Chapter One

Introduction

1.1 Background of Study

Nigeria's issues include poor planning, overdependence on oil, poor management, high interest rates, and high inflation. The revenue system's structural problems, as one of the overdependence on oil revenue problems, have been acknowledged for many years. While excessive oil revenue remains the main issue, the high reliance oil revenue continues to poison the revenue system. Every government attempts to deal and manage the problem of taxation because the net gain of taxation returns to the jurisdiction of the government, paying for deficit. It finances the delivery of public goods and services and infrastructures and social welfare. As revenue grows, the public sector and the government grows as one and the same. As the authors Musgrave and Musgrave (1989) describe, taxation is the state's instrument of forced levies on the citizens to pay public expenditure, including the items of social welfare, for which the citizens receive no direct benefit. To pay for the services, the government should reclaim expenditure through its transfer payment. Government spending is highly political.

Indirect taxation also includes Value Added Tax and Customs Duties, while direct taxation includes Company Income Tax and Petroleum Profit Tax. Among the various consumption taxes, VAT is regarded as one of the most efficient and most broad-based due to its simplicity in collection and lower rates of evasion (Adereti et al., 2017). Value Added Tax (VAT), as a multi-stage consumption tax, which replaced the Sales Tax system in 1993, is a consumption tax that is charged in every step of the production and distribution system till it reaches the final consumer and is then administered by the Federal Inland Revenue Service (FIRS). To boost non-oil revenue mobilization and support budgetary financing, VAT rate was increased from 5% to 7.5% in 2020 (FIRS, 2021). As noted by Okoye et al. (2020), VAT is designed to ensure revenue stability and promote neutrality in

consumption and investment decisions.

Consumption is defined as the total value of goods and services consumed by households over a defined period. Consumption is one of the core components of aggregate demand and a major component of economic growth for any economy (National Bureau of Statistics, 2022). In Nigeria, household consumption expenditure has continuously accounted for a large part of the country's Gross Domestic Product (GDP), and at times, it has reached over 60% (NBS, 2022). Driven by inflation and stunted growth of household incomes, the Nigerian economy has seen a deterioration of household purchasing power, making consumption extremely elastic. The increase of the VAT rate from 5% to 7.5% in 2020 raised concerns due to its predicted impact on the price of basic goods and the real income of economically disadvantaged households (FIRS, 2021). The impact of VAT is regressive on household consumption, as it takes a larger proportion of total consumption from lower income households and a smaller proportion from higher income households, in contrast to the progressive structure of direct taxation (Omodero, 2019). There have been few attempts to publicly increase the VAT rate to 10%, which have been withdrawn due to public discontent.

The introduction of VAT can be attributed to several reasons, including: the need to improve national income in the face of increased public expenditure; the need to reduce over-reliance on crude oil sales and the uncertainties that come with the international market; reducing the rich's excessive penchant for undeserving luxury; and making taxes more equitable on all masses by curbing the rise in the consumption of the overpriced goods to bridge the gap between the rich and the very poor. Given the theories on consumer behavior, consumption is more than a function of income and taxes; expectations of income, inflation, and government policies. When VAT is raised, consumers may maintain consumption levels if they believe government is managing the revenues and investing in growth (Adereti et al., 2017).

1.2 Statement of Research Problem

Value Added Taxes (VAT) has become one of Nigerians government t revenue generators since revenue from oil has become unreliable (Adereti et al., 2018; Okoli & Afolayan, 2021). VAT also increases the costs of goods and services. This limit the purchasing power of lower income households. (Owolabi & Olayemi, 2016). In Nigeria, the VAT increment from 5% to 7.5% in 2020, was justified by an increase in government revenue, but the increase in cost of living of poorer and middle class households was the government. (Yusuf 2021). Higher VAT is most likely to limit the purchasing power of poorer households from accessing essential goods and services.

Most past studies have focused on how VAT helps the government generate income or how businesses comply with tax laws (Adereti et al., 2018; Okoye & Ezejiofor, 2020). There is little attention paid to how VAT really affects consumer spending in Nigeria. Some researchers believe VAT reduces how much people spend (Omodero, 2019), while others think the effect is small or depends on the situation (Joseph & Ibiang, 2021). Because of this lack of agreement, it is important to carry out a study that clearly shows how VAT affects household consumption in Nigeria. This study will help explain whether VAT is helping or hurting people's spending and their general well-being.

1.3 Research Question

To guide the study, the following research questions are put forward:

i. What is the effect of Value Added Tax on household purchasing decisions and consumption?
ii. How does Value Added Tax affect saving and investment behaviour among households in Nigeria?
iii. What is the effect of Value Added Tax on poverty levels and household welfare in Nigeria?

1.4 Research Objectives

The main objective of this study is to investigate the impact of Value Added Tax on consumption level in Nigeria. The specific objectives are to:

i. investigate the effects of value added tax on household purchasing decisions and consumption;

ii. determine the influence of value added tax on the saving and investment behaviour among households in Nigeria; and

iii. examine the effect of value added tax on poverty levels and household welfare in Nigeria.

1.5 Research Hypotheses

The study investigates the impact of value added tax on consumption level in Nigeria. Therefore, the research hypotheses for this study are stated in null as follows:

i. H_0: Value Added Tax has no significant effect on household purchasing decisions and consumption.

ii. H_0: Value Added Tax has no significant effect on the saving and investment behaviour among households in Nigeria.

iii. H_0: Value Added Tax has no significant effect on poverty levels and household welfare in Nigeria.

1.6 Significant of the Study

This study seeks to critically analyse the impact of value added tax on consumption level in Nigeria. This study is therefore significant for the following reasons:

i. Policymakers: The study provides insights into how Value Added Tax (VAT) influences consumption patterns in Nigeria, helping policymakers assess whether current VAT rates are encouraging or discouraging consumer spending. This can inform tax reforms that balance revenue generation with economic welfare.

ii. Federal Inland Revenue Service (Tax Authorities): The findings of this study will assist the FIRS in understanding how VAT policies affect consumer behavior, enabling them to develop more efficient strategies for tax collection and compliance without negatively impacting household consumption.

iii. Investors: The study sheds light on the relationship between VAT and consumer demand, which

will help businesses in planning pricing, sales strategies, and inventory management in response to tax-induced changes in consumption behavior.

iv. General Public: This study will help consumers understand how VAT affects the prices of goods and services they purchase regularly, thereby informing their spending decisions and increasing public awareness of taxation and economic policy.

v. Researchers: This study contributes to the body of knowledge on fiscal policy and economic behavior in emerging economies. It provides a basis for further academic research on VAT, consumption economics, and public finance in Nigeria.

1.7 Scope of the Study

This study will investigate the effect of Value Added Tax on consumption in Nigeria. This research will take place at the University of Benin, Edo State, Nigeria. In this case, the relevant population for the study will be the Ugbowo, Benin City, households, since this will make data collection simpler. A sample of 100 respondents will be selected from households in Ugbowo, Benin City, Edo State. The data needed for the analysis will be collected through the use of structured questionnaires, the answers to which will be used to assess the impact of Value Added Tax on the study area households' consumption.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter goes into detail discussion of related ideas and reviewing relevant theories because it relates to the current topic. This study will look into relevant prior studies of many academics and researchers. The chapter will therefore be divided into four major sections which will include: introduction, conceptual framework, empirical review and theoretical review.

