IMPACT OF VALUE ADDED TAX ON MANUFACTURING SECTOR PERFORMANCE IN NIGERIA

Onoh, A.[1*]; Ezema, I.C.[1]; Ezeh, S.C.[2]; Eneh, C.A.[3]

[1] Department of Economics, University of Nigeria, Nsukka

[2] Department of Entrepreneurship and business management technology, Federal University of Technology, Minna

[3] Department of Agricultural economics, University of Nigeria, Nsukka

[*] Corresponding author: alexjnronoh@gmail.com

Abstract

This study examined the impact of VAT on the manufacturing sector performance in Nigeria between the periods of 1994 to 2019. Annual time series data were collected from the CBN statistical bulletin and World Bank. The work adopted the Auto Regressive Distributive Lag (ARDL) method of estimation. The dependent variable used was manufacturing sector output (MQ) while the explanatory variables used were VAT Revenue (VAT), Government capital expenditure (GCAP), Interest rate (IR) and Government effectiveness (GE). In order to reduce the problem of stationarity and structural breaks associated with time series data, some of the variables were logged. The results reveals that, despite being significant, a positive long run and short run relationship exists between VAT revenue and manufacturing sector output. The results also indicates that a unidirectional casuality exist from VAT revenue to manufacturing output. Consequently, the work recommends that government should make available proper VAT awareness, enlightenment programmes, seminars and workshops through the First Inland Revenue Services (FIRS) among the VAT payers on the need for prompt VAT payments.

Keywords: *Value added tax; Manufacturing sector performance; Revenue and expenditure*

Introduction

Tax policies are the foremost part of modern economic development. Tax revenue is, therefore, one of the essential instruments for stimulating economic improvement in many developing economies. They can be used to guide private sector activities in the directions desired by the government (Avi-Yonah, 2006). An efficient and effective tax system in a country can ensure economic growth, the supply of social amenities and services, maintenance of equality, provision of infrastructures in the economy (Akintoye and Tashie, 2013).

The main forms of taxation are direct and indirect tax. Direct taxes are levied on individuals and factors of production while indirect taxes are levied on goods and services and the consumers bear their burden. One of the popular kinds of indirect tax is Value Added Tax (VAT), also known as Goods and Services Tax (GST). The reason for its popularity around the world is because of its neutrality and transparency. The neutrality of VAT refers to its technique of deducting "input tax" as the good passes through the stages of production until it reaches the final consumer, whereas its transparent nature refers to its easy method of being calculated at the point of sale and its payment made as a part of the selling price. The concept of VAT was first used by a German industrialist, Wilhelm Van Siemens in 1918. France became the first country to implement it back in 1954 through the initiative of the joint director of the tax authority of France, Maurice

Laure (Okoye and Gbegi, 2013). From there, it spread quickly to other developed countries. In the last semi-centennial, more than 80% of the countries in the world and all the member-nations of the Organization for Economic Co-operation and Development (OECD) excluding the United State of America (USA) have successfully adopted VAT despite its regressivity (Liew and Sok-gee, 2018). However, some countries like Malta, Belize, and Ghana encountered challenges in its implementation (Liew and Sok-gee, 2018). Some of the reasons for these failures were poor political commitment, poor planning prior to the implementation and inadequate information for the registration procedure in the country (Grandcolas, 2005).

VAT was introduced in Nigeria by the federal military Government in the year 1991 and became fully operational in 1994 under the leadership of Gen. Sani Abacha. Its implementation abolished Sales tax whose base was narrow and covered only nine categories of goods and services at that period. Amid widespread criticisms from the populace, the significance of VAT became apparent as the revenue profile of the Federal Government and the sub-national Governments increased tremendously. VAT accounted for about 4.06% of the total revenue in 1994, 5.93% in 1995, 6.2% in 1996 and 5.83% in 1997 (Ajakaiye, 1999). In the first half of the year 2015, VAT revenue of ₦1.97 billion was realized and remitted to the federal account (Central Bank of Nigeria [CBN], 2015).

Despite the huge revenue contribution of VAT, the Nigeria's VAT rate is the lowest compared to other African countries such as Ghana which pays 12.5% in VAT, Zambia, 16%, Cameroon, 19.25%, Kenya, 14%, Togo,

18%, South Africa, 15% while Egypt charges 14% (Tradingeconomics, 2020). The issue of increasing the VAT rate have being hovering around the decisions of the policy makers. VAT was increased to 10% on May 23rd, 2007 but this was met by criticisms and protest by Nigerians (Onaolapo, Aworemi & Ajala, 2013). The increase in VAT rate led to a five-day strike by the Nigerian labour congress which eventually jeopardized the economy. This caused the federal government to reverse to the old VAT rate (Luqman, 2015). However, the Nigerian Government increased VAT rate from 5% to 7.5% in the year 2020 (Asquith, 2020). All taxable business and organizations are required by the government to collect VAT on vatable supplies made by them when sold to customers. Manufacturing Industries are the center stage of implementation and execution of VAT. Since VAT is a non-discriminatory tax as regards locally manufactured or imported goods, the manufacturing sector of the economy is thus the biggest source of VAT generation.

According to the reports of the National Bureau of Statistics (NBS), ₦3.63 trillion was generated as VAT in Nigeria within six years, between the year 2013 to 2018 (National Bureau Statistics [NBS], 2019). The report on the sectoral distribution of VAT showed that the manufacturing sector contributed about ₦864 billion of the ₦3.63 trillion generated as VAT, which was 24% percent of the total VAT generated within the six-year period (NBS, 2019). Other reports on the analysis of Nigerian manufacturing sector from OECD national account data revealed that the total value-added contribution of the sector to GDP have been declining. Adewuyi (2006) asserted that the decrease in output of the manufacturing sector was caused by high

tax rates and lack of effective utilization of the tax generated to provide infrastructures to make the sector viable. In a report prepared by the Manufacturers Association of Nigeria (MAN) for the 3rd quarter of 2019, 80% of the executives of manufacturing companies identified high tax rates as the major challenge in their business, amongst others (Manufacturers Association of Nigeria [MAN], 2019). The performance of VAT as a source of revenue in Nigeria is encouraging while the performance of its biggest contributor, which is, the manufacturing sector have been on the decline. With the rise in VAT rate, this study is aimed at ascertaining whether VAT have any impact on the performance of the manufacturing sector where output and capacity utilization have suffered rapid fluctuation in recent years in Nigeria.

Since the introduction of VAT in Nigeria, authors like Naiyeju (1996) have argued on its usefulness in the economy. Evidence so far have shown that VAT have attracted more revenue for the Federal Government. The trend of VAT revenue in Nigeria is presented below as follows:

Figure 1: Vat Revenue in Billion (₦) (1994-2019)
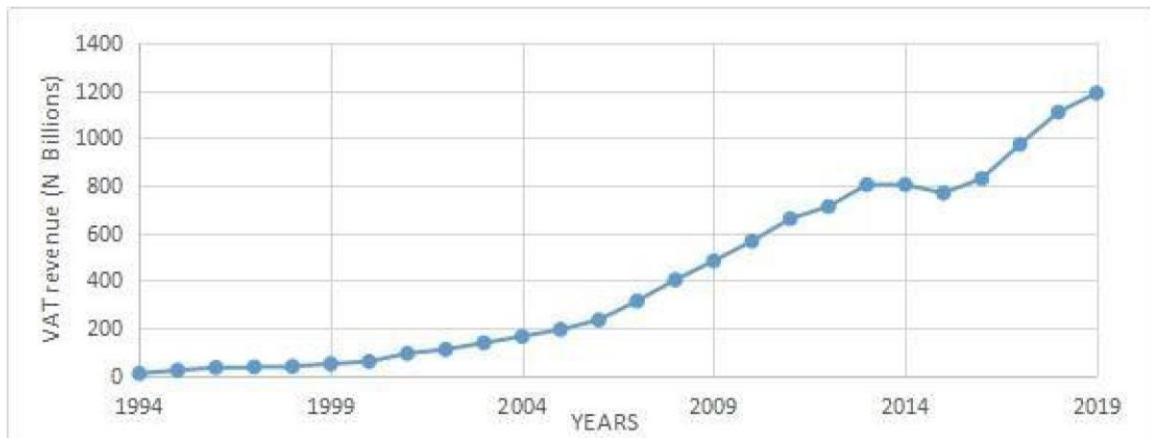
Source: CBN Statistical Bulletin (2019)

From the figure above, an upward trend can be noticed over the years. VAT revenue have flourished and yielded more revenue than was anticipated. VAT yielded ₦7.26billion in the year of its inception being 1994 and have continued to increase over the years generating ₦1108trillion and subsequently ₦1188.6trillion in 2018 and 2019. The benefits yielded by VAT cannot be only seen in the area of its significant impact in the revenue generated by the government, it have also been used by successive governments in Nigeria to encourage industrial and corporate growth, especially in the private sector (Kajola, Nwaobi & Adedeji, 2014). VAT has improved the tax base and eliminated cascading effects which is the avoidance of imposition of double taxation. Manufacturers are able to claim back the input tax refund on any purchases under VAT regime and hence results to the reduction of the overall cost of production. This is supported by Dhond (2010), Cai and Harrison (2011) and Dehmukh (2012) where they found VAT improved the performance of the manufacturing sector.

However, the incessant decrease in the productivity of manufacturing companies and the increase of VAT rate

from 5% to 7.5% in 2020 as a means of generating revenue by the Nigerian government without equivalent improvement on the infrastructures in the country have raised the concerns of researchers. VAT affects the liquidity of firms, increases cost of production and acts as a disincentive to invest. These burden of VAT is often passed as high prices of goods to consumers. This leads to reduction in the purchasing power and consumption pattern of the consumers thereby affecting the production pattern, allocation of resources and profitability of enterprises. A look at the graph below shows that the decline in the performance of the manufacturing sector became evident after the introduction of VAT in 1994.

Figure 2: Trend of the Manufacturing Sector Output (₦) (1994-2019)
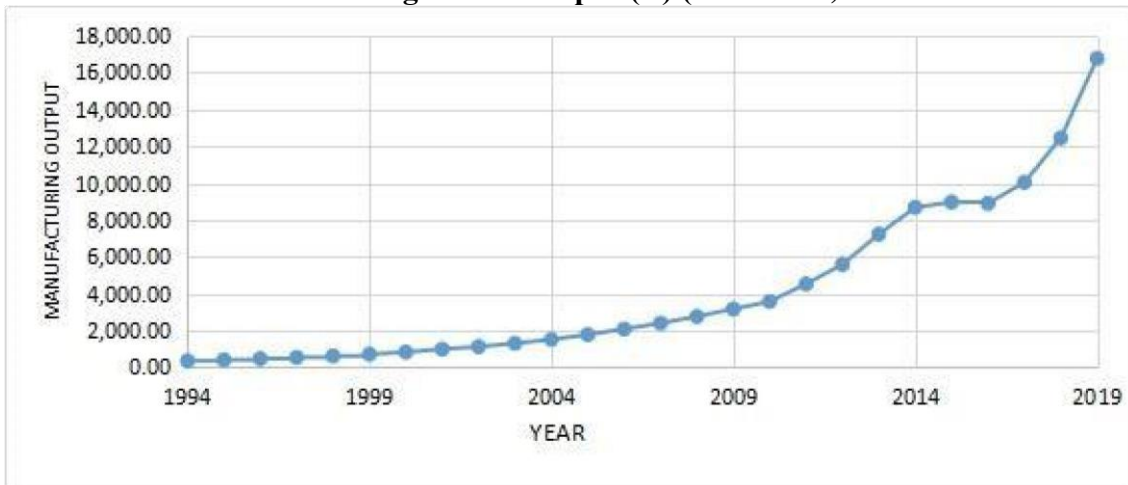
Source: CBN Statistical Bulletin (2019)

Figure 3: Trend of the Manufacturing Value Added % of GDP (1994-2019)
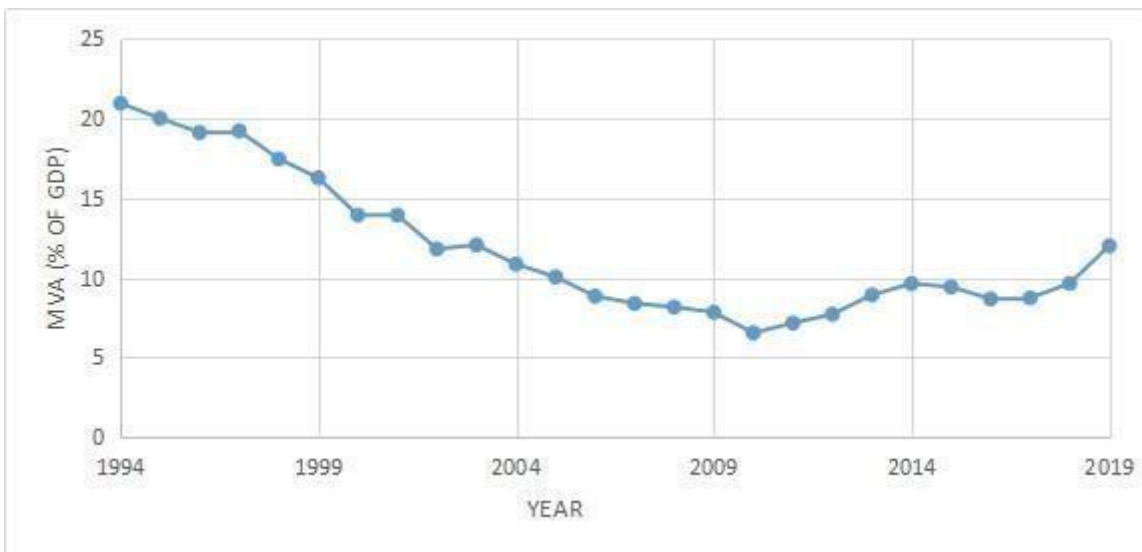
Source: World Bank Development Indicator (2019)

Figure 2 shows the movement of manufacturing sector output while figure 3 shows the movement of manufacturing value added % of the GDP. From figure 2, it can be seen that there have been a steady

growth in output over the years. However, a close look at figure 3 above which is the manufacturing value added % of the GDP, shows that very little success have been recorded over the years and as a matter of fact, has been dwindling over the years. The highest value of manufacturing value added over the past 26 years was 20.93% in 1994. It dropped to 16.26% in 1999 and further down to 6.55% in 2010 being its lowest value ever. From the year VAT system was implemented which was in 1994, a declining trend is noticed till 2019 when it rose to 12%, which is the highest value since 2003. This trend is further substantiated by the National Bureau of Statistics which confirmed a negative quarterly growth rate in the sector (-4.4%) (Anudu, Ani & Faminu, 2019). This performance is quite poor for a sector that contributes the highest to VAT revenue.

