes VAT management and administration difficult.

2.1.11 ADMINISTRATION OF VALUED ADDED TAX IN NIGERIA

According to Unwabinke (1998), the success or failure of any tax, depends largely on the extent of how it is properly managed. The extent of the tax is interpreted and implemented as well as the publicity brought into it will determine how the particular tax is able to meet its objective. Hence one of the acid tests in the determination of the success of a tax is the management of the policy.

Richard (1993) concluded that "the successful execution of fiscal policies depends not only on the quality of public administration but also on the formation of policies that are realistically adapted to the available resources". The value added tax (VAT) may be complicated to administer but it is not complex as personal or company income tax.

Soyede and Kajola (2006) said that there are five district bodies on which the administration of VAT rests

in Nigeria. There are inter-related and the function of each is complimentary to those of the others.

They are:

- The board (federal Board of Inland Revenue).
- The Service (Federal Inland Revenue Service).
- The technical committee.
- The Nigerian custom service
- The VAT directorate.

Other sub-internal include:

- The States Internal Revenue Service
- The zonal officer
- The local VAT officers.

The establishment of additional 25 VAT offices and 5 zonal tribunal has been approved. The administration will work closely with the Nigeria Custom Services (NCS) and the state Internal Revenue Services. The Custom Services specifically takes care of the VAT on imports. To qualify for VAT, an organization of enterprise must register with the VAT Directorate. All domestic manufactures, whole sellers,

distributors, importers, suppliers of goods and services in Nigeria are expected to register for VAT.

2.2 EMPIRICAL LITERATURE REVIEW:

Basila (2010), in investigating the relationship between VAT and GNP in Nigeria used a data based on VAT revenue figure and GNP figure from 1994 to 2008 obtained from Central Bank of Nigeria statistical bulletin, GNP and VAT figure for that period of study were tested for correlation, the test revealed a strong pearson's product moment currelation (PPMC) at about 96 percent strength. Further, a test of significance confirmed that VAT revenue is significantly different at 99 percent confidence level in relation to GNP. He concluded that there is a strong positive correlation between VAT revenue and GNP, again as regards to the test of significance, student 't'-test confirmed that VAT is significantly different in relation to GNP in Nigeria.

Adereti, Sanni and Adesina (2011), uses time series data on the Gross Domestic Product (GNP), VAT

Revenue, Total Tax Revenue and Total (Federal Government) Revenue from 1994 to 2008, sourced from Central Bank of Nigeria (C.B.N) were analyzed, using both simple regression analysis and descriptive statistical method. Findings showed that the ratio of VAT Revenue to GNP averaged 1.3% compared to 45% in Indonesia, though VAT Revenue accounts for as much as 75% significant variations in GNP in Nigeria. However, they concluded that there is a positive and significant correlation that exists between VAT Revenue and GNP.

Okoye and Gbegi (2013), used a secondary data that were generated from federal Inland Revenue services and federal Bureau from statistical analysis with the aid of a table and simple percentage, while the hypothesis formulated were tested using product moment correlation coefficient and student in test. The findings revealed that revenue generated through VAT has a significant influence on wealth creation in Nigeria

and also that revenue generated through VAT has a significant effect on total tax revenue in Nigeria. Therefore, from their findings they discovered that valued added tax (VAT) is the bedrock of wealth creation in Nigeria as well as economic development as it contributes significantly to the nation's Gross Domestic Products (GDP). Therefore, the government must give adequate attention to taxation in general and VAT in particular, under a stable and conducive socio-political and economic atmosphere.

Omolapo, Aworemi and Ajala (2013), perform a data analysis with the use of stepwise regression analysis. Findings show that valued Added Tax has statistical significant effect on revenue generation in Nigeria. The results from their analysis revealed that value added tax (VAT) is beneficial to the Nigeria economy from the findings it also shows that for Nigeria to attain its economic growth and development, she must be able to generate enough revenue in order

to meet up with the challenge of her expenditure in term of provision of social amenities and the running costs of the government. The result from the analysis indicates that if more goods and services are taxed the revenue base of the country will increase.

Unegbu and Irefin (2010). Collected data from both primary and secondary sources. Regression, discriminate analysis and ANOVA were used in testing the hypothesis and they found out that VAT allocations alone accounts for 91.2% of the variations in expenditure pattern. From their findings they concluded that, although VAT allocations to Adamawa State from 2001 to 2009 have a very significant impact on expenditure pattern of the state during the same period, however, the perceptions by the state suggest that VAT has minimum impact level on the economic and human developments of Adamawa State from 2001 to 2009.