2.1 Conceptual Review

2.1.1 An Overview of Indirect Taxes In Nigeria

Indirect taxation can be defined as charges directly imposed on consumers for goods and services with the attendant government offsetting the burden of the tax and being transferred to others (CITN, 2015). Thus, taxes to be transferred to others burden the consumers and organizations directly the goods or services and the first consumer or payer. These consumers and organizations are the first payers in the delivery of the goods or services. Indirect taxes has several forms, and includes but is not limited to Value Added Tax (VAT), customs duties, and excise duties. These duties are paid during the transactions of exported and imported goods (Adegbite & Olatunji, 2021). Governments aim to increase revenue with uniform taxation on all indirect taxes (Akenbor & Nwaiwu, 2016). These taxes are applied uniformly, irrespective of the taxpayer's ability to pay, ensuring equitable distribution as all pay the tax uniformly. The taxpayer is indirectly notified of the tax payment, and is relieved of the burden of knowing when the government levy is payable and when they pay it.

The main aim of indirect taxes is to raise government revenue and to regulate the consumption of certain goods and services, mainly harmful goods such as alcoholic beverages and tobacco. Revenue collection through indirect taxation is regarded as a common practice. It is called an indirect tax because consumers only pay such taxes indirectly, and only the final consumer of the goods and

services pays them when they purchase goods and services or when they patronize certain services. It is also broad based as it applies to all members of the community, irrespective of their economic status. Since the tax burden does not shift according to income levels, indirect taxation is a proportional tax. Nonetheless, it is commonly perceived to constitute a regressive tax since the poorer members of the community bear a greater burden, relatively, than their richer counterparts, because everyone pays the same amount. As a result, the tax payer who remits the tax to the government does not bear the economic burden of the tax. It is consumers who ultimately pay the tax. Indirect taxes, therefore, determine the consumption patterns and the economic welfare of the population.

Before the 1970s, indirect tax revenue from the non-oil sector was the primary source of financing the Nigerian government's budget. During that period, graduate and youth unemployment did not pose as significant a macroeconomic challenge as it does today. However, since the 1970s, the government has redirected its focus on obtaining direct tax revenue from the oil industry making job creation a major challenge. This was an occurrence of the widespread belief that crude oil as a gift of nature will never go extinct. Nevertheless, there has been a notable lack of prudent utilization of revenue from the oil sector to address macroeconomic challenges such as unemployment and hindered growth. Despite the oil sector contributing over 90% of export earnings and more than 80% of government revenue, employment generation has failed to keep up with the pace with youth unemployment currently hovering around 60%. (Obayori & Robinson,2019). Accordingly, Nigeria was the 49th largest exporter and 51st largest importer in the world, with an 82nd position in terms of balance of trade. Forging ahead as at the time from 2000 to 2014, oil prices skyrocketed putting pressure on the consumers. Developing countries with poverty were worse off, while the oil-producing countries accumulated lots of wealth. When the reverse occurred, the decline in the oil price was advantageous to most nations, especially during the COVID-19 recession of 2020, but for producers like Nigeria, the drop in oil prices became a devastating shock to the nation. (Mulder

&Tooze,2020). This occurrence was a result of a lack of diversification and over-reliance on oil revenue in the nation's economy because Okonjo-Iweala (2012), clearly warned the nation that Nigeria's economy would collapse if it did not diversify its economy away from its heavy overdependence on oil revenue. The cycle of economic booms and busts is directly linked to this reliance on oil revenue. Therefore, relying solely and predominantly on oil revenue has successfully hindered Nigeria's development and long-term economic growth. Both the government and the citizens need to be aware of the urgency due to the risks posed by fluctuating oil prices. To address the impending challenges in generating revenue caused by excessive reliance on volatile oil revenue, it is significantly crucial to explore alternative sources of income, particularly in indirect taxes like value-added tax(VAT), Customs, and excise duties. Indirect taxes are more reliable and predictable as they are less susceptible to evasion and avoidance.

Recent studies show that the indirect tax burden has been increasing over the years. The Nigerian Bureau of Statistics (2022) states that Nigerians paid N3.03tn as indirect tax in 2022, an 18.88 percent increase from the N2.55tn paid in 2021 (based on current basic prices). In the same year, Nigeria's GDP increased by 3.40 percent. Regardless of this, inflation increased from 15.60 percent in January 2022 to 21.34 percent in December 2022. The importance an indirect tax has on the development of a nation should never be overlooked. In terms of revenue generation, indirect taxes are a major component of the revenue for the government. They also have a unique function of altering consumer habits and impacting businesses. Apart from generating government revenue, indirect taxes including tariffs and import duties, are utilized to manage the volume of imports and exports entering and exiting the country. In the context of imports, governmental imposition of tariffs serves to safeguard domestic producers from foreign competitors with potentially lower costs, who might otherwise flood the market with cheaper goods and servicesConsequently, the increase in cost lead to increased competitive advantage for domestic producers after tariffs are adjusted. Besides, negative

externalities created by certain goods and services are to some extent countered by the use of indirect taxes, for example, excise taxes. Health conditions resulting from smoking and second-hand smoking are mitigated by decreased demand after the excise tax on cigarettes increases the price. Furthermore, by raising the price of cigarettes, the tax prevents younger people, who tend to have elastic demand for cigarettes, from starting to smoke.

Arguments For Indirect Taxes

Indirect taxes have been known to have been argued by various scholars in the nation's economy through the following ways; It is a sound principle that enables every citizen to contribute to the government no matter how little. Indirect tax however is the only measure through which the poor in the society could be reached since they cannot be captured through direct taxes. Indirect tax is easier to collect than direct taxes. This is because collection takes place automatically when goods are purchased and sold. They are collected at the point of sale which means businesses do not have to spend much time and money on tax compliance, which could be a significant burden on small businesses. Usually, indirect taxes are nominal and levied as part of the purchase price of goods or commodities. Hence, consumers don't feel the pinch while paying them. Also levying indirect tax is easy since the sellers incorporate it into the selling price. Indirect tax can be used as a measure for minimizing the consumption of harmful products such as alcohol, cigarettes, and tobacco which could be detrimental to human health.

Arguments Against Indirect Taxes

Arguments against indirect taxes, despite the benefits they have brought to the Nigerian economy, continue to persist. These will be discussed here. Indirect taxes disproportionately affect the poorer segments of the population because they are regressive. Indirect tax is included in the price of goods and services, and people of all income levels ultimately pay the same tax, which is inequitable. Revenue from indirect taxes is also not guaranteed. This is particularly the case when inflation is low

or in a recession when disposable income and therefore spending on goods and services also declines. This explains why indirect tax revenues can only be reliably earned when applied to essential goods and services. Indirect taxes also do not promote civic consciousness. This occurs largely because the taxpayer, who purchases goods and services and therefore pays taxes indirectly, often does not realize that the tax is hidden in the price.