With the overall poor performance of the manufacturing sector as shown in fig 3 and the quest by the government to attract more revenue through increasing the VAT rate, there is need to empirically analyze whether the extra burden imposed on the consumers in form of VAT affect the overall performance of the sector. This is because, no sustainable development can be achieved without a viable manufacturing sector, and a viable manufacturing sector cannot be achieved without an effective use of tax revenue to provide an enabling environment via good and quality infrastructures for firms to thrive. This work is also motivated by the fact that there are very few studies on the effect of VAT on the performance of the manufacturing sector in Nigeria.

Taxation in every economy is an intricate aspect because it affects all sector of the economy, as such, any study on its impact is of great significance. This study will be of benefit to policy makers,

Government, manufacturers and the economy as a whole.

Policy makers in Nigeria will benefit from this study because they will be able to use the findings of this study to determine if the VAT rate should be increased or reduced and the impact or effect of such decision on the performance of the manufacturing sector. This also will enable the policy makers to evaluate and be fully aware of the impact of VAT for the benefits of future economic growth.

This study will also help the Government to make informed decisions on VAT policy and expenditure. Knowledge of the cash flow implications of VAT remittance on manufacturing companies should enhance government decisions on the application of VAT rate to various industries without having adverse effect on their cash flow. In other words, the findings from this study will bring to the awareness of the Government what can be done to improve operations and the utilities of VAT geared towards reducing the administrative and financial burden of VAT payment and refunds.

This study will broaden the knowledge manufacturers have on VAT and thus impact the level of their responsiveness to the collection and remittance of VAT. This study will also enlighten them on the need to improve on VAT administrative operations and provide them with tools for planning, decision making and further expansions. It is thus expected to help manufacturers make decisions on how to invest their scare productive resources without being heavily hit by cash flow challenges resulting from VAT imposition.

In general, studying the impact of VAT on manufacturing sector is important because any disruption in the manufacturing sector will result to negative impact on the economic growth

of a country and hence, it is necessary to identify the influence of VAT on manufacturing performance.

Extensive studies have been done on various aspects of the operations of VAT in Nigeria but not much appear to have been done to study the significance that exist between VAT and the performance of the manufacturing sector. This study is thus undertaken to add to whatever scarce studies that already exist in this aspect of the implementation of VAT. It will also serve as a reservoir of knowledge and bedrock for further studies.

Value Added Tax (VAT)

The imposition of a tax, especially an indirect tax as Value Added Tax (VAT) is seen as a burden that every economic unit (Households and business organizations) must bear to ensure the smooth running of the Government. Bird (2005), defines VAT as "a multistage tax imposed on the value added to goods 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 contribution chain''. Sartra and Hati (2009) are of the view that VAT is a tax received by a middleman from the person that bears the final burden of the tax. The middleman, in this case, can be a producer, seller, or distributor. VAT is collected at different points but at the same time makes allowance for tax credits on purchases. Jones (2003) opined that VAT is "a tax levied at each stage which supplies change hands; In the case of manufactured items, this could be the primary producer, the manufacturer, wholesaler and retailer stages. It is ultimately borne by the consumer, who,

after being registered for VAT purposed, is unable to reclaim it.

From these definitions, especially the definition by Jones (2003), it can be inferred that VAT is a consumer tax and its incidence are borne heavily by the final consumer. Value Added Tax is levied on the value-added on a good as it goes through its production process. It can also be seen as a tax imposed on the price of a good less the cost of its inputs already taxed. VAT is sometimes called Good and Services Tax (GST)

Manufacturing Sector

Manufacturing comprises the activity of acquiring goods and services for manufacturing finished or semi-finished products. Manufacturing can also be defined as the production of goods by industrial processes (CBN, 2004). According to the World Bank national accounts data, manufacturing sector refers to industries belonging to International Standard Industrial Classification (ISIC) divisions 15-37 which include companies that produce paper, beverages, food, textiles, fabricated metals e.t.c. Thus, from these definitions, it can be inferred that manufacturing sector is the sector or part of the economy that is concerned with transforming raw materials into finished goods ready for consumption or semi-finished goods that are to be used for further production (Indexmundi, 2019)

This study is interested in analyzing the impact VAT have on the performance of the manufacturing sector in Nigeria. The conceptual relationship between the two variables can be shown diagrammatically below.

Fig. 4: Conceptual linkage
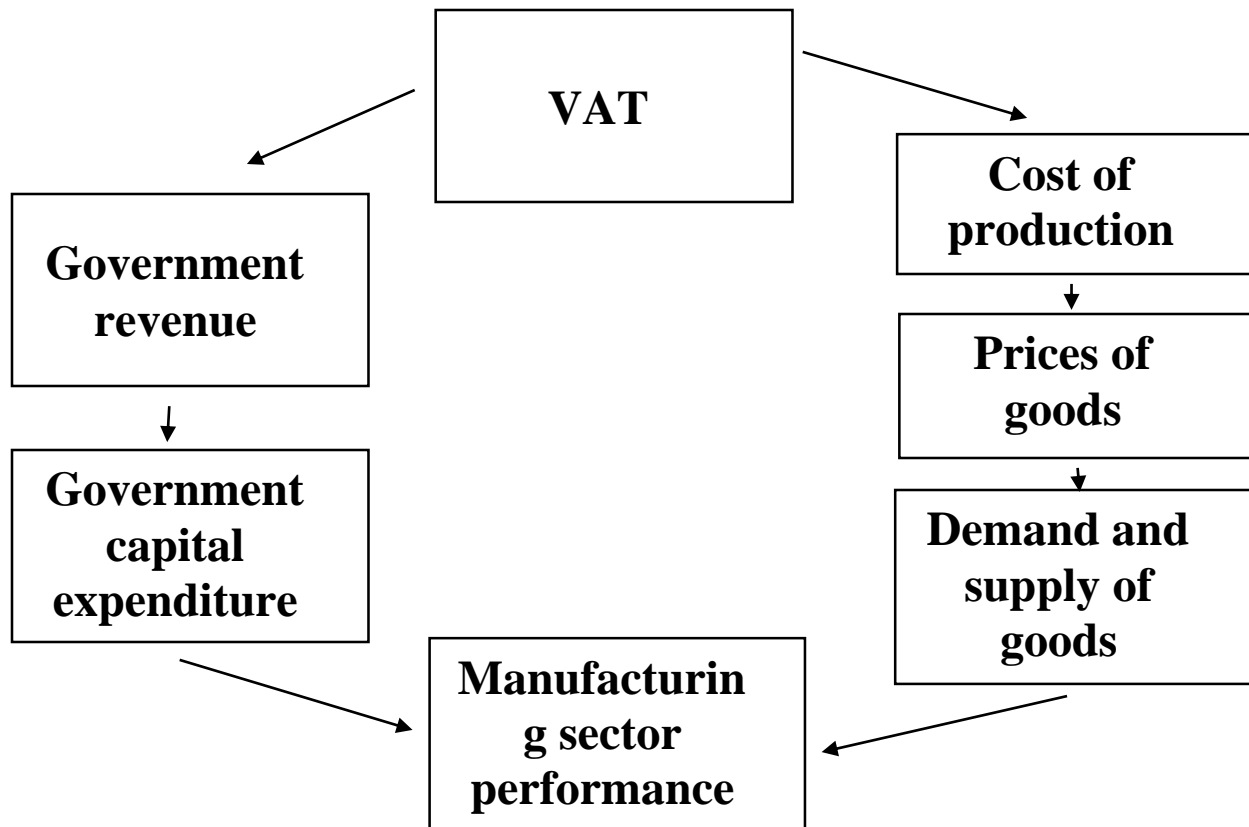
Source: Conceptual framework

From figure 4 above, it can be seen that the impact VAT have on the performance of the manufacturing sector is in two ways. The introduction of VAT into the economy or an increase in VAT rate will lead to higher cost of production which will result to higher prices of goods. This will affect the demand and supply of goods and thus decrease the manufacturing sector performance. On the other hand, an introduction of VAT or an increase in VAT rate will lead to increase in government revenue which will lead to more government capital expenditure. This will further enhance the manufacturing sector performance.

Origin and nature of Value Added Tax (VAT) in Nigeria

In the year 1991, the then Federal Military Government of Nigeria discovered that sales tax no longer yield enough revenue as desired. This was as a result of the limited and narrow categories of goods and services (Umeora, 2013). Two study-groups were then set up to review the entire tax system with objectives, which included improving the administration of indirect tax, reducing the over-dependence of oil revenue by the Government and expanding the financial base for revenue generation. After extensive deliberation and consultation, VAT found its root in the report of one of the study groups, particularly the one charged with reviewing the indirect taxes.

According to Okonkwo (2019), the reason VAT was introduced was because the federal Government wanted the majority of the revenue generated to move from petroleum profit tax, crude oil tax, sales and other tax that are easily affected

by the international oil price instability to a more stable internally generated tax. VAT became fully operational in 1994 and is provided for by the Value Added Tax Decree no. 102 of 1993 which requires manufacturers, wholesalers and suppliers of vat-able goods and services to be registered within six (6) months of business commencement. Since then, the decree has been amended many times, the newest being the Value Added Tax (Amendment) Act of 2007. The Nigerian Government recognizes the Federal Inland Revenue Services (FIRS) to administer and manage VAT as provided by the 1993 Value Added Tax Act. The other distinct bodies also recognized for the collection of VAT are the VAT technical committees, VAT Directorate, the Nigerian Customs Service and state VAT bodies.

As contained in the 1999 FIRS Review Paper, VAT is imposed generally on all goods and services with exemptions made on medical goods and services, basic food and education materials, baby products, Agricultural equipment, veterinary medicines, exports goods and services, plays and performances by educational institutions, services by micro-finance banks, defunct and mortgage institutions. The VAT rate in Nigeria is 5% on all vat-able goods and services. Every vat-able business is mandated to pay VAT monthly. Failure to make payment within six months incurs a fine of ₦10,000 for the first month after the 6th month of noncompliance and ₦5000 for the subsequent months if the noncompliance continues. It is also worthy of note that the introduction of VAT in Nigeria replaced Sales Tax Decree no. 7 of 1986 in Nigeria (Nasiru, Haruna & Abdullahi, 2016).

Overview of the Manufacturing Sector in Nigeria

The Nigerian manufacturing sector is among the largest in the continent and it produces a large proportion of goods and services for the West African subcontinent. It is indeed one of the essential parts of the economy. With a contribution of approximately 10%, the sector contributes over $30 billion to the nation's GDP (Faminu, 2020). The Nigerian manufacturing sector has eight sectoral activities among the 28 sectoral categories in the Nigerian Bureau Statistics report. It is composed of industries belonging to the international standard industrial classification (ISIC) divisions 15-37. Which includes the food industry, the paper products industry, textile and apparel production, chemical manufacturing, leather and footwear production, furniture and woods products, metal manufacturing, computers and electronic products, tobacco products and beverage, appliance and electrical equipment manufacturing, printing, mineral products (non-metals) e.t.c. (Worldbank, 2019). The ownership of Nigeria's manufacturing sector is shared between the public and private sectors of the economy.

After gaining independence, the industrial pattern of Nigeria was geared toward Agriculture and the local raw material needs of the advanced economies especially that of their ex-colonial masters. The majority of the GDP was from the exports of these materials. Even the industries in the nation period were owned by foreigners and foreign companies like the United African Company (UAC), Lever brothers, John Holts, Beecham e.t.c (Murtala, 2019). However, these businesses indulged in only trading, importation and distribution of foreign-manufactured products thus, making it challenging to develop the industrial sector of the economy. This led the

Nigerian government to prioritize industrialization as the huge technological, industrial gap and stagnancy created by the foreigners became evident.

Various industrialization programmes, policies and strategies such as Structural Adjustment Programme (SAP), Indigenization policies and import substitution approach among others were then formulated. These were all in a bid to improve the economy's industrial performance (Karibo, 2012). Some of the enormous public investments and projects established were Steel rolling milling in Warri and Oshogbo, crude oil refineries at Port Harcourt and Kaduna, Paper mill at Oku Ibku e.t.c. Standard universities and technology themed colleges like the Institute Of Management And Technology (IMT) were also established for the primary purpose of training and producing the workforce needed for the industrial sector.

However, the industrial sectoral contributions to the country's GDP have been quite weak, and the performance also unimpressive. The scenario is a blend of initial mild growth and subsequent reversion. From a modest 4.8% in 1960, manufacturing's contribution to the nation's GDP increased to 7.2% in 1970 and 7.4% in 1975. In 1980, it declined to 5.4% but then surged to a record high of 10.7% in 1985. By 1990, manufacturing contributed 8.1% to the GDP but then dropped to 7.9% in 1992, 6.7% in 1995 and fell further to 6.3% in 1997. In 2001, it dropped further to 3.4% from 6.2% in 2000 but increased to 4.16% in 2011, which is lower than it was in 1960 (Ogunbanjo, 2019). Ekpo (2014) noted that the Nigerian industrial sector's annual growth rate of as a percentage of GDP is marginal compared to the industrial sector annual growth rate in countries like Indonesia, Malaysia, Singapore and South Korea which were at the same development level with Nigeria. For this sector to experience high productivity, achieve competitiveness, boost the GDP and uplift the people's standard of living, a more frontal attack needs to be waged on the problems confronting the sector.

To provide structural backing to the empirical investigation, the study identifies and reviews the Savers-Spenders theory of fiscal policy, Ibu Khaldun's theory of taxation, the Managerial theory of the firm, the Ability to pay theory of taxation and the Keynes theory of fiscal policy and output.

The Savers-Spenders Theory of Fiscal Policy

The savers-spenders theory of fiscal policy was a theory proposed by Mankiw (2000) from the Barro-Ramsey (1974) theory of Infinitely-lived families and Diamond Samuelson (1965) theory of overlapping generation, respectively. Savers-spenders theory attempts to expound the behaviour of fiscal policy in the economy. The saver-spender is based on five propositions; the first states that temporary tax changes have substantial effects on the demand for goods and services. This means that tax-payer's consumption is hugely determined by the increase or decrease in their take-home pay, which is also determined by the decrease or increase in tax. The second state that Government debt need not crowd out capital in the long run. This explains that higher interest rate margin and extra consumption influence the manufacturing sector which in turn reduces economic growth. The third state that Government debt increases steady-state inequality. This explains that a higher level of debt rises the income and consumption of the savers and lowers the income and consumption of the spenders. The fourth state that substantial long-run crowding out can occur if taxes

are distortionary while the fifth state that the optimal steady -state capital tax from spenders' standpoint is zero.