Eneje (2011), obtained data from the C.B.N. Statistical Bulletin within the period of 1981 to 2009. The findings reveal that VAT has a significant impact on Nigeria's economic growth. It also shows a positive impact on GDP.

CHAPTER THREE

3.1 RESEARCH METHODOLOGY

The method to be used for this research work is the Ordinary Least Square (OLS) method this is because OLS has the Best Linear Unbiased Estimation (BLUE). An estimated b is Blue; it is linear Unbiased and has the Smallest variance as compared with all other linear unbiased estimators of the true b . (Koutsoyiannis 2003). Another reason for the use of OLS is fairly simple as compared with other econometric techniques and the data requirements are not excessive. Again, the mechanics of Least Square are simple to understand, it is also an essential component of most other economic techniques.

3.2 MODEL SPECIFICATIONS:

This is the mathematical relationships that exist between the dependent and the independent variables and the model for the parameters of the function.

This model is specifically based on the following functional relationship which can be implicitly stated as follows:

Model:

$$G.D.P = F(VAT, UNE, IFL, GEP)$$

The equation is explicitly transformed into the following:

$$GDP = B_0 + B_1 VAT + B_2 UNE + B_3 IFL + B_4 GEP + et$$

Where

GDP = Gross Domestic Product

VAT = Value Added Tax

UNE = Unemployment

IFL = Inflation Rate

GEP = Government Expenditure

B_0 = Constant

B_1, B_2, B_3, B_4 = Parameter to be estimated

et = The error term.

3.3 METHOD OF EVALUATION:

3.3.1 ECONOMIC CRITERIA

The equation will be evaluated on the basis of economic criteria. This will inform us of the signs of the parameters whether or not they confirm to economic theory specifically B_1 , and B_2 , are expected to be positive, while B_3 , and B_4 , are expected to be negative.

3.3.2 STATISTICAL CRITERIA:

Statistical criteria will be based on checking t-value for the statistical significance; the F-test will be used to check the overall regression whether the model has goodness of fit. The R^2 will be used to determine the power of the variables.

3.3.3 ECONOMETRIC CRITERIA

This will be used to evaluate if the assumption of ordinary least square (OLS0) are not violated as follows:

3.3.3.1 AUTO CORRECTION TEST

This test will adopt the conventional Durbin Wastson test on checking for the presence of serial auto correction.

3.3.3.2 MULTICOLINEARITY TEST

This test will adopt the correlation matrix test in order to check for the degree of multicollinearity among the explanatory variables.

3.3.3.3 HETEROSCEDASTICITY:

This test will be preferred to see if the heteroscedasticity among the variables.

3.4 JUSTIFICATION OF THE MODEL

The choice of this model is based on the fact that the OLS is best suited for testing specific hypothesis about the feature of economic relationship (Guajarati 2004).

The reliability of this method has on its desirability properties which are efficiency consistence and unbiased. This implies that its error term has a minimum and equal variance (Guajarati 2004).

3.5 TRANSFORMATION OF THE DATA:

To make the work more efficient we transform the yearly data into a quarterly data. The use of quarterly data made it possible to account for the evolution and development in all

the data used. To do this transformation, we used the formula below:

$0.75A_o+0.25A_i$ for 1994-I

$0.5A_o+0.5A_i$ for 1994-II

$0.25A_o+0.75A_i$ for 1994-III

Where A_o is the actual data for 1994 and A_i is the actual data for 1995.

1994-IV----- A_o .

3.6 DATA SOURCE:

The data used in this analysis are secondary data obtained from both the National Bureau of statistics (NBS) bulletin and Central Bank of Nigeria (CBN) statistical bulletin.