2.1.2 Value Added Tax Concept

Since the inception of tax administration in the world, the concept of Value Added Tax, referred to as Goods and Services Tax in other countries, has been defined by numerous scholars. Andoh, Osaro & Luvanda (2018) note that tax administration is a key element of a well-structured tax system. The spending of the government and the execution of projects may be delayed, thwarted, or undermined without sound administrative resolutions on collection, educational taxation, and the rates of taxation. As the name suggests, VAT is the tax on value added. What, then, can we refer to value added tax? The value added of a firm is the difference between a firm's sales and its purchases of inputs from other firms. To put it differently, it is the worth a firm adds to a good or service by employing its factors of production, which are land, labor, capital, and entrepreneurial ability. It is a consumption tax imposed at every phase of the transaction but ultimately borne by the end consumer of the goods and services. It is widely believed that the burden of VAT, as is the case with other sales taxes, rests with the ultimate consumer. While the tax is imposed at every point in the production-distribution process, sellers incur the cost of tax liabilities, meaning that ultimately the tax is paid by the end consumer, who receives no compensation in return. Although taxes can be regressive (i.e., the proportion of income paid in taxes increases as income level decreases), most countries have, at least to some degree, mitigated this effect by taxing necessities at lower rates compared to luxury items. Omodero (2020) defines value-added tax as an indirect tax, whereby a charge is applied at each stage of the production and delivery of a good or service.

Chigbu (2014) quotes the International Monetary Fund (2001) as providing a comprehensive definition of value-added tax. The definition encapsulated the concept of value-added tax in a broad and profound manner. He stated, and I quote, “The typical value-added tax is an indirect tax imposed on each sale beginning at the start of the production and distribution cycle and culminating in the sale to the customer.” Value Added Tax (VAT) is collected by each seller in the chain from the customers during each sale (VAT is considered part of the sales price but is only included in the final price to the consumer, and must be stated separately at the time of sale, and sellers deduct the VAT paid on their purchases before remitting the VAT to the government). The net effects of the VAT offsets on purchases and sales at each of the stages of production is to improve the tax to the sum of wages, interests, rents, profits, and all other factors of production that the suppliers of goods and services at the previous stages of production did not furnish. That is why it is a tax on the “value added”. VAT sellers purchases are economically neutral as they will receive a government credit for all the VAT paid to their suppliers. Essentially, VAT is passed on through production and distribution arms to the end consumer. The end consumer pays the sales price and credits received. VAT is a consumption tax for all intents and purposes. The origin of value-added tax (VAT) has no definite account. This is primarily due to the differing viewpoints from various experts.

The value-added tax system is primarily credited to Maurice Laure, who was the Joint Director of the tax authority of France. Although VAT was first implemented on April 10, 1954, historical accounts suggest the concept was first envisioned by German industrialist Wilhem Vans Siemens in 1918. Since then, VAT has been adopted by other countries (Okoye & Gbeji, 2013). In many developing countries, VAT has become a major source of revenue. In sub-Saharan Africa, VAT was introduced in the Republic of Benin, Cote d'Ivoire, Guinea, Kenya, Madagascar, Mauritius, Niger, Senegal, and Togo. Over the years, VAT has proven to be a significant component of total tax revenues collected by the government (Adereti et al., 2011). Countries worldwide adopted VAT primarily

because they were dissatisfied with their existing tax systems. Different countries aim to substitute sales tax with Value-added tax (VAT) as it has been operational since Federal Government Decree No. 7 of 1986 and is residence based. This effort is also to increase revenue for the government. The following are the factors and considerations that can be attributed to the rationale behind the change from Sales tax to Value-added tax:

i. Under Decree No. 7 of 1986, the base of sales tax in Nigeria was quite limited, covering only 9 (nine) categories of goods and the sales and services in registered hotels, motels, and similar establishments. This limited scope of the tax contravenes the principles of a consumption tax, which is supposed to cover all consumables, goods and services equitably. Unlike the sales tax (which is commonly referred to as value added tax (vat) in Nigeria), the base of the tax is broader and covers most professional services as well as banking transactions, which are highly profitable industries.

ii. The Sales Tax Decree of 1986 targeted only locally manufactured goods as taxable sales, which may not have been the intent of the law. Conversely, value added tax (vat) is neutral in this regard. Specifically, with respect to vat, a significant portion of the tax to be realized is placed on imported goods, which under vat effectively means that locally manufactured goods will not be placed at a disadvantage relative to imports.

iii. Given that the general behavior of the population determines the basis for Value Added Tax (VAT) estimation, the expected surplus will have a positive effect on revenue that the government can collect with the least possible resistance from the taxpayer.

An account from Study Group led by Dr. Sylvester Ugoh, which can be attributed to reviewing the Nigerian tax system as far back as November 1991, found the need to take a look at the tax system when the Government realized that Sales tax revenue was no longer sufficient. This was when VAT first came up as a suggestion, and a Committee was formed with Mr. Emmanuel Ijewere as Chairman

(the second study group) to conduct implementation feasibility studies, extensive research, and the required recommendations (Akinloye James,2021). The Federal Government then agreed to introduce VAT by the end of 1993. This was formalized by the VAT Act (VATA) Decree No 102 on January 1st, 1993. After postponing several times, the government was ultimately ready to implement VAT starting on September 1st, 1993, when the relevant legislation would have been made and proper groundwork done.

As stated by the FIRS in 1993, the Value Added Tax (VAT) gained popularity due to its relative ease to administer compared to other taxes, along with its higher potential to be collected without evasion. Consequently, implementing VAT in various countries, had begun by 1993. VAT was first introduced in Nigeria in January 1994 under the military regime of General Sani Abacha who replaced the previously narrow-based sales tax which covered only nine goods and services. VAT in Nigeria, which was introduced in 1994, was regarded by Naijeru (1996) and other tax scholars of the time, as gaining priority among planners and the government, and described to be the most significant fiscal revolution of the 20th century, together with VAT and aside from the fiscal policies of Keynes. Naijeru (1996) stated that including VAT together with the fiscal policies of Keynes, VAT was the most significant fiscal revolution of the 20th century. The value-added tax rate in Nigeria, from the time it was first implemented, has been at 5%. It was considered one the lowest and poorest VAT rates globally. Comparatively, research shows, from among countries that have VAT, Ghana's is at 12.5%. Angola, Botswana, and Egypt are at 14%. South Africa, Eswatini, Ethiopia, Sierra Leone, Equatorial Guinea, Seychelles, Mauritius, and Namibia have a 15% VAT rate (Statista, 2021). Attempts made by various top Governments in Nigeria since then to increase the VAT rate from 5% to 10% in May 2007 were unsuccessful due to the strong negative reaction from the people. However, it should be noted that the Finance Act of 2020, section 34, made significant changes and amendments that legally adjusted the VAT rate to 7.5% from 5%. It has remained so since then. Increased VAT revenue, despite

the criticism from the people, demonstrates that the value of VAT cannot be ignored. The revenue collected by the Federal government and the sub-national governments increased tremendously.