Ibu Khaldun's Theory of Taxation

This theory was elucidated by showing the different effects which VAT has on revenue. These effects were divided into two; the arithmetic effect and economic effect. According to the arithmetic effect, if VAT rates are increased, the revenue will be increased by the amount of the increase in the rate (positive) and vice-versa if VAT rates are reduced (Ishlahi, 2006). The economic effect states that higher VAT rates have a disincentive (negative) effect on the willingness to work, save or invest, thus decreasing activities that relate to those. In contrast, the lower rate of VAT will increase work, output, investment and employment. Also, at a higher VAT rate, the negative economic effect of the high VAT rate will cancel the positive arithmetic effect, thereby resulting to lower VAT revenue. (Ishlahi, 2006)

Managerial Theory of Firms

This theory was advanced by Baumol (1967) in his book "Business Behaviour, Value and Growth. The theory is based on the multifaceted nature of the modern manufacturing sector. The theory hypothesized that firms make decisions concerning their expansion according to the level of fiscal policy, which is determined by the direction of the government expenditure. Thus, for any economy to grow faster through industrialization, the country needs to increase its public spending towards industrialization to facilitate the economy's developmental processes. In other words, government expenditure triggers industrial performance (Arikpo, Ogar & Ojong, 2017). The theory also stated that owners of firms seek to maximize sales revenue while managers seek to maximize profits.

The Ability to Pay Theory of Taxation

The Ability to pay theory is a theory of taxation advanced by Swiss philosopher Jean (17121778), the English economist Mill (1806-1873) and the French political economist Say. This theory states that taxes imposed on an individual or firm should be commensurate with their income or ability, thereby leaving the tax rates to increase only when there is an increase in one's taxable capacity. It requires that high-income firms or individuals pay more taxes than those who earn lesser income or revenue. The ability to pay theory of taxation suggests that a business or individual relies upon the tax rate, tax administration and tax incentives to enhance their performance. It also emphasizes that the burden of taxation should be distributed among the society members on the principle of justice, equity and ability to pay as this fosters performance among individuals and businesses.

Keynes Theory of Fiscal Policy and Output

This theory was postulated by a British economist, John Maynard Keynes in the 1930's. This theory views government taxes and expenditure as a tool used to overcome fluctuation in the economy. The theory states that an economy's output of goods and services is the sum of four components: consumption, investment, government spending and net exports. Any increase in demand has to come from these four components. In other words, fluctuation in any component of spending; consumption, investment or government expenditures causes output to change. But during a recession, strong forces often dampen demand as spending goes down. The economic downturns which causes reduction in spending by consumers can result in less investment spending by businesses, as firms respond to weakened demand for their products. The state intervenes in form of

reducing taxes or increasing government expenditure or both in order to stimulate demand for output. The theory also suggests that lowering interest rates is one way that government can also intervene so as to stimulate investments and thus boost output.

Studies have been done on the effect of VAT on various sectors of the economy, both in the global communities and locally. The empirical literature is divided into two sections; studies conducted in the international arena and those centered on Nigeria.

International Studies

Dhond (2010), assessed the impact of sales tax, VAT and goods and services tax on the profitability of organizations. The study made use of both primary and secondary data. The panel data of 100 industries in Maharashtra, India covering Jan, 2000 to Sept, 2008 was collected. The data were analyzed using linear regression. The result of the findings showed that all the industries taken together are more beneficial under VAT system than under the Sales tax system, however, less relationship exists between their sales and VAT. The study concluded that VAT system increases tax revenue and profitability of businesses. The study recommended that the Government should have a uniform law and procedure for tax administration and embark on ways to increase public awareness of tax compliance

Rina, Tony and Lukytawati (2010) examined the impact of fiscal and monetary policy on industry and growth of the Indonesian economy. The study used cross-sectional data collected in 2005 and employed the Computable General Equilibrium (CGE) model to simulate both the fiscal and monetary policies options. It was found that fiscal and monetary policy positively impacted on Indonesian macroeconomic performance in terms of change in GDP, Investment, consumption and capital rate of return.

Alireza, Fariba and Akbarian (2012) examined the effect of fiscal policy on GDP with emphasis on the role of VAT in Iran's economy. Yearly time series data covering the period 1979 to 2009 was collected from secondary sources and analyzed using the Auto-regressive Distributed lag (ARDL) model. Results showed that VAT has a significant effect on real output. The results further revealed that government expenditure, consumption, investment and net exports have significant effects on GDP. The study concluded that VAT as a fiscal policy tool has useful performance in the Iran economy.

Deshmukn (2012) investigated the impact of VAT on the profitability of manufacturing industries in Maharashtra India. The study made use of panel data, which covered the period 2001 to 2009. The data was analyzed using Compound Growth Rate analysis, and regression analysis. The study's findings showed that capital goods, pharmaceutical and other infrastructure industries are more beneficial under the VAT system. In contrast, consumer goods industries are not beneficial under the VAT system as their profits were reduced. The results showed that VAT has a positive relationship with sales of capital, pharmaceutical, consumer goods and other industries. The study concluded that the profitability of manufacturing industries in Maharashtra improved under the VAT system compared to sales tax because of its improvement of neutrality and the reduction of cascading effects associated with other tax. The researcher recommended that a uniform VAT will improve economic efficiency.

Khanna (2013) studied the impact of VAT on the performance of business enterprises using India as a case study. The study made use of primary data collected in 2013 and was analyzed using descriptive analysis and Logit regression. The combined result analysis of all the variables such as

sales revenue, profit and cost of working capital, showed that a significant relationship exists between the business firm's performance and the introduction of VAT.

Njuru, Ombuki, Wawire and Okeri (2013) investigated the impact of taxation on private investment in Kenya. Vector auto-regression technique was used to achieve study objectives. Time-series data covering period 1964-2010 was collected and analyzed. The study found that VAT, income tax and establishment of Kenya Revenue Authority (KRA) had negative impact on private investment while excise tax, import tax and tax amnesty impacted positively on private investment. The study concluded that appropriate tax system and progressive tax reforms are necessary to ensure that private investors are given enabling environment to establish.

Everaert, Freddy and Ruben (2014) analyzed the impact of fiscal policy on the Total Factor Productivity (TFP) for OECD countries during the period 1970-2012. Data collected from secondary sources were used while Common Correlated Effects Pooled (CCEP) Estimation was used for the analysis. The results showed that the shift to the transfer of production expenditure has a positive effect on TFP. The study concluded that by reducing corporate taxes and reducing barriers to international trade, TFP will be enhanced.

Rajeshwari (2015) examined the impact of VAT on revenue generation in India. The study employed yearly time-series data covering the period 2005 to 2014. The data was analyzed using stepwise regression analysis. Findings showed that VAT has a statistically significant effect on revenue generation in India. The study concluded that the introduction of GST would increase the revenue of any country.

Alrashed, Khaldi and Atyeh (2018) analyzed the effect of VAT on the financial performance of supply chain companies listed in Kuwait financial market using the exploratory scenario analysis. Cross-sectional data for the period 2018 was collected and analyzed with model simulations, including ANOVA and t-tests. Four possible scenarios were devised according to the level of drop-in sale due to the adoption of VAT. The first represented the most optimistic scenario where there was only a 3% drop in sales, while the fourth represented the most pessimistic scenario where sales dropped by 12%. The result of the analysis revealed that the negative impact of VAT was felt on the companies' revenue but not on their net profit across all the possible scenarios. The study concluded that companies would instead pass the negative impact of VAT to final consumers rather than accommodate it. They also found that the adverse effects of VAT will not cause a substantial decrease in the supply chain companies' revenue unless sales decrease to 9% as a product of VAT's adoption.

Barungi (2018) examined the effects of taxation on the performance of Small and Medium Enterprises (SMEs) in Uganda. The study applied the primary method of data collection. The primary data was collected on 391 SMEs in Nakawa, Kampala in the period covering 2014 to 2017. The study employed the Pearson Correlation Coefficient for the analysis. The findings revealed that tax compliance, tax rates, and tax incentives have a positive and significant effect on SME's performance. The study recommended that having a less complex system of taxation will propel tax compliance and solidify tax incentives to stimulate SMEs' performance.

Liew and Sok-Gee (2018) examined the impact of VAT on manufacturing performance in Southeast Asian countries (ASEAN). The study also analyzed manufacturing value added (MVA) and export intensity between countries with VAT implemented and countries without VAT.

The study employed unbalanced panel data that covered the period 1985 to 2014, which was analyzed using Ordinary Least Square (OLS) regression technique. Findings showed that a negative and significant relationship exists between VAT and manufacturing performance in ASEAN. The result also revealed that VAT is positively related and statistically significant to export intensity. Further findings indicated that export intensity in countries without VAT perform better than countries with VAT. The study concluded that an efficient tax rebate policy and subsidies granted by the Government to manufacturers would boost exports and manufacturing performance.

Yousef and Shaker (2019) empirically determined the effect of taxes and fees on the productivity of the industrial sector in Palestine. The study made use of cross-sectional data collected in 2015. The data was collected through secondary sources and analyzed using the OLS regression technique. The result revealed that the effect of taxes on the productivity of the industrial sector is small in general and varies according to the nature of the economic activity. This is different from the expectation that the effect of taxes will be negative. The study concluded that the minimal impact of taxes on industrial sector productivity in Palestine is because of the high degree of tax evasion present in the country.

Domestic Studies

Basila (2010) investigated the relationship between VAT and GDP in Nigeria. The study used data on VAT revenue and GDP figure from 1994 to 2008 obtained from CBN statistical bulletin. Pearson's Product Moment of Correlation was used for the data analysis. The test result revealed a strong correlation of about 96% strength. Further test showed a significant difference at 99% confidence level in relation to GDP. He concluded that there is a strong positive correlation between VAT revenue and GDP.

Adereti, Sanni and Adesina (2011) studied VAT and economic growth in Nigeria. Time series data covering the period 1994 to 2008 was collected from secondary sources and analyzed using simple regression analysis. Findings showed that the ratio of VAT revenue to GDP averaged 1.3%, though it accounts for as much as 95% significant variations in the variable (GDP). The results also showed that no causality exists between GDP and VAT revenue, although a lag period of two years exists. The study concluded that a positive and significant correlation exists between VAT revenue and GDP.

Igweonyia (2011) investigated the impact of VAT on the Nigerian economy. In addition to the oral interview and questionnaires distributed, was a review of literatures relating to the impact, administration and collection of VAT in Nigeria. Simple percentages, bar chart, pie chart, and chi-square were used for data analysis on which purposive sampling technique was adopted. The findings showed that VAT have significant impact on the Nigerian economy and payment of VAT have improved the prospect of businesses, organizations and industries in Nigeria.

Unegbu and Irefin (2011) empirically examined the impact of VAT on economic development of emerging economies. The study used both secondary and primary data. The primary survey was conducted in Adamawa State, the northern part of Nigeria. The scope of the data covered the period of 2001 to 2009. ANOVA and regression analysis were used to analyze the data. The study result showed that VAT allocations records for 91.2% of the variations in the consumption pattern of the Adamawa state and the impact of VAT on economic and human development in the state are significant.

Banjoko, Iwuji and Bagshaw (2012) analyzed the Nigerian manufacturing sector's performance. The study made use of yearly time series data covering the period 1960 to 2012. The data was collected from secondary sources and analyzed using growth and retrogression analysis. The study's main findings revealed that despite many policies and developmental initiatives undertaken by the successive government administrations, the Nigerian manufacturing sector has grossly under-performed in relation to its potentials. The study recommended that government should invest in human capacity development, energy sector, and physical infrastructure and provide a conducive environment to thrive.

Charles-Anyaogu (2012) investigated the performance of monetary policy on manufacturing sector in Nigeria, using Ordinary Least Square (OLS) and Vector Error Correction Model (VECM). Data covering the period 1980 to 2009 was collected from CBN 2010 statistical bulletin and used for the analysis. The result indicated that money supply positively affect manufacturing index performance while company lending rate, income tax rate, inflation rate and exchange negatively affect the performance of manufacturing sector. The study concluded that monetary policy is vital for the growth of the manufacturing sector in Nigeria which in turn would lead to economic growth.

Emmanuel (2013) examined the impact of VAT on economic growth and total tax revenue in Nigeria. The study applied yearly time series data that covered the period 1994 to 2010. The study made use of the Simple Linear Regression method for its analysis. The results revealed that VAT has a significant effect on the GDP and total tax revenue. The study recommended that the Government (FIRS particularly) embark on campaigns to sensitize the public on the importance of increasing VAT to facilitate

more funds for further economic development.

Eze and Ogiji (2013) adopted the Error Correction Model (ECM) to ascertain the impact of fiscal policy on Nigeria's manufacturing sector output. The study employed yearly time series data covering the period 1990 to 2010. The analysis results showed that a positive and significant relationship exists between government expenditure and manufacturing sector output. In contrast, a negative and significant relationship exists between government revenue and manufacturing sector output. The study concluded that the efficacy of any fiscal policy to propel the manufacturing sector relies on the level, allocation and implementation of the public revenue. The study recommended that fiscal policy implementations be given more attention and government spending should be directed toward the manufacturing sector.

Ikpe and Nteegah (2013) empirically examined the influence of VAT on price stability in Nigeria using partial equilibrium analysis. The analysis was carried out using multiple regression technique on yearly time series data covering 1994 to 2010. The results revealed that VAT exerts strong upward pressure on price levels, most likely due to the burden of VAT on intermediate outputs. The study concluded that exempting intermediate outputs from VAT should not be considered a solution to an increase in the price level. This is because of the difficulty in distinguishing between intermediate and final outputs.

Odior (2013) carried out a study on Macroeconomic variables and the productivity of the manufacturing sector in Nigeria. A static analysis approach, by choosing the time span 1975 to 2011. Before the actual estimation was carried out, the stationarity properties of the variables were explored by using the Augmented Dickey Fuller Test. The error correction mechanism

model was also estimated. Manufacturing sector credit and foreign direct investment based on the result have the potential to enhance production in the manufacturing sector in Nigeria. A strong recommendation was made in the study that monetary authorities should ensure a cut margin between lending and deposit rates.

Okoye and Gbegi (2013) studied the influence of VAT revenue on wealth creation in Nigeria. The study used of yearly time series data spanning 2001 to 2010, which was gotten from secondary sources and analyzed using the Product Moment Correlation Coefficient and Student t-test. The finding revealed VAT revenue has a significant influence on wealth creation and total tax revenue in Nigeria. The study recommended that tax authorities should pay attention to the informal sector of the economy by creating VAT offices in local communities and continually reviewing the existing laws every four months as done by other advanced economies.

Onaolapo et al. (2013) examined the impact of VAT on revenue generation in Nigeria. The study covered the time-frame of 2001 to 2010. The secondary source of data was sought from Central Bank of Nigeria Statistical Bulletin (2010). Data analysis was performed with the use of stepwise regression analysis. Findings showed that VAT has statistically significant effect on revenue generation in Nigeria. The study recommends that there should be dedication and honesty among those involved in the collection and payment of VAT.

Onodugo and Anowor (2013) employed the Ordinary Least Square (OLS) method of simple regression analysis to evaluate the contribution of VAT to resource mobilization from 1994 to 2010. The study examined the relationship between VAT and Real Gross Domestic Product (RGDP), VAT and Current Revenue (CREV), VAT and internal revenue (INREV). The findings revealed that VAT has significantly contributed to resource mobilization and capital formation in Nigeria. The study recommended that both the tax payers and administrators should be adequately motivated to enable them perform well to ensure higher level of efficiency and effectiveness.