CHAPTER FOUR
DATA PRESENTATION AND INTERPRETATION OF
RESULT

4.1 PRESENTATION OF RESULT:

The result of the model which was specified in the previous chapter is presented as below:

Table 4.1: Presentation of Result

Variables	Coefficient	Std. Error	t	P> t 	[95% Conf. Interval]
LVAT	0.5736123	0.092772	6.18	0.000	0.3882223 0.7590024
LGOVEXP	0.5641445	0.1335048	4.23	0.000	0.2973564 0.8309326
INF	0.0056171	0.0011424	4.92	0.000	0.0033342 0.0079
UNE	-0.0311471	0.0043533	-7.15	0.000	-0.0398464 - 0.224478
CONS	2.043105	0.8860874	2.31	0.024	0.2724004 3.813809

4.2 INTERPRETATION OF RESULT

4.2.1 ANALYSIS OF REGRESSION COEFFICIENTS:

The result showed that the intercept is 2.043105. This shows that if all the explanatory variables are held constant, LGDP

will be 2.043105. The coefficient of value-added tax has a positive value of 0.5736123. This result implies that one percent increase in VAT will increase GDP by 0.5736123%. The second variable representing government expenditure (LGOVEXP) has a positive value of 0.5641445. This implies that one percent increase in government expenditure will cause a 0.5641445% increase in GDP. Inflation (INF) has a positive value of 0.0056171, which implies that a unit increase in the INF will result to a 0.0056171 unit increase in the LGDP. Lastly, the coefficient of unemployment is -0.0311471, which means that a 0.0311471 decrease in the LDGP is as a result of a unit decrease in UNE.

4.2.2 EVALUTION BASED ON ECONOMIC A PRIORI EXPECTATION:

This evaluation is based on ascertaining if the empirical results obtained conform to economic theory. This will be illustrated in the table below;

Table 4.2: Economic a priori expectation

Variables	Expected signs	Obtained signs	Conclusion
LVAT	+	+	Conforms
LGOVEXP	+	+	Conforms
INF	-	+	Does not conform
UNE	-	-	Conform

From the above table, inflation did not conform to economic theory, while value-added tax, government expenditure and unemployment conformed.

4.2.3 EVALUATION BASED ON STATISTICAL CRITERIA

1. COEFFICIENT OF DETERMINATION (R-SQUARE)

The R-square measures the proportion of the total variations in the dependent variable that is explained by the independent variables. From the result, R-squared is 0.9869.

This shows that the explanatory variables explain the variation in the dependent variable to the tune of 98.69%.

2. The t-test:

The t-test is undertaken to ascertain the individual significance of each parameter in the model.

Decision rule:

If $t\text{-cal} < t\text{-tab}$, accept the null hypothesis and conclude that the parameter is insignificant.

At 0.05 significance level and $n-k$ degrees of freedom, the $t\text{-tab} = \pm 1.9983$

Table 4.4: The table below summarizes the result.

Variables	t-cal	t-tab	Conclusion
LVAT	6.18	± 1.9983	Significant
LGOVEXP	4.23	± 1.9983	Significant
INF	4.92	± 1.9983	Significant
UNE	-7.15	± 1.9983	Significant

CONS	2.31	± 1.9983	Significant
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The table below shows that all variables (i.e. LVAT, LGOVEXP, INF, and UNE) are significant.

3. THE F- STATISTICS TEST

The F-statistics test is used to test the overall significance of the model. It follows F-distribution with $k-1$ degrees of freedom in the numerator and $n-k$ degrees of freedom in the denominator.

Test hypothesis:

Ho: The model is insignificant

Hi: The model is significant

The decision rule is to reject Ho if $F\text{-cal} > F\text{-tab}$. The $F\text{-cal} = 1184.01$, while at 0.05 significance level, the $F\text{-tab} = 2.5176$. Since $1184.01 > 2.5176$, we reject Ho and conclude that the model is significant.

4.2.4 EVALUATION BASED ON ECONOMETRIC CRITERIA TEST

1. AUTO CORRELATION (THE DURBIN - WATSON CRITERION).

This test is carried out to check if the successive values of the random variables (U_i) are independent.

Test Hypothesis:

Table 4.4: The decision rule

Null Hypothesis (Ho)	Decision	If
No positive auto correlation	Reject	$0 < d < d_L$
No positive auto correlation	No decision	$d_L < d < d_U$
No negative auto correlation	Reject	$4 - d_L < d \leq 4$
No negative auto correlation	No decision	$4 - d_U < d \leq 4 - d_L$
No auto correlation, positive or negative	Do not reject	$d_U < d < 4 - d_U$

Where:

d_L = Lower limit

d_U = Upper limit

d = Durbin Watson (calculated)

At 0.05 Significance level

$d_L = 1.49897$ $d_U = 1.69463$ $d = 1.965844$

Since d falls under $d_U < d < 4 - d_U$ (i.e. $1.69463 < 1.965844 < 2.30537$), we therefore accept H_0 and conclude that there is no auto correlation, positive or negative.