In Nigeria, Value-added tax, or VAT is charged on the supply of taxable goods and services and is applicable to manufacturers, wholesalers, importers, and suppliers. These businesses are mandated to register within six months of the commencement of business and this concept was further clarified in the Finance Act of 2020. This Act describes business commencement as the date the entity conducts its initial transaction (FIRS, 2020). Most business costs do not include VAT, as the costs are transferred to the final consumers. Most taxable persons can reclaim the VAT they have covered, with some minor exceptions. Registered taxpayers are mandated to charge and collect VAT, and the difference between the out.(Omoregbe and Associates, 2008). Conversely, in such cases, the taxpayer is entitled to a refund on the excess amount of VAT, or more simply put, the taxpayer gets a tax credit from the government for the excess VAT, and this VAT is refundable in the currency of the transaction under which the goods and services are rendered. The new Finance Act 2020 stipulates punishment for late submission of VAT returns. Failure to remit VAT returns also attracts a fine of N50,000 for the first month of the default and N25,000 for the subsequent months. This increase in penalties is due to the Finance Act 2020 which revised the penalties from N10,000 to N50,000 for the first month of default and from N5000 to N25,000 for subsequent months. The fine for failure to register for VAT is also revised to N50,000 for the first month of the default and N25,000 for subsequent months.

Teriaba(2021), remarked that when the States' Sales Tax was replaced by Value Added Tax, the first distribution formulas allocated 50% to the Federal Government of Nigeria, 35% to the States, and 15% to the Local Governments. However, Finance Act 2023 revised these allocations to Federal Government 15%, States 50%, and 15% to Local Governments (with the FIRS taking 4 percent net as a cost of collection). The shares for the States and Local Governments are allocated among themselves

based on the criteria of 50% equality, 30% population, and 20% derivation. The States' concerns about the percentage of the cost of collection, which is currently 4 percent, remains unaddressed by the Federation Account Allocation Committee (FAAC) in meetings. Over the years, through taxes, citizens have funded the provision of social amenities such as water, electricity, and roads. However, unlike other African and developed countries, the Government in Nigeria primarily does not rely on taxes to finance social amenities, even though taxes represent a considerable portion of the Government's revenue.

Despite the perception that the VAT system is impermeable to tax evasion and promotes compliance, in Nigeria its ability to do so is severely limited by an over-reliance on oil revenue and a large informal sector that remains untaxed. While the enforcement of VAT and sales tax are incentivized by effective means within the UK and US, Nigeria encounters difficulties in VAT enforcement. Burdened by VAT as the end consumers are issued, these consumers fund government spendings. Most of the revenue generated by the government through VAT as opposed to the petroleum profit tax, crude oil tax, and sales tax, which are also sought after by the government, are more constant and not influenced by the international oil price volatility, as exposed by Okonkwo (2019). Also, VAT was integrated to the tax systems in Nigeria so the government could help its revenue grown stagnant and erratic governance costs which are not met by the profit laden and erratic petroleum revenue. Nigeria’s VAT which was introduced in 1993 has made and continues to make positive and significant contributions to the Nigerian economy as the system has helped to diversify the revenue base and also enhanced Nigeria’s self-generated revenue. For instance, Nigeria’s VAT revenue rose from 7.76 billion in 1994 to 34 billion in 1997 (20.76 billion in 1995, 31 billion in 1996).

In 2015, after being allocated across sectors, the Federation account received revenue from value-added tax amounting to N1.7 trillion. In 2018, the revenue from value-added tax [VAT] collections in Nigeria was N1.1 trillion. Due to this significant increase in the collection of value-added tax, the Nigerian government anticipated expanding the efficiency in the collection of value-added tax revenue from an average of 21% in 2019 to 35% minimum by 2022. (Ezomike & Ango, 2019).

Value Added Tax Administration

The Federal Government of Nigeria has assigned the administration of Value Added Tax (VAT) to the Federal Inland Revenue Service (FIRS). FIRS is in charge of evaluating, collecting, accounting for, and enforcing federal taxes, and has the authority to take any action necessary and appropriate for evaluating and collecting taxes owed. This will now make it easier for administrators, tax professionals, and scholars to engage with the literature and the legal framework. The FIRS Act has conferred an extensive range of privileges and autonomy to the FIRS to allow for efficient performance of its statutory obligations. For instance, FIRS autonomously hires its personnel, determines the terms and conditions of service for its employees, and is able to impose disciplinary measures, all independent of the public service. This newly achieved autonomy has improved FIRS's operations. The previously complex and lengthy assessment and collection processes were greatly improved with the establishment of 77 Integrated Tax Offices (ITOs). These offices serve as one-stop shops for tax and VAT payments, negating the need for Local VAT Offices and thereby modernizing VAT administration. The Board is charged with responsibility of assessing and collecting tax and must account for all collected amounts pursuant to the provisions of the Act. Potential VAT taxpayers need to fill out VAT form 002 and submit it to the respective VAT office. Once registered, the VAT proceeds are payable every month to the VAT office. Every taxable person is required to remit the net amount. Remittances are required to be accompanied by the VAT returns. VAT is charged at a single

rate of 7.5% on taxable goods and services. Exports are zero rated while there are goods and services that are exempt from VAT. (Olaoye Clement, 2009).

Every individual engaged in economic activity is required to register for tax purposes and get a Tax Identification Number (TIN). However, this is only true for businesses that cross the Value Added Tax (VAT) threshold of an annual turnover of 25 million Naira or more. Such businesses must collect, remit, and file VAT returns. VAT returns must be submitted to the Federal Inland Revenue Service (FIRS) each month by the 21st, covering the previous month of the transaction. This was the procedure until the 2023 Finance Act changed the deadline for remittance of the tax returns. Under Section 14 of the 2023 Finance Act, the FIRS was given the power to designate persons to withhold or collect VAT, and to remit the VAT for the transaction to the FIRS by the 14th of the month following the transaction. This change in remittance deadline commenced July 2023 for VAT returns of June 2023 (Finance Act, 2023). The returns must show details of sales, purchases, output VAT and input VAT. VAT liability payments must be made in conjunction with submission of your returns during the defined period. Every registered business is required to charge VAT on all taxable goods and services and remit the VAT charged to VAT registered FIRS. In the cases where the VAT is to be remitted is the difference between the output VAT (VAT charged on sales) and the input VAT (VAT paid on purchases) is limited to goods purchased for resale or raw materials purchased and used to produce other taxable goods.

2.1.3 Concept of Consumption Level

Consumption is a central concept in economics and development studies, representing the use of goods and services by households to satisfy their needs and improve their welfare. At its most basic level, consumption refers to the final stage of economic activity, where goods and services that have been produced and distributed are utilized by individuals and households. It is distinguished from other

economic activities such as production, investment, and government spending because it directly relates to human well-being and the satisfaction of daily needs (Case, Fair, & Oster, 2017). Consumption is generally measured in terms of household expenditure within a given period, covering both food and non-food items, as well as durable and non-durable goods. Durable goods include items such as furniture, vehicles, and electronics, which provide utility over a long period of time, while non-durable goods refer to consumables like food, beverages, and clothing, which are used up relatively quickly. Services such as education, healthcare, transport, and housing rent are also integral to consumption measurement. Together, these components form what is referred to as the level of consumption, which reflects both the quantity and value of goods and services that households can access and afford.