Umeora (2013) studied the effects of VAT on economic growth and government revenue in Nigeria. The study applied yearly time series data covering 1994 to 2010 and was analyzed using simple regression analysis. Findings showed that the ratio of VAT revenue to Gross Domestic Product (GDP) was 1.47 and it accounted for 82.5% variation in GDP. The results further revealed that VAT has a significant effect on GDP. The study concluded that increasing the rate of VAT revenue will have a significant positive effect on economic growth.

Chigbu and Ali (2014) empirically analyzed the relationship between VAT and economic growth in Nigeria using the Engle and Granger co-integration technique on annual data covering 1994 to 2012. The result of their findings showed that VAT has positive effect on economic growth. The results also showed absence of both long-run and short-run relationship between VAT and economic growth. The study recommended that government should therefore put in place measures to enhance productivity so as to increase the contribution of VAT to economic growth in Nigeria.

Izedonmi and Okubor (2014) examined the contribution of VAT to the development of the Nigerian economy. The study employed time series data covering the period 1994 to 2010. The data was analyzed using simple regression analysis and descriptive statistical methods. The result of their findings revealed that VAT revenue and total revenue analysis account for 92% of significant variations in GDP in Nigeria. The

findings also showed that a positive and significant correlation exists between VAT revenue and GDP. The study recommended that all identified loopholes be closed for VAT revenue to continue contributing more significantly to Nigeria's economic growth.

Okoli and Afolayan (2015) ascertained the impact of VAT on Nigerian economic growth. Data spanning 1994-2012 sourced from CBN annual report and statistical bulletin was used for the study. The study employed an Error Correction Model (ECM) for the analysis while the causal relationship was tested using Granger Causality. The findings show a positive and significant correlation exists between VAT revenue and GDP. This study also recommended that all identified problems and administrative loopholes should be removed for VAT revenue to contribute significantly to economic growth of the country.

Eyisi, Chioma and Nwaorgu (2015) ascertained the effects of taxation on micro-economic performance in Nigeria. The study made use of a yearly time series covering the period 2002 to 2011. Data was collected from secondary sources and tested using the OLS regression method. The findings revealed that government earnings from taxation affects consumer spending and boost output production level. The study recommended that the government encourage local manufacturers of output providing of incentives from taxation to ensure rapid economic growth in Nigeria.

Ezejiofor, Adigwe and Echekoba (2015) examined whether tax as a fiscal policy affects the performance of selected manufacturing companies in Nigeria. The study made use of panel data gotten from secondary sources, which covered the period 2008 to 2012. The hypothesis formulated were tested with ANOVA technique. The results showed that tax as a fiscal policy instrument significantly affect the performance of the manufacturing companies in Nigeria. The researchers concluded that tax policies are potent instruments for influencing manufacturing companies' operations and thus recommended that they properly handled to affect industrial growth and open doors for foreign investment.

Falade and Olagbaju (2015) studied the effect of Government capital expenditure on manufacturing sector output in Nigeria. The study employed yearly time series data covering the period 1973 to 2013. The data was analyzed using Johansen Cointegration method. The findings confirmed the existence of co-integration among the variables at 5%.

Margaret, Charles and Gift (2015) empirically analyzed taxation and economic growth in Nigeria. The study made use of yearly time-series data covering the period 1995 to 2012. The data which was gotten from a secondary source was analyzed using OLS Approach. The analysis results showed that a significant positive relationship exists between taxation and economic growth in Nigeria.

Uwaoma and George (2015), investigated the impact of VAT on corporate performance of quoted Agribusinesses in the Nigerian stock exchange Factbook of 2009. Both primary and secondary methods of data collection were employed. The study applied cross-sectional data, which was analyzed using simple percentages and simple regression analysis. The study's findings showed that a negative and insignificant relationship exists between VAT and the financial performance of Agribusiness. The study suggested that increase in the VAT rate will result in 10.5% decrease in profit after tax, a 15% decrease in investment and a 26.6% decrease in return on equity. The researchers concluded that consumers who pay higher prices for certain goods and services because of VAT might prefer to

acquire such goods and services from other businesses where the impact of VAT is not felt. This reduces the firm's sales volume and hence financial performance. The study recommended that Government should ensure a proper tax incentive scheme to promote agribusiness growth in Nigeria.

Obiakor, Kwarbai and Okwu (2015) employed the ex-post facto research design to investigate the effects of VAT on consumption expenditure patterns and the consumer price index in Nigeria. The study applied yearly time-series data, which covered the period 1994 to 2014. The data was collected from secondary sources and analyzed using Distributed lag multiple regression models. Results showed that VAT and one-period lagged consumption expenditure on durable goods significantly affected households' consumption expenditure on durable goods. The results also revealed that VAT has a positive significant relationship with the households' consumption expenditures on non-durable goods. The study concluded that VAT's variants and previous spending levels do not discourage households' consumption expenditures.

Ubesie, Onyeama and Igwe (2015) studied the effect of taxation on retained earnings of manufacturing firms in Nigeria. Panel data that covered the period 2006 to 2015 was collected and was analyzed using OLS technique. The results showed that VAT is the only tax that has significant effect on retained earnings. The study concluded that VAT is a dependable tax for forecasting the movement in retained earnings in Nigeria manufacturing sector. The study thus recommended that government should reduce the amount levied on VAT as it impacts manufacturing firms negatively.

Ashwe (2016) investigated the manufacturing sector performance and economic growth in Nigeria. The study employed annual time series from 1986 to 2014. The data was analyzed using Granger Causuality test and Error Correction Model. The results showed that government spending on the manufacturing sector, interest rate and manufacturing output had a positive and significant impact on real GDP in Nigeria in the long run. The study recommended the need for improvement in administrative, legal and fiscal environment of manufacturing sector in order to enhance effective operation of the sector.

Madugba and Joseph (2016) examined the relationship between VAT and economic development in Nigeria. The study used yearly time series data spanning the period of 1994 and 2012 while multiple regression analysis was used for data analysis. The result of the analysis showed a negative significant relationship between VAT revenue and GDP. Further findings showed a positive relationship between GDP and total consolidated revenue. The study concluded that increase in VAT rate will lead to more revenue for the government. The study recommended that federal government should educate the general public more on the importance of VAT payments.

Nasiru et al. (2016) assessed the effects of VAT on economic growth in Nigeria. The study made use of quarterly time series data covering the period fourth quarter of 1994 to fourth quarter of 2014. Johansen test of Co-integration was used to analyze the data. The findings showed that VAT have a positive and significant relationship with economic growth. The study concluded that VAT is very instrumental for shifting Government reliance on revenue from oil. The study recommended that accountable and transparent Government officers be placed in charge of managing the government revenue, with efforts being put in place to curb inflation.

Omokhuale (2016) evaluated empirically the contribution of VAT to

Nigeria from 2000 to 2012. Data were collected from CBN statistical bulletin and Federal Inland Revenue bulletin. OLS techniques were used for the data analysis. The result from the findings showed a positive significant relationship between VAT and Nigeria economy.

Uwuigbe et al. (2016) examined the effects of tax incentives on the overall performance of manufacturing industries in Nigeria. The study made use of primary data which was collected on a sample of twenty small and medium manufacturing companies in Ogun state, Nigeria. The data was analyzed using regression analysis. The outcome of the analysis showed that the 20 manufacturing companies were significantly affected by tax incentives. The study concluded that an increase in tax incentives will lead to a corresponding increase in the performance and creation of new manufacturing companies in Nigeria.

Arikpo et al. (2017) analyzed the impact of fiscal policy on the performance of manufacturing sector in Nigeria. The study adopted ex-pose facto research design. Yearly time series data covering the period 1982 to 2014 was collected and analyzed using the OLS technique. The finding revealed that an inverse and insignificant relationship exist between government revenue and manufacturing sector output while a positive and significant relationship exist between government expenditure and manufacturing sector output in Nigeria. The study concluded that increase in government revenue will reduce manufacturing sector output. The study recommended that government should increase its expenditure on community services and infrastructural development in order to experience a multiplier effect on manufacturing operations and thus increase the economic growth in Nigeria.

Oraka, Okegbe and Ezejiofor (2017) studied the effect of VAT on the Nigerian

economy. The study applied yearly time-series data covering the period 2003 to 2015. Ex post facto research design was adopted for the study. The data obtained were analyzed using simple regression analysis. Findings showed that VAT does not significantly affect the Gross Domestic Product. The result also showed that VAT have a negative relationship with per capital income and a positive relationship with government revenue. The researchers concluded that the components of government revenue are important determinants of economic growth in Nigeria. They recommended that government should put in place fiscal policies that will enhance investment in Agriculture, Industries and Technology which will stimulate overall productivity and growth.

Adefaso (2018) examined the influence of corporate tax policy on the performance of 54 randomly selected listed companies between 1990-2002. The time series data gathered were analyzed using Generalized Method of Moment (GMM). The result from the study showed a positive significant relationship between corporate tax policy and the output performance of quoted manufacturing firms in Nigeria. The study recommended that the Federal Government should either minimize or totally remove tax incentives, tax waivers and tax holidays to some manufacturing firms in Nigeria.

Eja, Richard and Suleiman (2018) examined the relationship between interest rate and the manufacturing sub-sector performance in Nigeria during the period 1981-2016. The study adopted the Vector Error Correction Model and co-integration techniques. Data on index of manufacturing sector output, interest rate government expenditure on manufacturing sector were utilized. The study revealed a negative but significant relationship between lending interest rates and manufacturing output. The

study recommended that the government through the Central Bank of Nigeria should develop strategies and policies geared at reducing the wide interest rate spread among commercial banks in Nigeria.

Ewubare and Ozo-Eson (2019) investigated the effect of taxation on the manufacturing sector output in Nigeria. The study made use of yearly time-series data covering the period of 1980 to 2017. The study employed OLS regression method, unit-root test and cointegration test in its analysis. The results showed that VAT have a negative and insignificant relationship with the manufacturing sector output. The study concluded that taxation, particularly petroleum tax, excise tax and corporate tax play a significant part in enhancing economic growth by increasing the manufacturing sector output in the economy. The study recommended that efforts be made by Tax agencies to address tax loop holes in administering tax so as to enable it impact positively on the output of the manufacturing and the economy over all.

Oladipo et al. (2019) assessed the implications of Government taxes on the manufacturing sector output in Nigeria. The study applied quarterly time series data gotten from secondary sources which covered the period first quarter of 2000 to fourth quarter of 2016. The study used Auto-Regressive Distributed Lag model for its analysis. The results revealed that in the long-run, VAT have a negative and significant relationship with manufacturing sector output while it has a positive relationship with the manufacturing sector output in the short run. The researchers concluded that fiscal measures through taxation and expenditure have not enhanced the productivity of the manufacturing sector in Nigeria. They recommended that Government should increase their expenditure on infrastructural development so as improve the manufacturing capacity utilization rate and encourage investments.

Okonkwo and Afolayan (2019) empirically examined the productivity of VAT revenue in Nigeria. The study made use of yearly time series covering the period 1994 to 2016. The data was analyzed using regression techniques. The findings showed that VAT productivity is not significant at the cross-elasticity of total consumption expenditure/GDP and VAT productivity is not significant at the cross-elasticity of private consumption expenditure/Vat-table GDP. The study concluded that rather than increasing VAT rate, which had not been properly harnessed, the machinery of VAT collection should instead be streamlined to minimize loopholes and corrupt practices.

Gap in Previous Studies in Nigeria and Value Added Tax

Many scholars, although from a broad spectrum, have contributed to the study of VAT. Specifically, when we consider the cross elasticity between VAT and Manufacturing sector, we discover a dearth in literature. By emphasis, it is necessary to state that the manufacturing sector is one out of other sectors in the Nigerian economy; or put simply, it is a component of the aggregate economy. So far, only very few foreign studies like that of Deshmukn (2012) and Liew and Sok-gee (2018) emphasized the impact of VAT on the manufacturing sector. Hence within the socio-economic scope of Nigeria, this study will be novel in directly determining the relationship between VAT and the Manufacturing sector.

Apart from the rationale of revenue generation, consumption reduction is another reason for VAT imposition; And in economic sense, consumption goes handy with manufacturing performance or output. Therefore it is necessary to point out that previous studies did not empirically show whether manufacturing performance causes the imposition and consequent increases in

VAT. To this end, this study will investigate the causality trend between manufacturing output and VAT.

Also, there is a gap of indecision about how VAT will influence the manufacturing sector in the long run. This study will of course investigate such gap by considering the dynamic model relationship which exists between both. Moreover, previous models did not account for data on structures that enhances the collection of VAT from the Manufacturing sector. In that regard, this study will consider data on Government effectiveness.

Lastly, in recent times, there has been a persistent decline in manufacturing value added, a slow growth in the manufacturing output as well as an increasing inflation. Suggestively, the recent trend, if it continues, may return the economy into a relapse of the 2015-16 recession. Yet there has been no impact consideration of VAT with regards to this recent trend. 2016 is the latest year as captured in the time frame of Okonkwo and Afolavan (2019). Thus, this study will extend its time frame from 1994 till 2019 to accommodate the recent economic trends in Nigeria. Succinctly, as a domestic empirical study, this research in its entirety, is peculiar and unique.

Materials and method

Keynes Theory of Fiscal Policy and Output was used to provide the theoretical underpinning for this study. The Keynes Fiscal Theory of Output and Income is associated with John Maynard Keynes (1883-1946). The theory of fiscal policy describes the effect of tax on output through the aggregate demand approach. Aggregate demand, which is the total spending, induces business firms to supply goods and services.

Therefore, if an economy's total spending decreases resulting from either negative speculations about the future or from saving of the disposable income, businesses will respond by cutting down their productions (Nyong, 2001). Hence, decrease in spending leads to fall in output. The theory states that during recession, government intervention in form of tax cuts or government spending is necessary for a market-based economy to recover. Keynes advocated for a devoted government participation in economic activities which will yield growth in output and employment.

According to Keynes, reducing tax or increasing government expenditure have a multiplier effect by stimulating additional demand for goods which in turn boosts output. Tax cuts acts as an economic stimulus by increasing disposable income and in turn increases demand. He suggested that fiscal policy measures must be taken in order to solve the problem of unemployment, which occurs when the output is below full employment level. The theory also identified interest rates cuts as a tool which can be used to stimulate investment and in turn affect overall performance of firm.

Model Specification

In order to capture the objective of this study, there is need to develop a regression model that models the impact of VAT on the performance of the manufacturing sector in Nigeria.