2. HETEROSCEDASTICITY TEST

This test was carried out using white heteroscedasticity test. We further test this to find out if the error term exhibited constant variance. It follows X^2_{cal} distribution.

The hypothesis is:

H_0 : $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ (Homoscedasticity)

H_1 : $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$ (Heteroscedasticity)

At 5% level of significance,

Decision rule:

Accept null hypothesis (H_0) if $X^2_{cal} < X^2_{tab}$, otherwise reject H_0 and conclude that the variance of the error term is heteroscedastic.

The error term equation is stated as follows:

From our result analysis,

$$X^2_{cal} = 25.15$$

$$X^2_{tab\ 0.05} = 23.685$$

Conclusion:

Since $X^2_{cal} = (25.15) > X^2_{tab} = (23.685)$, we reject H_0 and conclude that the variance of the error term is not homoscedastic, that is error term is not constant.

3. NORMALITY TEST:

The test using Jarque-Bera criterion follows the χ^2 distribution with 2 degrees of freedom.

H_0 : residuals are normally distributed

Hi: residuals are not normally distributed

If X^2 -cal > X^2 -tab, reject the null hypothesis Ho.

Using 2 degrees of freedom at 5% level of significance,

$$X^2$$
-tab = 5.991

$$X^2$$
-cal = 0.39

Therefore, 0.39 < 5.991, the research concludes that residuals are normally distributed.

4. TEST FOR MULTICOLLINEARITY:

This test is carried out using correlation matrix. According to Gujarati (2004), multicollinearity is a problem, if any correlation exceeds 0.8.

Table 4.5: Correlation matrix

	LVAT	LGOVEXP	INF	UNE
LVAT	1.0000			
LGOVEXP	0.9908	1.0000		
INF	-0.6277	-0.6508	1.0000	

UNE	0.7829	0.8105	-0.5909	1.0000
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From the correlation matrix above, the pair-wise UNE and LGOVEXP are seen to have a value that is in excess of 0.8, therefore we can conclude that multicollinearity exists between the pair-wise.

4.3 EVALUATION OF RESEARCH HYPOTHESIS

The research hypothesis was stated in chapter one as:

H_0 : Value-added tax has no impact on economic growth in Nigeria.

From the foregoing analysis and result obtained, value-added tax has a positive relationship with and LGDP and also has a significant impact on the LGDP (which is a measure of economic growth). Thus we reject the null hypotheses and conclude that value-added tax has positive and significant impact on economic growth in Nigeria.

CHAPTER FIVE
SUMMARY, POLICY RECOMMENDATION AND
CONCLUSION:

5.1 SUMMARY OF FINDINGS:

This work is an attempt to empirically investigate the Impact Value Added Tax (VAT) on economic growth over the period of 1994-2010, using the Ordinary Least Square Regression (OLS) in examines the variables. The empirical result shows that the value of VAT has a positive significant impact on economic growth (GDP) in Nigeria, the results also shows the following:

That government expenditure has a positive and significant impact on economic growth in Nigeria.

That inflation has a positive significant impact on economic growth (GDP) in Nigeria.

That unemployment has a negative insignificant impact on economic growth (GDP) in Nigeria.

5.2 POLCY RECOMMENDATION:

Following the empirical findings of this research, the following recommendations are made for effective policy formulations:

- ❖ The management and administration of VAT in Nigeria should be done in a manner that it will not have adverse effect on the economy such as distorting the forces of demand and supply.
- ❖ Though VAT has a positive impact on the economy, effort should be made to exempt infant industries from VAT in order to encourage them to grow.
- ❖ The revenue generated from VAT should be used for infrastructural development of the country in order to increase the economic growth of the country.

5.3 CONCLUSION:

The study analyzes the relationship between Value Added Tax and economic growth (GDP) in Nigeria over the period of 1994 to 2010. The empirical findings show that

value added tax has a positive significant impact on Nigeria's economic growth.

It should be taken into consideration that Nigerian's economic growth is not only influenced by Value Added Tax but by other factors which were also put into consideration in this research, such factors are government expenditure, inflation rate and unemployment.

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