At the macro level, consumption is captured in national accounts under Household Final Consumption Expenditure (HFCE). HFCE is the portion of gross domestic product (GDP) that represents expenditure by households on goods and services, including those produced domestically and those imported. In Nigeria, HFCE has historically accounted for a large proportion of GDP, usually above 60 percent, indicating that household consumption is the dominant component of aggregate demand (National Bureau of Statistics [NBS], 2024). This makes household consumption not only a measure of welfare but also a crucial driver of economic growth. At the micro level, household consumption is frequently measured using large-scale household surveys. In Nigeria, the Nigeria Living Standards Survey (NLSS) 2018/19 provides the most comprehensive data on household consumption and expenditure patterns (NBS, 2020). The survey disaggregates household spending into categories such as food, housing, clothing, education, health, and durable goods, allowing researchers to analyze not only the overall level of consumption but also its composition. Importantly, the NLSS captures regional variations in consumption, showing differences across urban and rural households, income groups, and geopolitical zones. This micro-level measurement is essential for

understanding poverty, inequality, and welfare in Nigeria, as consumption data often provide a more reliable indicator of household living standards than income, especially in economies with large informal sectors.

2.1.4 Determinants of Consumption in Nigeria

Household consumption behaviour in Nigeria is influenced by a wide range of factors that operate at both the microeconomic and macroeconomic levels. The first determinant is household income and earnings capacity, which fundamentally shape the ability of households to purchase goods and services. Both cross-sectional and time-series evidence suggest that increases in disposable income are positively correlated with higher household consumption, while income shocks often lead to sharp reductions in consumption, particularly among low-income households with limited coping mechanisms (Ademola & Abiodun, 2022). A second major determinant is price dynamics, including inflationary pressures and indirect taxation such as VAT. Rising consumer prices reduce the real value of income and constrain household demand. For instance, recent data from the NBS (2024) reveal that real HFCE contracted despite nominal increases in spending, reflecting the erosion of purchasing power by inflation. VAT contributes to these price dynamics by raising the cost of goods and services subject to the tax. The degree of price pass-through depends on the structure of the market—formal retail outlets often transmit VAT fully, while informal markets may absorb part of the tax burden (Omonhinmin & Olaowo, 2025).

Credit access and financial inclusion also play important roles in determining consumption. Households with access to credit facilities or savings are better able to smooth consumption during periods of economic shocks or rising costs. However, in Nigeria, financial exclusion remains widespread, meaning that many households are unable to borrow or draw on savings to sustain consumption during tax-induced price increases (CBN, 2023). Another determinant is household demographics, including household size, dependency ratios, and educational status of the household

head. Larger households, especially those with high dependency burdens, tend to devote a greater share of income to food and essential items, which constrains spending on non-essentials (Usman, 2019). Similarly, households with more educated members often show higher awareness of tax policies and greater participation in formal markets, which alters their VAT exposure. Finally, the policy environment and public provision of services influence consumption indirectly. When VAT revenues are transparently utilized to improve access to education, healthcare, and infrastructure, households may experience welfare gains that offset the direct cost burden of higher consumption taxes. However, weak linkages between tax collection and visible service delivery have often limited this effect in Nigeria (Obi, 2023).

2.2 Empirical Review

Omonhinmin and Olaowo (2025), adopted a descriptive survey research design to investigate the relationship between value added tax and household consumption patterns in Delta State, Nigeria. The study considered public perception of VAT, compliance behaviour, awareness of VAT policy and their combined influence on household consumption. Primary data were obtained from 178 respondents comprising 90 owners of SMEs and 88 household consumers, selected purposively from the three senatorial districts of Delta State. Both descriptive and inferential statistical techniques were employed to analyse the data. Findings revealed that public perception, VAT compliance and VAT policy awareness had significant effects on household consumption behaviour. The study concluded that improving transparency in VAT administration and creating more awareness among households could enhance compliance and reduce the adverse effect of VAT on consumption.

Okafor and Ibrahim (2024) used a household survey design to investigate the effect of VAT on food and beverage consumption in Kaduna State. The study considered monthly expenditure on processed foods and non-alcoholic beverages. Primary data were gathered from 160 households using structured questionnaires. Data were analyzed using linear regression models. Results showed that

VAT significantly increased the cost of processed foods and beverages, forcing households to reallocate spending toward untaxed or less-taxed substitutes. Ezekiel & Nnaji (2024), used a panel survey design to examine how VAT implementation changes influence household expenditure on durable goods in Sokoto State. The study considered individual household-level spending on durables (appliances, furniture), VAT rate changes, household assets, and credit access over two waves one year apart. Primary data were gathered from 120 households, tracked over a 12-month panel. Fixed effects regression models captured within-household changes. The results revealed that following an increase in VAT, there was a significant within-household decline in durable consumption by around 8 %, controlling for income and credit. The impact of personal income tax and consumption tax on the spending behavior of consumers in Nigeria has been studied by David et al. (2024). For the co-integration test, the Autoregressive Distributed Lag (ARDL) model has been utilized. The research additionally uses the Error Correction Model (ECM) to determine how rapidly any variation from the long run equilibrium within the current period can return to normal. The results indicate that, in the long run, and in the short, Value Added Tax does not significantly impact consumer purchasing power. In the long run, however, and not in the short, personal income tax and the exchange rate positively influence consumer purchasing power. The ECT coefficient is significantly negative at the 1% level.

Adekunle (2023), engaged in a community-based survey design to explore VAT's effect on households' consumption of utilities in Lagos Mainland LGA. The study considered monthly household consumption expenditure on utilities (electricity, telecommunications, internet), VAT tax inclusion, household income categories, and substitution patterns. Primary data were obtained from 250 households, randomly selected across five wards. Analytical tools included cluster-level fixed effects OLS and segmented regression to estimate differences across income groups. Results showed that households in the lowest income quintile significantly reduced consumption of VAT-inclusive utilities (particularly telecommunications), whereas middle- and upper-income households were less

responsive, showing no significant consumption drop.

Adegbite (2023), employed an ex-post facto/time-series design to examine the effect of multiple taxes (including VAT) on household final consumption expenditure (HFCE) in Nigeria. Data covered 1990–2021 sourced from the CBN Statistical Bulletin. The study used ARDL with ECM, unit-root and cointegration testing. Findings showed that VAT (and some other indirect taxes) exerted a negative and statistically significant influence on household consumption (in contrast with some other studies), suggesting that tax mix matters and VAT can reduce HFCE when other macro conditions hold. The study highlights heterogeneous results across tax types and stresses careful modelling of control variables (inflation, exchange rate).

Ibrahim (2022), employed a case-control survey design to investigate how VAT affects consumption of packaged food and beverages among middle-income households in Abuja, the Federal Capital Territory. The study considered household consumption expenditure on packaged goods, VAT knowledge, and behavioral changes post-introduction of increased VAT rate on certain categories (e.g., sugar-sweetened beverages). Primary data were obtained through structured questionnaires from 150 households (75 ‘cases’ that reported reduced consumption and 75 ‘controls’ that reported unchanged consumption), selected purposively. Analysis employed logistic regression to estimate the odds of consumption reduction in response to VAT changes. Findings revealed that households with higher awareness and perception of VAT increase had significantly greater odds (OR ≈ 2.5) of reducing consumption of VAT-inclusive packaged goods. The study concluded that consumer education and gradual tax implementation could mitigate abrupt decline in consumption.