Functional form of the model specification

Modeling the impact of VAT on performance of the manufacturing sector in Nigeria:

LOGMQ = F (VAT, IR, LOGGCAP, GE)…….……………………….……(1)

Mathematical form of the specification is given as:

LOGMQ = β_0+ β_1VAT+β_2IR+β_3LOGGCAP+β_4GE….(2)

Econometric form of the model specification

LOGMQ=β0+β1VAT+β2IR+β3LOGGCAP +β4GE+*Ut* …………… (3)
Where $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ are parameters.
Where,
LOGMQ = Log of Manufacturing Sector Output
VAT = VAT Revenue
IR = Interest Rate
LOGGCAP = Log of Government Capital Expenditure
GE = Government Effectiveness
B_0 = the intercept term of the regression
U_t = the stochastic Error term.
It is noteworthy, that the term "t" is used because we are dealing with time series data.

Justification of variables in the model

The variables considered in this model are chosen with the expectation that they will capture the impact of VAT on manufacturing sector performance.

Manufacturing Output (LOGMQ)

Manufacturing is the production of merchandise for use or sale using labor or machines, tools, chemical and biological processing, or formulation. In other words, it is the transformation of raw materials into finished products through the use of equipment and procedures. The term may refer to the range of human activity, from handicraft to high tech, but most commonly applied to industrial production, in which raw materials are transformed into finished or final goods on a large scale. The manufacturing process, begins with the product design and materials specification from which the product is made. The materials are then modified though manufacturing processes to become the required part (Dabwor, 2015). The manufacturing sector includes automobiles and assemblies, bottling and beverages, chemicals, paints, pharmaceuticals and other manufacturing. The result of the manufacturing process is the manufacturing output and since it represents the output of all factories in a country and a sub-set of

industrial output, this makes it an important tool for forecasting the future manufacturing sector performance. In this study, Manufacturing output is used in this work as the dependent variable. This variable could be seen in the works of Adefaso (2018), Olufemi et al. (2019) and Ewubare and Ozo-Eson (2019).

VAT Revenue (VAT): VAT is a tax imposed on consumer spending. This affects the consumer's purchasing power and financial burden which in turn affect the quantity of goods demanded. This is because taxation is a withdrawal from income stream. Hence an increase or decrease in this kind of tax will indirectly affect the quantity of output produced as consumers will pattern their spending so as to accommodate their income in response to change in the tax policy. Also, increase in VAT usually comes in form of higher prices of output which in turn reduces demand and thus affect the sales and output production. It is represented in this work as VAT revenue and is among the explanatory variable. This variable was used in the works of Olufemi et al. (2019) and Ewubare and Ozo-Eson (2019) among others. Government taxation has a negative impact on economic activity, hence, we predict a negative relationship between VAT revenue and manufacturing output.

Interest Rate (IR)

Interest rate is the price paid for parting with liquidity. It is the rate at which interest is paid by borrowers for the use of money that they borrow from lenders (opportunity cost of borrowing). This is also known as the lending rate. Interest rate can also be seen as the return paid to the producer of financial resources (the saver), foregoing the fund for future consumption and this can be referred as the saving rate. Interest rate is very important for determining the feasibility of investment and thus affects manufacturing output. This variable is used in this work as one of the regressors. Lower interest rates

make it cheaper to borrow. Therefore, lower interest rate tend to encourage business investment while high interest rate discourages investment. To this end, we expect a negative relationship between real interest rate and manufacturing output. This variable was used in the works of Eja et al. (2018) and Charles-Anyaogu (2012).

Government Capital Expenditure (LOGGCAP)

Government capital expenditure are those expenditures that are made on the acquisition of goods and services intended to create future benefits, such as infrastructural investment or to buy, maintain and improve its fixed assets like schools, vehicle, equipment or land. When government capital expenditure increases, there is an increase in investment which in turn creates employment opportunities increasing productivity which will lead to an increase in the income of households. It is considered in this work as an explanatory variable. Hence, we predict a positive relationship between GCAP and manufacturing output. However, this variable can be found in the works of Adofu et al. (2015), Jongbo (2014), Chikezie (2015), Falade et al. (2015) and Arikpo et al. (2018) as a macroeconomic variable.

Government Effectiveness (GE)

Government effectiveness shows the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to its stated policies. It reflects the perceptions of the quality of the operations of the government that run the economy, the structuring and implementation of the government's policies and programs. Civil service is a critical aspect that drives economic growth. It is the levers which propels an economy's engine to growth and development. Since fiscal policies such as tax programs and

government spending are associated with the government, it is up to the officials in civil service to determine how effective and efficient these policies perform in order to satisfy the public demands which will lead to overall economic well-being. Services like transportation, tax exemptions and medicare provided by the government indirectly helps sectors like manufacturing to boost overall economic prosperity. It is worthy to note that the part of public administration responsible for the remission of tax (VAT) in Nigeria is the FIRS (First Inland Revenue Service) and often a times, complaints have been made by businesses of the inefficiencies exhibited by this body such as their lack of transparency and reluctance to refund taxpayers when the VAT input exceeds the VAT output (Fajimi, 2017). The smooth operation of this body can affect the overall performance of the manufacturing sector. This variable included here as an independent variable and a positive relationship between Government Effectiveness and manufacturing output is expected.

Estimation Technique

This research work will make use of Autoregressive Distributive Lag (ARDL) method of estimation. This method was introduced by Pearson, Shin and Smith (2001). ARDL is chosen because it has certain advantages. One of the advantages is that, it can be applied irrespective of whether the time series variables are i(0), I(1) or frictionally integrated (Pearson et al., 2001). It is a more statistically significant approach for examining correlation when faced with small data size as other techniques require large data for validity to hold. Furthermore, short-run and long-run parameters can be estimated simultaneously and error correction model can integrate short-run adjustment and long-run adjustment and long-run equilibrium without fear of losing-

run information. The equation of the ARDL model is as follows:

$$\Delta LOGMQ_t = \beta01 + \prod_{i=01}^{n} \emptyset11\Delta LOGMQ_{t-1} + \prod_{i=01}^{n} \emptyset12\Delta VAT_{t-1} + \prod_{i=01}^{n} \emptyset13\Delta IR_{t-1} + \prod_{i=01}^{n} \emptyset14\Delta LOGGCAP_{t-1} + \prod_{i=01}^{n} \emptyset15\Delta GE_{t-1} + \beta11LOGMQ_{t-1} + \beta12VAT_{t-1} + \beta13IR_{t-1} + \beta14LOGGCAP_{t-1} + \beta15GE_{t-1} + \in_{t-1} \dots\dots\dots\dots\dots\dots\dots(4)$$

Where LOG is the log of the variables, MQ, VAT, IR, GCAP and GE as earlier defined. Δ represents the first difference operator, $\beta01$ is the constant while $\beta11\dots\beta15$ represents the short-run coefficients, $\phi_{11}\dots\phi_{15}$ are the long-run coefficients, *n* represents the lag length and $\in_{t-1}$ represents the white-noise error term. The ARDL model starts first with examining the unit root test to ensure that each variable is either I(0) or (1) to satisfy the bound test assumption. In the second step, lag selection is selected by a criterion such as Akaike Information Criterion (AIC) and Schwarz Criterion (SC). The equation (4) is then estimated by ordinary least square (OLS) method. The F-test or Wald test is conducted to investigate the existence of long-run relationship among the variables. The null hypothesis of having non-existence of cointegration, $H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ is tested against the alternative hypothesis, $H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq\beta_5 \neq 0$. The variables are said to be cointegrated if null hypothesis is rejected which means the existence of long-run relationship. The calculated F-statistics value is compared with upper and lower critical values which are given by Pesaran et al. (2001). If the calculated F-value is higher than the upper critical value, then the null hypothesis of no cointegration will be rejected whether or not the variables are I(0) or I(1) and the cointegration test becomes inconclusive if calculated Fstatistic falls between the two levels of the bounds. As recommended by Pesaran et al. (2001), once we are able to establish the existence of cointegration

among the variables, we proceed to estimate the Error Correction Model from the following equation:

$$\Delta LOGMQ_t = \beta01 + \prod_{i=01}^{n} \emptyset11\Delta LOGMQ_{t-1} + \prod_{i=01}^{n} \emptyset12\Delta VAT_{t-1} + \prod_{i=01}^{n} \emptyset13\Delta IR_{t-1} + \prod_{i=01}^{n} \emptyset14\Delta LOGGCAP_{t-1} + \prod_{i=01}^{n} \emptyset15\Delta GE_{t-1} + \Delta ECT_{t-1} + \in \dots\dots\dots\dots\dots\dots(5)$$

The results of the error correction term will indicate the speed of adjustment to reach equilibrium after a short-term shock. Diagnostic tests will be utilized to guarantee goodness of fit for the chosen ARDL model, which include serial correlation, heteroscedasticity, functional form and normality tests. Additionally, stability tests (CUSUMQ and CUSUM), as recognized by Pesaran et al. (2001), will be conducted. Cumulative Sum of Recursive Residuals (CUSUM) and Cumulative Sum of Square of Recursive Residuals (CUSUMQ) are useful in checking the stability of the coefficients of the regression. The tests are updated recursively and plotted against the break points. If the plot lies within the critical bounds of 5% level of significance, then the null hypothesis of all coefficients in the given regression is stable will not be rejected.

Pre-Estimation Tests

The pre-estimation tests conducted in this research work included the unit error test, the cointegration test and the granger causality test.

Stationarity (Unit Root) Test

This is used to determine whether the mean values and variance of the variables in the model are constant over time. It tests the variables to know if they are time invariant (stationary). The Augmented Dickey Fuller (ADF) would be used.

Bounds Co-integration Test

Co-integration test is carried out to determine whether there is a long run

equilibrium relationship existing among the variables in the model. In economics, it is common to think that there exist long run relationships between many variables of interest. Even though each of the variables may follow random walk, it seems reasonable to expect that there is a long run relationship between two variables. This test will be carried out using the ARDL bound test approach to cointegration.

Granger Casuality Test

Granger Casuality test is used to determine the direction of causation between two variables in a model. According to the concept of Granger Casuality test (Granger, 1969-1988), one variable or time series can be called "causal" to another if the ability to predict the second variable is improved by incorporating information about the first. If it can be shown that those X_t values provide statistically significant information about future values of time series then X_t is said to granger-cause Y_t

and thus, X_t can be used to forecast Y_t. The precondition for applying Granger Casuality test is to ascertain the stationary variables in the pair. The test is undertaken to investigate whether the degree of causation of one variable on the other.

$$LOGMQ_t = \alpha_0 + \Sigma\beta_1 LOGMQ_{t-j} + \Sigma\lambda_1 VAT_{t-j} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots(6)$$

$$VAT_t = \alpha_0 + \Sigma\beta_1 VAT_{t-j} + \Sigma\lambda_1 LOGMQ_{t-j} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots(7)$$

The equations above is used to test the null hypothesis that causality runs neither from manufacturing output to VAT revenue nor from VAT revenue to manufacturing output.

Techniques for the evaluation of estimates

The economic criteria/evaluation of a priori signs (Tests)

The economic criteria have to do with the evaluation of the signs and magnitudes of the parameters in the model, based on economic theory. Whether the variables conform to economic theory or not is determined here

Table 1: Economic criteria/evaluation of a priori signs (Tests)

PARAMETERS	EXPLANATON OF VARIABLES	A PRIORI SIGNS
β_0	Intercept or constant term	+/-
β_1 (VAT)	An increase in VAT will increase cost of production and prices of goods which will reduce demand and in turn decrease quantity of manufacturing output produced.	_
B_2 (IR)	An increase in interest rate will decrease investment and manufacturing output.	_
B_3 (LOGGCAP)	An increase in government capital expenditure will increase investment which will expand or increase the volume of manufacturing output.	+
β_4 (GE)	An increase in Government Effectiveness will increase efficiency in VAT operations and expenditure in productive activities which will increase manufacturing output	+

Source: Authors' Analysis

Statistical Criteria (First Order Test)

The Coefficient of Determination (R^2)

This is used to measure the goodness of fit of regression equation. It gives the proportion or percentage of total variation in

the dependent variable explained by all the explanatory variables jointly.

The F-Test

This is used to test for the overall significance of the variables used in the model.the F-value and F-distribution are used to test if the regression model is statistically different or not different from zero.

Econometric Criteria (Second Order Test)
Normality Test

This is used to test whether the error term is normally distributed, that is if $u_i \sim N(0, \sigma^2)$. The Jaque Bera (JB) test will be employed to determine this.

Test For Serial Correlation (Auto Correlation Test)

This is used to determine if the error term is serially correlated in the regression.

Following the 2-t rule of thumb, when the Durbin Watson value is close to two; it indicates the absence of autocorrelation. For this test, the Breush-Godfrey test will be used.

Heteroscadasticity Test

This test is carried out to determine whether the variance of each disturbance term, u_i, is constant for all values of the explanatory variables. The Breusch Pagan Godfrey test will be employed to check this.

Nature and sources of data

The data are quarterly time series data gotten from secondary sources, covering the period of 26 years, that is, 1994-2019. The list of variables and data sources are summarized in the table below.

Table 2: Sources of data

VARIABLES	DATA SOURCE
Manufacturing Output	CBN Statistical Bulletin (2019)
VAT Revenue (VAT)	CBN Statistical Bulletin (2019)
Government Capital Expenditure (LOGGCAP)	CBN Statistical Bulletin (2019)
Government Effectiveness (GE)	World Government Indicator(2020)
Interest Rate (IR)	CBN Statistical Bulletin (2019)

Software Package

The software application used in conducting the regression analysis in this research work is E-views 9 package. This is because it is encompassing, easy to use and contains many of the econometric techniques needed to be utilized in this work.

Result and discussion

Descriptive Statistics of the Variables
Table 3: Descriptive Statistics of the Variables

	LOGMQ	VAT	LOGGCAP	IR	GE
Mean	7.736825462	414.0430769	6.280575467	18.00967	-1.044615385
Median	7.712520419	272.65	6.398382581	17.58281	-1.025
Maximum	9.728006389	1188.6	7.73587032	24.85	-0.89
Minimum	5.871170795	7.26	4.261552481	13.5425	-1.21
Std. Dev.	1.169875007	379.9168955	0.813434201	2.331035	0.090210011
Skewness	0.042664889	0.55603077	-0.541959515	0.85006	-0.516128564
Kurtosis	1.755399877	1.940413827	2.960218179	4.279608	2.278750866
Jarque-Bera	1.686003189	2.556020702	1.274501645	4.905124	1.717901351
Probability	0.430416646	0.278591048	0.528744039	0.086073	0.42360635

Sum	201.157462	10765.12	163.2949622	468.2515	-27.16
Sum Sq. Dev.	34.21518828	3608421.187	16.54187998	135.8432	0.203446154
Observations	26	26	26	26	26

Source: Author's Computation using E-views 9

The mean of the variables tells us the averages and it shows the variability of the variables, for example, the dependent variable LOGMQ varies up to 7.736825462 while that of VAT is 414.0430769. The median is the middle value when the variables are arranged in ascending or descending order. The standard deviation however, shows the extent to which the variables deviate from the regression line. The sum of standard deviation of the regression shows the degree of error. Kurtosis measures the extent to which data are flat or peaked records values, when it is greater than zero, it is very high. The kurtosis values of my variables are greater than zero which implies that they are leptokurtic. The maximum and minimum shows the level of consistency and since the mean is between the ranges of the maximum and minimum, it shows a high level of consistency. The skewness measures the asymmetry of the series around its mean.