Rimamtanung & Osang (2022) examined how Nigerian private consumption spending on manufactured goods was impacted by VAT. It was found that no study had attempted to evaluate the impact of VAT on private consumption spending of manufactured goods in Nigeria, despite the fact that quite a few studies had attempted to determine the influence of VAT on private consumption

expenditure in Nigeria in recent years. Furthermore, in the studies that sought to ascertain the effect of VAT on private consumption expenditure in Nigeria, certain elements that might have a significant shortand long-term impact on private consumption expenditure, such as real GDP, private domestic credit, and infrastructure, were not taken into consideration. This study assessed the impact of important variables that are believed to have a substantial impact on private consumption spending in order to make it highly predictable. The study determined the variables including value added tax, per capita income, consumer price index, real GDP, private domestic credit, and infrastructure that have an impact on private consumption spending on manufactured goods in Nigeria. From 1990 through 2021, time series data were used for the investigation. The ARDL method was used to examine the immediate and long-term effects of VAT on private consumption expenditure in Nigeria. The findings demonstrate that value added tax (VAT), consumer price index (CPI), per capita income (PCI), and infrastructure (INFR) all significantly and positively influence private consumption expenditure (PCE) of manufactured goods in Nigeria over the short and long terms, while real GDP and private domestic credit (PDC) have the opposite effects. However, only PDC has a significant impact on PCE.

Omodero (2022), used ex-post facto/time-series and panel methods to study VAT revenue transfers and social development (with welfare/consumption implications) across Nigerian subnational units. Data spanned 1995–2021 and were drawn from CBN, state fiscal reports and national data sources. Econometric methods included regression analysis and causality tests. The study found that VAT revenue transfers to states are positively associated with social development indicators (and thus by implication household welfare/consumption) stronger devolution increased capacity for social spending that supports consumption-related welfare.

Adebayo (2021), used cross-sectional survey research design to assess the impact of VAT on household spending behaviour in Ibadan, Oyo State. The study focused on monthly household consumption expenditure and frequency of purchase of VAT-included goods. Primary data were

collected from 200 households selected through multistage sampling across urban and peri-urban wards of Ibadan. Data were analysed using both descriptive statistics and log-linear regression models. Results indicated that households with higher awareness of VAT tended to reduce their weekly consumption frequency of VAT-inclusive products, particularly non-essential items, though total monthly spending did not decline significantly. The study recommended targeted awareness campaigns to reduce overreaction to VAT and maintain consumption stability.

Usman (2019), employed a survey-based approach with econometric modelling to investigate the effect of consumption taxes, including value added tax, on household standard of living in Nigeria. The study considered household consumption expenditure as a proxy for welfare, and VAT, excise duties and personal income tax as explanatory variables. Primary data were gathered from sampled households using structured questionnaires covering income, expenditure, and tax awareness. An Error Correction Mechanism (ECM) was applied to capture both the short-run and long-run relationships between consumption taxes and household expenditure. The results showed that VAT and other indirect taxes exerted a negative effect on household consumption expenditure, suggesting a decline in the standard of living. The study recommended a restructuring of the tax system to reduce the burden on households while still enhancing government revenue generation.

Joshua (2018), adopted a survey research design to examine the impact of value added tax on low-income earners in Ogun State, Nigeria. The study focused on how an increase in VAT rate from 5% to 10% would affect the purchasing power and consumption pattern of low-income households. Primary data were obtained through the administration of 50 questionnaires distributed to consumers at retail supermarkets in Ota, Ogun State, selected purposively. The tool of analysis was linear regression using SPSS software. Findings revealed that an increase in VAT rate would significantly reduce the purchasing power of low-income earners, thereby constraining household consumption and welfare. The study concluded that raising VAT without compensatory measures would be regressive

and detrimental to the standard of living of poor households.

Obiakor et al. (2015) used an ex post facto approach to capture the relationship between value added tax and consumption expenditure patterns and the consumer price index in Nigeria. Considering the data on value added tax revenue, household consumption expenditure on durable and non-durable goods, and the consumer price index between 1994 and 2014, the author was able to collect data for 2014. The National Bureau of Statistics and the Central Bank of Nigeria's Statistical Bulletin were the author's primary sources for data on household consumption expenditure and consumer price index for durable and non-durable goods. The author used multiple regression to analyze the consumption expenditures and consumer price index, saving the lagged valued variants for the last. The author found that value added tax and one lagged consumption expenditure on durable goods were statistically significant to a household's durable goods consumption expenditure. The author further found that VAT positively and non-significantly towards household expenditures on non-durable VAT and non-durable goods and persistent VAT and non-durable expenditures did encourage household consumption. The author concluded that VAT's marginal effect on the consumer price index is negative.

As part of a larger project, Oladipo and Fashola (2020) examined the effect of VAT on the consumption expenditure of urban households in Lagos State. In doing so, the study looked at the monthly expenditure of households on VAT-inclusive goods and income levels. For the project, primary data were collected using 250 questionnaires distributed among households in the local government of Ikeja, Surulere, and Mushin. Multiple regression analysis was used to analyze the data. The findings of the study established that, while the effect was insignificant on household consumption of nondurable goods (e.g., food, fuel), VAT did significantly constrain consumption of semi-durable goods. In addition, the effect of VAT on consumption of nondurable goods was insignificant. Nwachukwu (2020), employed mixed-method survey design to evaluate the relationship between

VAT enforcement awareness and consumption patterns in Enugu State, Nigeria. The study considered household spending on taxable goods and VAT enforcement visibility (e.g., signage in stores, visible receipts, vendor explanations). Primary data were sourced from 250 households and 30 retailers, selected via stratified random sampling across Enugu urban and peri-urban zones. Descriptive statistics, correlation analysis, and binary probit models were used. Results showed that higher visibility and enforcement awareness led to slightly lower consumption of taxable goods, but households reallocated spending toward non-VAT-exposed substitutes, leaving overall consumption levels relatively stable. The study recommended enhancing VAT signage and transparency to moderate consumption shifts.

2.3 Theoretical Framework

2.3.1 Ability-To-Pay Theory

The ability to pay theory, introduced by MS Kendrick in 1939, posits that tax liability is an obligatory payment to the state, irrespective of any direct benefit received. It emphasizes that taxation does not imply a commercial or semi-commercial exchange between the state and its citizens. Rather, individuals are expected to pay taxes based on their financial capacity, with their respective share of the tax burden determined by their relative ability to pay. This principle has been recognized for as long as the benefits theory and has garnered support from socialist thinkers due to its alignment with principles of justice and equity. The theoretical basis of the ability-to-pay theory traces back to early economic scholars like Adam Smith, who advocated for progressive taxation in his seminal work "An Inquiry into the Nature and Causes of the Wealth of Nations," published in 1776. Smith argued that individuals with higher incomes should contribute a larger portion of their earnings in taxes, given their ability to do so without compromising their basic needs. This underscores the importance of progressive taxation, where higher-income earners contribute proportionately more to taxes compared to those with lower incomes. The core principle behind this theory is the notion of fairness and equity

within the taxation system, advocating for individuals or entities to contribute to public goods and services funding based on their financial capabilities.

The ability-to-pay theory holds significance for Nigeria's taxation system, potentially serving as the basis for a progressive tax structure where higher earners contribute more taxes. Many modern tax systems incorporate elements of this theory, with progressive taxation being prevalent in countries where tax rates rise with income levels. Additionally, tax deductions, credits, and exemptions are utilized to account for individual circumstances and ability to pay. However, implementing this principle may face challenges such as tax evasion and avoidance, especially among high-income individuals and corporations. Moreover, accurately defining and measuring "ability to pay" is complex, involving factors beyond just income, such as wealth, assets, and living expenses. Recent studies, including those by Akinola and Akinrinola (2023), Ujah et al. (2023), and Joseph et al. (2022), strongly support the relevance of this theory, affirming its suitability for guiding Nigeria's taxation policies.