Pre-Estimation Test

It is highly recommendable to run the pre-estimation tests in order to avoid having spurious regression results after much efforts put in by the researcher. To this end, four pre-estimation tests were carried out. These tests are:

i.   Stationarity/Unit root test
ii.   Optimal lag selection
iii.   Bounds Cointegration Test
iv.   Granger Causality Test

Test for Stationarity / Unit Root Test

This test is carried out to avoid running a spurious regression. The Augmented Dickey Fuller (ADF) Test was conducted in order to test the following hypotheses:

H_0: $\rho=0$ (the variables are non-stationary) Versus

H0: $\rho<0$ (the variables are stationary)

This is evaluated at 5% level of significance

Decision Rule: Reject H_0 if the ADF statistic is greater than the ADF critical value in absolute terms, $\left|\text{ADF}_{cal}\right| > \left|\text{ADF}_{tab}\right|$. If otherwise, do not reject H_0.

According to the Augmented Dickey-Fuller test for stationarity, a variable is stationary when the t-statistic of the ADF is greater than the critical value at the given level of significance.

Table 4: Result for Stationarity test

Variables	ADF Test Statistics at levels	Mackinnon Critical value at 5%	ADF Test Statistics at 1st Difference	Mackinnon Critical value at 5%	Order of Integration
LOGMQ	-5.748807	-3.612199	------------	-----------	I(0)
VAT	-1.716225	-3.622033	-3.952001	-3.622033	I(1)
IR	-3.454963	-2.986225	-------------	-------------	I(0)
LOGGCAP	-3.324612	-3.644963	-5.774444	-3.612199	I(1)
GE	-3.693140	-3.603202	------------	------------	I(0)

Source: Author's Compilation

Log of Manufacturing Output (LOGMQ)

From the Table, it can be seen that at levels, the ADF test statistic (-5.748807) is more than the ADF critical value (-3.612199) in absolute terms at 5% level of significance. So, we reject the null hypothesis that Log of manufacturing output is not stationary and hence conclude that LOGMQ is stationary at levels. In other words, it is integrated of order zero, i.e. I(0).

VAT Revenue (VAT)

We can observe from the table, that at the level form, the ADF test statistic (-1.716225) is less than the ADF critical value (-3.622033) in absolute terms at 5% level of significance. So, we do not reject the null hypothesis that VAT is not stationary. However, according to Gujarati and Porter (2009), a non-stationary time series can be made stationary through integrated series by differencing. Hence, taking the first difference of VAT, we obtained an ADF test statistic (-3.952001) that is greater than the ADF critical value (-3.622033) in absolute terms. Thus, we reject the null hypothesis and conclude that VAT is stationary after first difference or is integrated of order one, i.e. I(1).

Interest Rate (IR)

It is identifiable from the table above that the ADF test statistic at level form (-3.454963) is, in absolute terms, more than the critical value (-2.986225) at 5% level of significance. Thus, we reject the null hypothesis that IR is not stationary and conclude that it is stationary at level form. In other words, it is integrated of order zero, i.e. I(0).

Log Government Capital Expenditure (LOGGCAP): The table above shows that the ADF test statistic at levels (-3.324612) is less than the critical value (-3.644963) at 5% level of significance, in absolute terms. Thus, we do not reject the null hypothesis that LOGGCAP is not stationary. However, having taken the first difference of the variable, we obtained an ADF test statistic (-5.774444) that is greater than the test critical value (3.612199) in absolute terms. Hence, we reject the null hypothesis and conclude that the log of Government capital expenditure is stationary after first difference.

Government Effectiveness (GE)

The table above shows that the ADF test statistic at levels (-3.693140) is more than the (-3.603202) critical value at 5% level of significance, in absolute terms. Hence, we reject the null hypothesis and conclude that Government Effectiveness is stationary at level form.

In summary, from the table above, we can deduce that the variables LOGMQ, IR and GE in the model were stationary at level form while VAT, LOGGCAP were stationary at first difference.

Optimal Lag Selection

ARDL bound testing approach to long-run relationship among the variables requires the determination of the optimal lag for the cointegrating equation. The order of lags on the first differenced variables in Equation (4) is obtained from the unrestricted models by using an Akaike Information Criterion and Schwartz information Criterion. Table 4.2.2 below shows that the optimal lag for the model is lag 2.

Table 5 Optimal Lag Selection

Lag	AIC	SIC
1	-2.875475	-2.579259
2	-3.461497*	-3.115911*
3	-3.386423	-2.991468

Source: Author's computation using Eviews 9

* indicates lag order selected by the criterion

Bounds Cointegration Test

       The long-run relationship among the variables in the model is examined using the ARDL bounds testing procedure. Having established that the variables are integrated of different orders, we proceed to analyze if

there exists any cointegrating relationship among the variables using the ARDL bounds test approach as developed by Pesaran et al (2001). The results of the bounds test are reported in the Table below.

Table 6: Bounds test

Variables		F- Statistics		Result	
F(LOGMQ/VAT/LOGGCAP/					
LOGFDI/INF/GE)		6.586521*,**,***		Cointegration	
Critical Values					
1%		5%		10%	
I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
3.74	5.06	2.86	4.01	2.45	3.52

Source: Author's Computation from E-views 9

***, **, *significant at 1%, 5%, 10% significance level

The results reported in the Table above indicate that for all the specifications, the calculated F-statistic of 6.586521 is greater than the upper bound critical value of 4.01 at 5% significance level. This study therefore rejects the null hypothesis of no co-integration. This shows that there is a long-run relationship among the variables in all the specifications.

Granger Causality Test

       This test helps to determine the direction of causality between manufacturing sector output and the independent variable VAT revenue. The test is carried out using the pair wise granger causality test, and the rule of thumb employed is that if there is causality between the two variables VAT and LOGMQ, the p value does not exceed 0.05 at 5% level of significance.

Table 7: Granger Causality Test

Pairwise Granger Causality Tests		
Sample: 1994-2019		
Lags: 2		
Null Hypothesis:	F-Statistic	Prob.
VAT does not Granger Cause LOGMQ	9.888424	0.0011
LOGMQ does not Granger Cause VAT	18.5451	3.E-05

Source: Author's computation using Eviews 9

       The Table above is used to test the null hypothesis that causality runs neither from VAT revenue to manufacturing sector output nor from manufacturing sector output to VAT revenue. The P-value of VAT revenue (VAT) is 0.0011 which is lesser than 0.05. Therefore, we do not accept the null

hypothesis and conclude that there is significant causality relationship between VAT revenue and manufacturing sector output in Nigeria. This means that VAT revenue, holding other factors constant, Granger cause manufacturing sector output. However, the p value of the LOGMQ is

greater than 0.05 at 5% level, it therefore states that it does not granger cause VAT.

Presentation and Analysis of Auto Regressive Distributed Lag (ARDL) Regression Results

Long-Run Estimates

Table 8: Long-Run Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.595669	0.680716	8.220273	0.0000
VAT	0.002105	0.000173	12.188617	0.0000
IR	0.011858	0.013278	0.893087	0.3869
LOGCAP	0.583344	0.105058	5.552588	0.0001
GE	2.208947	0.397361	5.559050	0.0001

Source: Author's Computation from E-views 9

The table presents the values of the estimated long run coefficients; the dependent variable is manufacturing sector output. The empirical results is interpreted as follows:

VAT Revenue (VAT)

The coefficient of VAT is 0.002105. This shows a positive relationship between VAT revenue and manufacturing output (MQ). Thus, holding other variables constant, a unit increase in VAT will, on the average, increase Nigerian manufacturing output by 0.21% in the long-run. This implies that a Naira increase in VAT revenue will boost manufacturing output by 0.21%. This does not conform to a priori expectation that VAT have a negative relationship with manufacturing output. However, this is in accordance with the works of Dhond (2010), Deshmukn (2012) and Igweonyia (2011) that found that VAT revenue have a positive relationship and increases the profitability of industries. It is also in tandem with the findings of Olufemi et al. (2019) in Nigeria that VAT have a positive relationship with manufacturing sector output in the short-run. Government spends a bulk of their revenue which is made up largely of tax revenue, VAT inclusive, on capital expenditure. This have a spillover effect on the sectors of the economy especially on the manufacturing sector as this provides an enabling environment for their business to thrive. Manufacturers will also rather pass the burden of VAT to the consumers than carry it. This is made easier on them since VAT is a consumer tax and hence can be totally moved to final consumers. Another reason for the positive relationship between VAT and manufacturing output is because of the high degree of tax evasion present in the country.

Interest Rate (IR): Interest rate, from the table above, is seen to have a positive relationship with manufacturing output. With a coefficient of 0.011858, a percentage increase in interest rate will, on the average, increase manufacturing output by 0.01% in the long-run, while holding other variables constant. This result does not conform to the *a* priori expectation. However, those result depicts what is happening in Nigeria at the moment. There have been outrageous increase in inflation rate in Nigeria. Demand is high, especially for consumable goods, thus, no matter the price, consumers will buy nevertheless. Hence, irrespective of the increase in the lending rates, manufacturers will still want to borrow to invest in producing more consumable goods in order to meet the growing demands of the consumers.

Having established the existence of cointegration, we proceed by estimating the long-run and short-run ARDL models.

This will lead to increase in price level. Although this does not usually occur because some manufacturing firms have ploughed back profit or other sources of revenue which they use to invest instead of opting to borrow funds, from banks, this is why the coefficient is not statistically significant.

Government Capital Expenditure (LOGGCAP)

The coefficient of LOGGCAP is 0.583344. This result reveals that there exists a positive relationship between LOGGCAP and manufacturing output (LOGMQ). Thus, holding other variables constant, a percentage increase in LOGGCAP will, on the average, increase manufacturing output by 0.58% in the long-run. This conforms to a priori expectation that Government Capital Expenditure have a positive relationship with manufacturing output. The higher the amount of Government Capital Expenditure, the greater the output of the manufacturing sector. This is also in line with the work of Falade and Olagbaju (2015) and Arikpo et al. (2017) which showed that Government capital expenditure significantly impact on manufacturing sector output.

Government Effectiveness (GE)

Having a coefficient of 2.208947 as seen from the table above, Government Effectiveness therefore has a positive relationship with manufacturing output (MQ). This implies that, a unit increase in GE will, on the average, increase manufacturing output by 2.21% in the long-run, while holding other variables constant. This conforms to a priori expectation which states that if the quality and credibility of governance and policies enacted improves, this will create an enabling atmosphere for businesses to function effectively and grow sustain-ably. This will lead to increase in the manufacturing output and thus transcends to improvement in manufacturing sector performance.

Short-Run Estimates and Error Correction Model

Most of the Short-run parameters are statistically significant at 5% level of significance except interest rate and lagged LOGGCAP. The table below summarizes the results.

Table 9: Error Correction Model

Variables	Coefficient	Std error	T statistics	Probability
D(LOGMQ(-1))	0.421226	0.133686	3.150862	0.0071
D(VAT)	0.000530	0.000098	5.396412	0.0001
D(IR)	0.002986	0.003383	0.882737	0.3923
D(LOGGCAP)	0.041298	0.027068	1.525733	0.1493
D(LOGGCAP(-1))	-0.078409	0.025597	-3.063234	0.0084
D(GE)	0.297655	0.088827	3.350951	0.0048
ECM(-1)	-0.251805	0.041566	-6.058012	0.0000
R-squared			0.999470	
The adjusted R^2			0.999129	
Prob (F-statistic)			0.000000	
Durbin-Watson stat			1.891201	

Source: Author's Computation from E-views 9

Error Correction Model term (ECM)

The Table contains the results of the short-run and error correction model (ECM). The results reveal that the value of the error correction model is -0.251805 which is negative is significant at 5% significance

level as indicated by the probability value of 0.0000. The coefficient of -0.251805 indicates a low rate of convergence to equilibrium.

VAT Revenue (VAT)

From the results, it can be seen that the coefficient of VAT revenue (VAT) is significant in the short-run. The short-run coefficient of 0.000530 shows that a unit increase in VAT leads to 0.05% unit increase in manufacturing output in the short-run. This is in line with the work of Oladipo et al. (2019).

Interest rate (IR)

The short-run coefficient of interest rate is 0.002986, which shows a positive and insignificant relationship between interest rate and manufacturing output in the short-run. Thus, holding all other variables constant, a percentage increase in interest rate, will lead to 0.3% increase in manufacturing output in the short-run.

Government Capital Expenditure (LOGGCAP)

The short-run coefficient of LOGGCAP is 0.041298 and it is statistically insignificant. It explains further that all other variables held constant, a percentage increase in Government capital expenditure leads to a 0.04% increase in manufacturing output in the short run. The coefficient of the lagged LOGGCAP is negative and statistically significant at 5% level of significance.

Government Effectiveness (GE)

The short-run coefficient of GE (0.297655) is positive and statistically significant. Thus, holding all other variables constant, a unit increase in GE leads to a 30% unit increase in manufacturing output thereby increasing manufacturing output in the short-run.

The coefficient of determination (R^2)

R-squared measures the goodness of the estimated model. With the R-squared value being 0.999470, the result reveals that the regressors have high explanatory power.

Implying that 99% of the variations in manufacturing output (LOGMQ) is explained by variations in the regressors VAT Revenue (VAT), Interest Rate (IR), Government Capital Expenditure (LOGGCAP) and Government Effectiveness (GE). Thus, the model is a good fit.

The adjusted R^2

This performs the same function as the R^2. With its value being 0.999129, which differs slightly from the R^2 value, it can be deduced that none of the variables in the model is dormant. This suggests that all the variables jointly and independently impact on the dependent variable.

The F-test

The overall significance of the model is checked here using the probability value of the F-statistic. The model is statistically significant if the Prob. (F-Stat) is less than 5% significant level. Looking at the above result, the P-value of F-Stat is 0.000000, which shows that the model as a whole is statistically significant.

Diagnostic tests results

For the purpose of this study, series of diagnostic and stability tests were carried out. The diagnostic tests examine normality, serial correlation and heteroscedasticity in the model.

Normality Test

This test is conducted to determine if the error terms are normally distributed. Jarque Berra (JB) test is employed in this work. The test involves comparing the established level of significance with the probability value of the Jarque-Bera. To ascertain this, the JB test is carried out with the following hypotheses:

H_0: The residuals are normally distributed
Versus
H_1: The residuals are not normally distributed
At α=5% level of significance.

Decision Rule

Reject H_0 if the p-value of the Jarque-Bera is less than or equal to 0.05 level of significance, do not reject otherwise.

Table 10: Result for Normality Test

Jarque-Berra Statistic	1.042772
Probability Value	0.593697

Source: Author's computation using Eviews 9

It can be seen from the Table above that the p-value of the Jarque-Bera statistics (0.593697) is greater than 0.05 level of significance. Therefore, we fail to reject H_0 and conclude that the residuals are normally distributed.

Serial Correlation Test

In testing for auto or serial correlation, the Breusch-Godfrey serial test was used. The test is carried out by comparing the probability value of the observed chi-square with established level of significance in order to determine whether or not there is presence of autocorrelation in the model.

The null hypotheses are as stated below:

H_0: There is no autocorrelation in the residual

Versus

H_1: There is autocorrelation in the residual

At α=5% level of significance.

Decision Rule:

Reject H_0 if the p-value of the observed chi-square is less than or equal to 0.05 level of significance, do not reject otherwise.

Table 11: The Breusch-Godfrey Autocorrelation Test Result

Obs*R-squared	3.772626
Prob. Chi-Square(2)	0.1516

Source: Author's computation using Eviews 9

Table 11 shows that the probability value of the Chi-Squared distribution is 0.1516 which is more than 0.05 significance level. Therefore we do not reject H_0 and conclude that there is no autocorrelation in the residual.

Heteroscedasticity Test

This test is conducted to ascertain if the error terms have equal variance (homoscedastic) which is one of the assumptions of the classical linear regression model. The BreuschPagan-Godfrey test was employed for this. The null hypotheses are as stated below:

H_0: The residuals are homoscedastic

Versus

H_1: The residuals are not homoscedastic

Decision Rule: Reject H_0 if the p-value of the observed chi-squared is less than or equal to 0.05 level of significance, do not reject otherwise.

Table 12: The Breusch-Godfrey Heteroskedasticity Test Result

Obs*R-squared	8.030412
Prob. Chi-Square(5)	0.5311

Source: Author's computation using Eviews 9

Since the p-value of the observed R-squared from the table is 0.5311 is greater than 0.05, we do not reject H_0 and therefore conclude that the residuals are

homoscedastic, in other words, there is no presence of heteroscedasticity.

Model Stability Test

.

The CUSUM and CUSUM of SQ test of Brown et al. (1975) was applied to ascertain if LOGMQ functions were stable over the study period

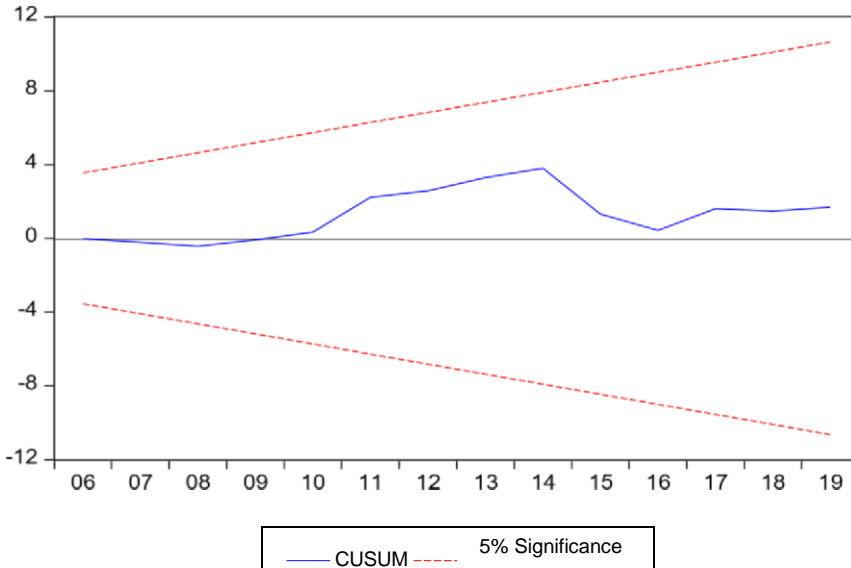**Figure 5a: Cumulative sum of recursive residuals (CUSUM)**

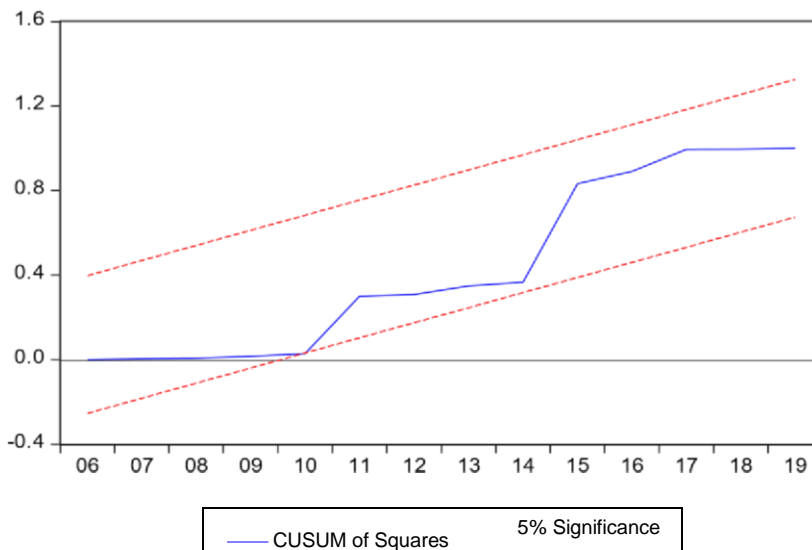**Fig 5b: Cumulative Sum of Squares (CUSUMQ)**

Fig 5a and Fig 5b of both the CUSUM and CUSUM of SQUARES test result shows the short-run stability of the model. The cumulative sum of recursive residuals (CUSUM) is within the critical boundaries for the 5% significance level, the null hypothesis which is that all coefficients in the given regression is stable cannot therefore be rejected. The Cumulative Sum of Squares (CUSUMSQ) is also

within the 5% critical interval during the period of 2006 to 2019. We conclude that all the long-run as well as short-run coefficients in error correction model are stable over the sampled period.

Evaluation of Research Hypotheses

The Hypotheses stated in Chapter One were tested here to ascertain their validity with respect to the results obtained from the data used. The individual statistical significance of the variables in the result is interpreted here using the P-value procedure in which a variable is statistically significant (Null hypothesis is rejected) if its P-value is less than the 0.05 level of significance and insignificant statistically, if otherwise.

Hypothesis One: VAT has no significant impact on manufacturing sector performance in Nigeria.

The P-value of VAT Revenue (VAT) is 0.0000 which is less than 0.05. Also, from the regression result, the long-run coefficient of VAT is 0.002105. This shows a positive relationship between VAT and manufacturing output (LOGMQ). Therefore, we reject the null hypothesis and conclude that VAT have a significant and positive impact on manufacturing sector performance in Nigeria.

Hypothesis Two: There is no long-run relationship between VAT and Manufacturing Sector Performance in Nigeria.

The result from the Bounds co-integration test conducted showed that the calculated F-statistic of 6.586521 is greater than the upper bound critical value of 4.01 at 5% significance level which indicates the existence of long run equilibrium relationship between the variables in the model. We therefore reject the null hypothesis that there is no long-run relationship between VAT and Manufacturing Sector Performance in

Nigeria and go ahead to interpret the long-run relationship between them. From the regression result, the long run coefficient of VAT is 0.002105. This shows a positive relationship between VAT and manufacturing output (LOGMQ). Thus, holding other variables constant, a unit increase in VAT revenue will, on the average, increase Nigerian manufacturing output by 0.2% in the long-run.

Hypothesis Three: There is no causal relationship between VAT and the manufacturing sector performance in Nigeria.

The P-value of VAT revenue (VAT) is 0.0011 which is lesser than 0.05 while the P-value of manufacturing output (LOGMQ) is 3.1548 which is greater than 0.05. Therefore, we do not accept the null hypothesis and conclude that a unidirectional causality exist from VAT revenue to manufacturing output at 5% level of significance.

Summary

The manufacturing sector remains the backbone of any advanced economy. However, its expansion or contraction depends, to a large extent, not only on the proper management and application of key macroeconomic variables but on the policies enacted by the government that impacts positively or negatively on the activities of the manufacturing sector. Tax policies have effect on the operations of the manufacturers and can affect the overall performance of the industries in terms of efficiency and effectiveness. Its impact can be felt in the number of output sold and profit made. Tax revenue have proven to be a power instrument of development and advancement as government utilizes it through embarking on capital spending to influence the activities of the manufacturing industries in the economy. However, only a manufacturing firm or industry in a

conducive tax-friendly economy can remain relevant, prosperous, active and competitive within the domestic economy and international arena at large. VAT as a kind of tax has being a major source of revenue to the government but on the other hand, as a consumer tax has placed burden on the manufacturers with respect to the cost of collection and remittance while it has placed much burden on the consumers in terms of the increase in price of goods. The quest to gain a detailed understanding of the impact of VAT on manufacturing sector performance in Nigeria.

The scope of this study spans form 1994 to 2019. Secondary data were gathered and analyzed using both descriptive and econometric technique. The descriptive techniques that were used included frequency and tables while the econometric techniques included the Augumented Dicky Fuller (ADF) test for stationarity, Bounds co-integration procedure and Auto-Regressive Distributive Lag (ARDL) Model. The research also employed the Granger causality test to ascertain the direction of causality between the variables in the model. Results from the Bounds cointegration test showed that a long-run equilibrium relationship existed between the variables in the model, which means that they do not diverge away from each other in the long run. The result from the Granger causality test suggested that a unidirectional causation existed from VAT to LOGMQ.

According to the long-run regression result, VAT has a positive sign and it is significant at 5% level. This result suggests a direct relationship between VAT and manufacturing output in Nigeria. It implies that the increase in VAT Revenue over the years has boosted manufacturing sector performance. It shows that a unit increase in VAT Revenue

leads to about 0.2% increase in the manufacturing output. This could be as a result of the government utilizing the revenue from VAT and engaging it in a fruitful and profitable venture which have positive spillover effects on the manufacturing sector of the economy. Government effectiveness has a positive coefficient and it is statistically significant at the 5% level. This result suggests a direct relationship between Government effectiveness and manufacturing output in Nigeria. It indicates that a unit increase in the Government capital expenditure will increase the manufacturing output by about 2.2%. This result is consistent with our a priori proposition. LOGGCAP have a positive and statistically significant coefficient at 5% level. This result is consistent with our a priori proposition. A percent increase in this variable will increase manufacturing output by 0.58%. The coefficient of Interest Rate (IR) is positive and statistically insignificant. This does not conform to *a* priori expectation. The result of the t-test revealed that, apart from IR, the other variables (VAT, LOGGCAP, GE) show high statistical significance. The F-test result showed that the model is statistically significant. The coefficient of determination from the regression result being 99.9% explains that variations in manufacturing output (LOGMQ) were accounted for by the explanatory variables in the model. From the econometric (second-order) test, the model was showed to be free from autocorrelation and heteroscedasticity problem.

Policy Recommendations

Both manufacturing output and VAT revenue are crucial to the growth and development of any economy. Expansion in output as well as efficient and transparency VAT system should be consciously spurred by calculated

economic decisions and policies. From the standpoint of the results obtained in the study, policy recommendations are given below:

1. Given the positive and significant effect of VAT Revenue as the predictor of the manufacturing in sector performance in Nigeria. This study suggests that:-

i. An effective and efficient tax system should be put in place. Institutions and parastatals in charge of VAT collection and remittance should do with utmost professionalism, efficiency, transparency and effectiveness. In other words, there must be openness and accountability on the part of VAT agents. Proceeds from VAT must be declared publicly and any disbursement published on the basis of full disclosure.

ii. Proper VAT awareness, enlightenment programmes, seminars and workshops should be embarked by the FIRS among the VAT payers, including the potential VAT payers on the need for prompt VAT payments and also on the different kinds and nature of tax under the Nigerian tax laws. This encourages compliance among the VAT payers.

iii. The process of VAT collection and remittance should be computerized and the latest method of information technology should be adopted so as to enhance the smooth planning of VAT operations. Most VAT offices are yet to digitalize their operation thereby leading to non-uniform and inconsistent data and claims. This creates loopholes and avenues for tax evasion.

iv. VAT personnel should be trained adequately so as to ensure that they execute their assignments skillfully with strict adherence to working ethics. Incentives and inducements should be encouraged in order to motivate them to be more dedicated.

v. Government should enlarge the VAT tax base to include the informal sector so as to ensure increase in revenue.

2. Monetary authorities should determine the right level of interest rate that will break the double-effect interest rate on savers and local investors. This will attract savings mobilization and foster domestic investment in order to aid the economy.

3. From the result, Government capital expenditure have a positive and significant impact on manufacturing sector output. Government should therefore, intensify their efforts via more investment towards the manufacturing sector, infrastructural development, social amenities and community services as these fosters a business-friendly environment for businesses and entrepreneurship to flourish.

4. Government should adopt effective measures necessary to foster accountability and transparency in the method of spending public funds in Nigeria.

5. From the analysis, Government effectiveness have a positive and significant impact on manufacturing sector output. The culture of good governance, accountability, credibility and efficiency in policy implementation should therefore be embraced by the government as these improves economic activities and creates an enabling environment for industries to thrive.

Conclusion

From the findings, the study established a long run and positive relationship between the dependent variable: manufacturing output and the explanatory variables explanatory variables – VAT Revenue, Interest Rate, Government Capital Expenditure and Government Effectiveness. Though VAT revenue, Government capital expenditure and Government Effectiveness were statistically significant from zero, but

their contribution to manufacturing sector performance is less than satisfactory. This could be that that funds allocated for capital investment in the manufacturing sector and provision of infrastructure are being diverted, misappropriated or not being used for the purpose which they have been mapped out for. Therefore, it is about time Nigeria began to not only adopt the appropriate policies but to see to their full implementation by seeking accountability of those that have been charged with policy implementation so as to ensure an exponential and sustainable increase in the performance of the manufacturing sector.

References

Adefaso, H. (2018). Government tax policy and performance of listed manufacturing firms in Nigeria: Evidence from dynamic panel data model. *Zagreb International Review of Economics and Business, 21*, 1-16. https://doi.org/10.2478 zireb-2018-0001

Adereti, S. A., Sanni, M. E., & Adesina, J. A. (2011). VAT and economic growth of Nigeria. *European Journal of Humanities and Social Science, 10,* 455-471.

Adewuyi, A. O. (Ed.) (2006). Trade policy reform and technical efficiency in Nigeria's manufacturing sector. *A paper prepared for the African Econometrics society (AES) conference, June 2006.*

Ajakaiye, D.O. (2000). *Macroeconomic effect of VAT in Nigeria: A computable general equilibrium analysis*. Adidis Ababa, Ethopia: African Economic Research Consortium (AERC).

Akintoye, I. R., & Tashie, G. A. (2013). The effect of tax compliance on economic growth and development in Nigeria, West-Africa. *British Journal of Arts & social sciences, 11*(11), 222-231.

Alireza, H. F., & Akbarian, B. (2012). Impact of fiscal policy on economic growth in Iran with emphasis on the role of Value Added Tax. *Journal Advances in Environmental Biology, 6*(2), 916-919.