2.3.2 Keynesian Consumption Theory

The Keynesian consumption theory, proposed by John Maynard Keynes (1936), asserts that consumption is primarily a function of disposable income. According to Keynes, households allocate a large portion of their income to consumption, and this proportion tends to decrease as income rises. A key insight is that taxation directly reduces disposable income, thereby lowering consumption expenditure. Since VAT is an indirect tax applied on goods and services, its imposition raises consumer prices and effectively reduces the amount of goods households can purchase with their available income. In Nigeria, where many households live close to the poverty line and spend more than 70 percent of their income on consumption, VAT represents a significant burden. The theory also emphasizes the concept of the marginal propensity to consume (MPC), which is higher among low-income groups. This implies that when VAT reduces disposable income, poor households are forced

to cut back more sharply on their consumption compared to wealthier households. For example, an increase in VAT from 5 to 7.5 percent in Nigeria directly reduced households' purchasing power, with the strongest effect observed among urban poor families who spend most of their income on food and non-durable goods. The Keynesian framework thus provides a foundation for predicting a negative relationship between VAT and household consumption. It further explains why consumption taxes can reduce aggregate demand and slow economic growth when implemented without adequate cushioning measures, such as subsidies or social welfare programs.

2.2.3 Life Cycle Hypothesis

The Life-Cycle Hypothesis, developed by Modigliani and Brumberg (1954), expands on consumption theory by asserting that individuals plan their spending and savings across their entire lifetime. According to LCH, people borrow during youth, save during their working years, and dissave in retirement. The central idea is that households attempt to smooth consumption over time regardless of temporary income changes. However, when taxes like VAT increase, the cost of present consumption rises, forcing households to either reduce current expenditure or alter their savings behavior. In Nigeria, where access to credit markets is limited, households often cannot borrow easily to smooth consumption when faced with rising prices due to VAT. This means that VAT increases have an immediate impact on their present consumption, especially for low- and middle-income households who lack significant savings. For example, young families in urban centers may reduce their purchase of non-essential durable goods when VAT increases, postponing such expenditures until later stages of life. Similarly, older households nearing retirement may adjust their consumption to safeguard future financial security. The Life-Cycle Hypothesis is particularly relevant to VAT studies in Nigeria because it emphasizes intertemporal decision-making. Since Nigerian households have weak formal retirement structures, their capacity to smooth consumption is constrained. Therefore, VAT can distort lifetime consumption planning, especially when imposed on goods and services that form a significant

part of household budgets. This underscores the regressive nature of VAT in developing countries and strengthens the case for exempting basic goods from VAT in order to protect vulnerable households.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter contains the research procedures employed in this study which include; the research design, population of the study, the sample size and sampling techniques, operationalization variables, source of data, the research instrument, reliability and validity of the research instrument and the method of data analysis.

3.2 Research Design

The study basically adopted an exploratory research design in which structured questionnaire will be designed and distributed to the respondents as a means of gathering information. This design is most appropriate and suitable for measuring or ascertaining the impact of one variable on the other. The study employs research survey design since it seeks to ascertain respondents' current perception of the subject matter. As a result, the primary data for the study will be obtained by field survey of knowledgeable individuals with the administration of questionnaire to respondents.

3.3 Population of the Study

The target population for this study comprises households within Ugbowo, Benin City, Edo State. This study population is limited to Ugbowo in other to facilitate easy collection of data due to the limited time available for this research.

3.4 Sample of the study

This study will randomly select 100 households around Ugbowo Benin city. The randomly selected households will be used as the sample of this study from which data for the study analysis will be generated.

3.5 Sources of Data

The source of data for this study is primary in nature, as information will be obtained directly from respondents through the administration of structured questionnaires. The questionnaire will be carefully

designed to ensure clarity, with unambiguous and straightforward questions that are easy for respondents to understand and answer.

3.6 Research Instrument

Data collection is very crucial in any research process. A questionnaire as a research instrument was mainly used for the collection of primary data. The questionnaire employs a typical form of fixed-response alternative questions that require the respondents to select from a predetermined set of answers to every question or fill in closed-ended statements. The questions were mainly sourced from a questionnaire of a related study. The questionnaire that will be administered to the respondents will be divided into two sections of A and B. Section A is concerned with the demography data of the respondents among which are: family size, family income, breadwinner of the family and year of marriage. Section B consists of questions directly related to the objectives of the study and set in Likert scale.

3.7 Model Specification

This study examines the impact of value added tax on consumption level in Nigeria. Given that the study will require a multivariate regression analysis, a multivariate regression model will also be derived. This multivariable regression econometric model explains the variation in the value of the dependent variables which is (value added tax) based on a change in the independent variables (household purchasing decisions and consumption, saving and investment behaviour among households and household welfare in Nigeria).

Functionally, the mode for the study ia expressed as:

VAT = f(HPDC, SIB, PLHW) ……. (1)

This model is further expressed mathematically as:

VAT = $\beta_0 + \beta_1 \text{HPDC}_i + \beta_2 SIB_i + \beta_3 PLHW_i$……. (4)

Where:

HPDC = Household Purchasing Decision and Consumption

SIB = Saving and Investment Behaviour Among Households

PLHW = Poverty Levels and Household Welfare

VAT = Value Added Tax

i = respondents

β_0 = Constant

β_{1-3} = Coefficients of the Independent variable

3.8 Operationalization of Variables

The study will examine the impact of the independent variable on the dependent variables. The focus of this study is to assess the impact of value added tax on consumption level in Nigeria. For this study consumption level (household purchasing decisions and consumption, saving and investment behaviour among households and household welfare in Nigeria) serve as the independent variable, while value added tax remain the dependent variable. This scale is constructed with close-ended questions, and they are organized as five-point Likert type (5=strongly agree, 4=agree, 3=neutral, 2=disagree, and 1=strongly disagree).

3.9 Method of Data Analysis

The ordinary least squares regression (OLS) was used in this study as a statistical method for analyzing the data gathered. This study adopts ordinary least squares regression because it estimates the relationships between one or more independent variables and a dependent variable. The EViews software was used to analyze the data. Preceding the analysis, the usual regression assumption tests were carried out. The serial correlation test was tested using the Breusch-Pagan test of serial correlation. Heteroskedasticity was tested using the Breusch-Pagan-Godfrey test while the model specification was carried out using the Ramsey RESET test.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

In this chapter, the various variables employed in this study are tested, presented and interpreted in order to give meaningful results that can be used for decision purposes and policies. The chapter starts with descriptive statistics, followed by the Histogram Normality Test, Correlation analysis, and regression diagnostics which include: The Breusch-Pagan-Godfrey Test of Heteroskedasticity, Breusch-Godfrey Test of Serial Correlation and the regression analysis result.