Alrahed, W., Khaldi, A., & Atyeh, M. (2018). Exploratory scenario analysis of the VAT effect on the financial performance of supply chain companies listed in Kuwait financial market. *International Journal of Economics, Commerce and Management, 6*(1), 5-23

Anudu, O., Ani, M., & Faminu, G. (2019, Sept 5). *Emerging negative trend in Nigerian's manufacturing sector.* Business Day. Accessed from: https://businessday.ng/real-sector/article/emerging-negative-trendin-nigeria-man ufacturing-sector/

Arikpo, F. O., Ogar, A., & Comelius, O. M. (2017). The impact of fiscal policy in the performance of the manufacturing sector in Nigeria. *Euro-Asian Journal of Economic and Finance, 5*(1), 11-22.

Ashwe, A. E. (2016). *The manufacturing sector performance and economic growth in Nigeria* [Unpublished undergraduate dissertation]. Benue State University, Makurdi.

Asquith, R. (2020, January 27). *Nigeria VAT rise to 7.5%, 1 Feb 2020.* Avalera. Accessed from: https://www.avalara.com/vatlive/en/vat-news/category/nigeria-vat-rise-to-7-5--/-f eb-2020.html

Avi-Yonah, S. R. (2006). Corporate social responsibility and strategic tax behavior. USA: *University of Michigan*

Awe, E. (2018). Impact of VAT on economic growth in Nigeria. *Proceedings of Management science conference, Abuja, Nigeria.*

Bakare, A.S. (Ed.). (2013). *Value Added Tax and Output Growth in Nigeria. Proceedings of 8th Annual London Business Research Conference, Imperial College, London, UK.*

Banjoko, S. A., Iwuji, I. I., & Bagshaw, K. (2012). The performance of the Nigerian manufacturing sector: a 52-year analysis of growth and retrogression (1960-2012). *Journal of Asian Business Strategy, 2*(8), 177-191.

Barro, R. J. (1974). Are Government Bonds Net Wealth? *Journal of Political Economy, 82*(6), 1095-1117.

Barungi, J.A. (2018). Taxation and the performance of small and medium enterprises in Nakawa division, Kampala, Uganda. *[Unpublished master's dissertation], Uganda Management Institute.*

Basila, D. (2010). Investigating the Relationship between VAT and GDP in Nigerian Economy. *Journal of Management and Corporate Affairs, 2*(2), 65-72.

Bird, R. M. (2005). *Value Added taxes in developing and transitional countries: lessons and questions.* Canada: University of Toronto.

Brown, R., Durbin, J., & Evans, .J. (1975). Techniques for Testing the Constancy of Regression Relationships over Time. *Journal of the Royal Statistical Society, Series B (Methodological), 37*(2), 149-192.

Cai, J., & Harrison, A. (2011). *The value-added tax reform puzzle.* USA: NBER

Central Bank of Nigeria. (2019). *Annual Statistical Bulletin.* 2019 edition. Accessed from: http://www.centralbank.org/documents/statbulletein.asp

Channels Television. (2019, December 16). *Poor electricity and multiple taxation as top challenges facing manufacturers in Nigeria.* Channelstv. Accessed from:www.channelstv.com.com/2019/12/16/poo

Charles, A. N. (2012). Investigating the Performance of Monetary Policy on manufacturing Sector in Nigeria. *Arabian Journal of Business and Management Review, 2*(1). 12-25.

Chigbu, E. E., & Ali, P. T. (2014). An econometric analysis of the impact of VAT on economic growth in Nigeria. *European Journal of Business Management, 6*(18).

Dabwor, D. (2015). Capital market and manufacturing output in Nigeria: An error correction analysis (1990-2013). *Journal of Development and Society, 3*(4), 1-37.

Deshmukh, M. S. (2012). VAT and its impact on profitability of manufacturing industries in Maharashtra. *Indian Streams Research Journal, 1*(5), 1– 4.

Dhond, S. S. (2010). Impact of Sales tax, VAT & GST on the profitability of organizations. *(Doctoral dissertation, Dr. D. Y. Patil University).*

Eja, O., Richard, B., & Suleiman, L. (2018). Relationship between the interest rate and manufacturing sector performance in Nigeria. *International Journal of Economics and Financial Management, 3*(2).

Ekpo, U. (2014). Nigeria industrial policies and industrial sector performance: analytical exploration. *IOSR Journal of Economics and Finance, 3*, 01-11.

Emmanuel, C.U. (2013). The effect of Value Added Tax (VAT) on the economic growth in Nigeria. *Journal of*

Economics   of   Sustainable Development, 4(6), 190-202.

Everaert, G., Freddy, H., & Ruben, S. (2014). Fiscal Policy and Total Factor Productivity in the OECD: Measuring Direct and in Direct Effects. USA: UNDP

Ewubare, D. B., & Ozo-Eson, I. P. (2019). Effect of Taxation on Manufacturing Sector Output in Nigeria from the period 1980 to 2017. *International Journal of Economics and Financial Management, 4*(4), 46.

Eyisi, A. S., Chioma, D. O., & Nwaorgu, I. A. (2015). The effects of taxation on growth of Nigeria economy. *International Journal of Economics, Commerce and Management United Kingdom.*

Eze, R. O., & Ogiji, O. F. (2013). Impact of fiscal policy on the manufacturing sector output in Nigeria: An Error Correction Analysis. *International Journal of Business and Management Reviews (IJBA1R), 1*(3), 35-55.

Ezejiofor, R. A., Adigwe, P. K., & Echekoba, F.N. (2015). Tax as a fiscal policy and manufacturing   company's performance as an engine for economic   growth   in   Nigeria. *European   Journal   of   Business, Economics and Accountancy, 3*(3), 1–12.

Fajimi, A. (2017, June 14). *Value added tax administration in Nigeria.* PML. Accessed   from: https://pml.com.ng/value-added-tax-in-nigeria/

Falade, O. E., & Olagbaju, I. O. (2015). Effect of Government capital expenditure on manufacturing sector output in Nigeria. *Business and Economic Research, 5(*2), 136-152.

Faminu, G. (2020, Jan 9). *Nigerian manufacturing   sector   in   era   of AFCTA.* Business Day. Accessed from: https://businessday.ng/backpage/article/article/nigeria-manufacturing-sector-in-er

Grandcolas, C. (2005). The occasional failure in VAT implementation: Lessons for the Pacific. *Asia-Pacific Tax Bulletin, 1,* 6 – 13.

Gujarati, D. N., & Porter, D.C. (2009). *Basic Econometrics* (5th ed.) USA: McGraw Hill Inc.

Igweonyia, O. V. (2011). The analysis of VAT and its impact on the Nigeria economy. *Unpublished master's dissertation], University of Nigeria, Enugu Campus.*

Ikpe, M., & Nteegah, A. (2013). VAT and price stability in Nigeria: A partial equilibrium   analysis. *European Journal   of   Government   and Economics, Europa Grane, 2*(2), 137-147.

Indexmundi (2019). *Manufacturing sector – Nigeria.*   Accessed   from: www.indexmundi.com

Ironkwe, U., & Peter, G.T. (2015). Value added   tax   and   the   financial performance   of   quoted Agribusinesses   in   Nigeria. *International Journal of Business and Economic Development, 3*(1), 78 – 86.

Ishlahi, A. A. (2006). *Ibn Khaldun's theory of taxation and its relevance today.* Spain: The Islamic Research and Training Institute.

Izedonmi, F. I., & Okunbor, J. A. (2014). The roles of VAT in the economic growth of   Nigeria. *British   Journal   of Economics of Management Trade, 4*(12), 7-21.

Jones, L. M. (2003). Optional taxation in models   of   endogenous   growth. *Journal of Political Economy*, *101*(3), 485-517.

Kajola S. O., Nwaobia A. N., & Adedeji. S. B. (2014). Working capital management and firm performance: Evidence from Nigerian listed firms. *The International Journal of human lives and social studies, 2*(4), 121-129.

Karibo, B. B. (2012). The Performance of the Nigerian Manufacturing Sector: A 52-Year Analysis of Growth and Retrogression (1960-2012). *Asian Economic and Social Society*, *2*(8).

Khanna, V. (2013). A study on impact of VAT on the performances of business enterprises. *International Journal of Advance Research in Science and Engineering (IJARSE), 2*(9), 6-23.

Liew, M.Y., & Sok-gee, C. (2018). The impact of VAT on manufacturing performance in ASEAN. *International Journal of Business, Economics and Law, 17*(1).

Luqman, O. (2014). The impact of value added tax on revenue generation in Nigeria. *Social Science Research Network Electronic Journal*, 10, 21-39.

Madugba, J. U., & Azubike, U.B. (2016). Value added tax and economic development in Nigeria. *International Journal of Development and Economic Sustainability, 4*(3), 1-10.

Mankiw, G. N. (2000). The Savers-Spenders theory of fiscal policy. *American Economic Review 90*(2), 120-125.

Manufacturers Association of Nigeria [MAN]. (2019). *Annual Reports and Statements of Accounts.* Accessed from: https://www.manufacturersnigeria.org/AGMRepo rt

Margaret, N., Charles, O. N., & Gift, N. K. (2014). Taxation and Economic Growth in Nigeria: A Granger Causality Approach. *International Journal of Research in Management, Science & Technology, 2*(3), 3-10.

Murtala, M. (2019). The emergence of manufacturing industry in Nigeria (1955-1978). *Journal of advances in social science and humanities, 5*(6), 8-15.

Naiyeju, J.O. (1996). *Value added tax: The effect of positive tax in Nigeria.* Nigeria: Kupag

Nasiru, M. G., Haruna, M. A., & Abdullahi, M. A. (2016). Evaluating the impact of Value Added Tax on the economic growth of Nigeria. *Journal of Accounting and Taxation, 8*(6), 59-65.

National Bureau of Statistics. (2018). *Sectoral distrbution of value added tax; summary report (2013-2018).* Accessed from: https://www.nigerianstat.gov.ng

Njuru, S. G., Ombuki, C.,Wawire, N., & Okeri, S. (2013). Taxation and private investment: evidence for Kenya. *International Journal of Economics and Management Sciences, 2*(11), 78-93.

Nyong, M. (2001). Deficits, government spending, and inflation: What is the evidence? *Journal of Monetary Economics, 5*(2), 62-69.

Obiakor, R., Kwarbai, J. D., & Okwu, A. (2015). Value Added Tax and Consumption Expenditure Behavior of Households in Nigeria*. International Review of Social Sciences, 3*(6), 1-23.

Odior, E. S. (2013), Macroeconomic variables and the productivity of the manufacturing sector in Nigeria: A static analysis approach. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB), 1*(5), 362-380.

Ogar, A., Eja, B. R., & Gbenga, L. R. (2018). Relationship between the interest rate

and manufacturing sector performance in Nigeria. *International Journal of Economics and Financial Management, 3*(2), 57-65.

Ogunbanjo, C. (2019, June 18). *A brief overview of the Nigerian manufacturing industry.* Nigeria: Chrisogunbanjofoundation.

Ojong, M. O., Ogar, A., & Arikpo, O. F. (2016). The impact of tax revenue on economic growth: Evidence from Nigeria. *ISOR Journal of Economics and Finance, 7*(1), 32-38.

Okoli, M. N., & Afolayan, S. M. (2015). Correlation between VAT and national revenue in Nigeria: An ECM model. *Research Journal of Finance and Accounting, 6*(6), 230-238.

Okonkwo, I. V., & Afolayan, S. M. (2019). How productive is Value Added Tax Revenue in Nigeria between 1994 and 2016. *IOSR Journal of Economics and Finance (IOSR-JEF), 10*(1), 16-29.

Okoye, E. I., & Gbegi, D. O. (2013). Effective Value Added Tax: An imperative for wealth creation in Nigeria. *Global Journal of Management and Business Research, 13*(1), 5-23.

Oladipo, O. A., Iyoha, O. F., Fakile, A. S., Asaleye, A. J., & Eluyela, D. F. (2019). Do government taxes have implications on manufacturing sector output? Evidence from Nigeria. *Journal of Management Information and Decision Sciences, 22*(3), 181-190.

Omokhuale, I. (2016). Evaluation of the contribution of value added tax to the Nigeria economy. *International Journal of Economic and Business Review, 4*(2), 33-46.

Onaolapo, A. A., Aworemi, R. J., & Ajala, O. A. (2013). Assessment of VAT and its effects on revenue generation in Nigeria. *International Journal of Business and Social Science, 4*(1), 220-225.

Onodugo, V. (2013). An evaluation of the contribution of VAT to resource mobilization in Nigeria. *European Journal of Business Management, 5*(6), 5-21

Oraka, A. O., Okegbe, T. O., & Ezejiofor, R. (2017). Effect of VAT on the Nigerian economy. *European Academic Research*, 5(2), 6-21.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Economics, 16*, 289-326.

Rajeshwari, U.R. (2015). Value added tax and its impact on revenue generation in India. *SCHOLEDGE International Journal of Multidisciplinary & Allied Studies, 2*(8), 5-13.

Rina, O., Tony, I., & Lukytawati, A. (2010). The impact of fiscal and monetary policy on industry and Indonesian economy: A computable general equilibrium analysis. *International Journal of Economics and Management, 3*(6), 34-52.

Sartra, S., & Hati, K. (2012). India's Move from Sales Tax to VAT: A Hit or Miss? India: *Economic centre for Training and Research in public finance and policy*.

Trading Economics, (2020, April 12). *List of Countries by Sales tax rate*. Accessed from: https://tradingeconomics.com/country-list/sales-taxrate?continent

Ubesie, M. C., Onyeama, E. C., & Igwe, A. O. (2015). Effect of Taxation on Retained Earnings of Manufacturing firms in Nigeria. *Journal of Current Issues in Arts and Humanities 1*(1), 1-14, 2015.

Umeora, C. E. (2013). The effects of Value Added Tax on the economic growth of Nigeria. *Journal of Economics and sustainable Development, 4*(6), 190-201

Unegbu, O. A. & Irefin, D. (2011). Impact of VAT on economic development of emerging nations. *Journal of Economic & International Finance, 3*(8), 492-503.

Uwuigbe, U., Eluyela, D. F., Uwuigbe, O. R., Obarakpo, T., & Falola, I. (2018). Corporate governance and quality of financial statements: A study of listed Nigerian banks. *Banks and Bank systems, 13*(3), 12-23.

William, J. B. (1967). *Business behaviour, value and growth* (revised ed.). Port Harcout, Nigeria: Bracecand world.

Worldbank. (2019). *Worldbank development indicators online* [Data Set]. Accessed from: http://data.worldbank.org/indicator/NV.IND.MANF.KD.ZG?end=2019&locations= NG&start=1981&view=chart

Yousef, A. J., & Shaker, Z. (2019). Impact of Taxes and Fees on the Productivity of the Palestinian Industrial Sector. *International Journal of Economics and Financial issues, 9*(2), 162-167.