4.2 Descriptive Statistics

The main features of a dataset are summarized by descriptive statistics. These statistics aid in comprehending the data's variability and central trend. The mean, median, and mode which stand for the average, middle value, and most frequent value, respectively are examples of measures of central tendency. Standard deviation, variance, minimum and maximum values, kurtosis, and skewness, on the other hand, are examples of variability measurements that show the distribution shape and dispersion of the data. The study variables' summary statistics are shown in the table below:

DESCRIPTIVE ANALYSIS

Table 4.1: Results of the Descriptive Analysis of the Regression Variables

	VAT	SIB	PLHW	HPDC
Mean	11.95000	11.93000	11.78000	12.36000
Median	12.00000	12.00000	12.00000	12.00000
Maximum	16.00000	16.00000	16.00000	16.00000
Minimum	4.000000	7.000000	5.000000	7.000000
Std. Dev.	1.929960	1.944975	1.784218	1.877673
Skewness	-0.657635	-0.199126	-0.341253	-0.198787
Kurtosis	4.681934	2.780294	4.180408	3.043261
Jarque-Bera	18.99516	0.861978	7.746579	0.666405
Probability	0.000075	0.649866	0.020790	0.716625
Sum	1195.000	1193.000	1178.000	1236.000
Sum Sq. Dev.	368.7500	374.5100	315.1600	349.0400
Observations	100	100	100	100

Source: Researcher's Compilation (2025)

Table 4.1 above presents the descriptive statistics for Value Added Tax (VAT), Saving and Investment Behaviour among Households (SIB), Poverty Levels and Household Welfare (PLHW), and Household Purchasing Decision and Consumption (HPDC) for the 100 sampled observations.

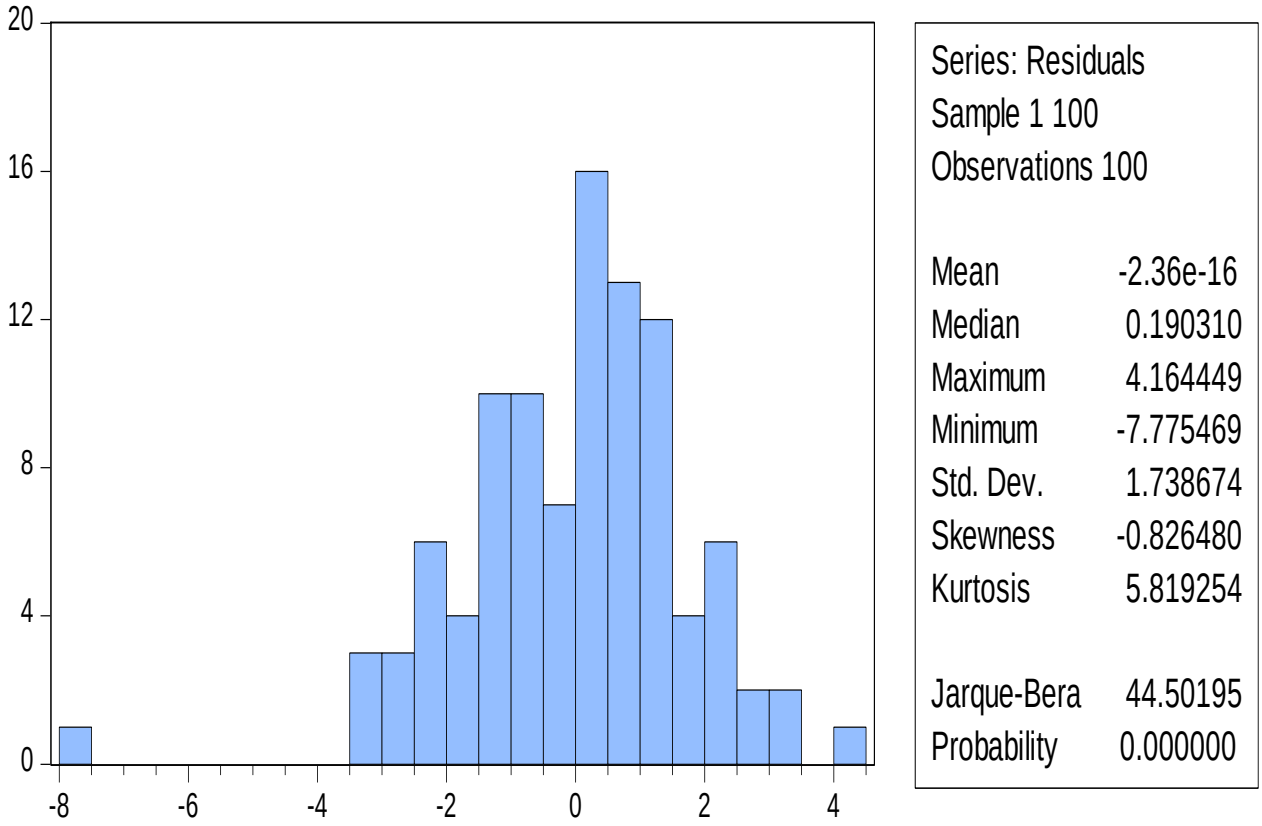
The mean values for the variables range between 11.78 and 12.36, with HPDC having the highest mean (12.36), indicating that household purchasing decisions and consumption levels are generally higher than the other variables on average. PLHW recorded the lowest mean (11.78), suggesting relatively lower welfare and higher poverty levels among households during the period under review. The mean values of VAT (11.95) and SIB (11.93) are very close, reflecting a balanced trend in tax incidence and household saving/investment behaviour.

The median values for all variables hover around 12.00, implying that the data are symmetrically distributed around their central tendencies. The maximum value of 16.00 and minimum values ranging from 4.00 to 7.00 indicate moderate variability among the observations. This is further

supported by the standard deviation values between 1.78 and 1.94, which show relatively low dispersion around the mean, suggesting consistency across the data set. The skewness coefficients for all variables are negative, ranging between -0.20 and -0.66, indicating a slight left-skewed distribution. This suggests that most of the data values are concentrated on the higher end of the scale, with few lower outliers. Additionally, VAT and PLHW have kurtosis values greater than 3 (4.68 and 4.18, respectively), indicating a leptokurtic distribution, meaning their data are more peaked than the normal distribution. In contrast, SIB (2.78) and HPDC (3.04) show distributions closer to normality.

The Jarque-Bera (JB) statistics reveal that VAT (JB = 18.995, p = 0.0001) and PLHW (JB = 7.747, p = 0.0208) are not normally distributed at the 5% level of significance since their p-values are below 0.05. However, SIB (p = 0.65) and HPDC (p = 0.72) have p-values greater than 0.05, indicating that these variables are normally distributed. The mean skewness, kurtosis and Jarque-Bera statistics are reported in the result of the histogram normality test in Fig 1.

Fig 1: Result of the Histogram Normality Test



Source: Author (2025)

The results of the histogram normality test show a negative skewness value of -0.826480, indicating a left-skewed distribution. The kurtosis value of 5.819254 is slightly higher than the benchmark of three, suggesting a leptokurtic distribution with a sharper peak. The degree of variability around the mean is indicated by the mean standard deviation, which is 1.738674. Furthermore, given the high significance of the test results, the Jarque-Bera statistic of 44.50195 with a probability value of 0.000000 indicates that the data do not fit a Gaussian normal distribution.

4.3 Correlation Analysis

Table 4.2: Result of the Correlation Analysis

Covariance Analysis: Ordinary

Date: 11/05/25 Time: 00:30

Sample: 1 100

Included observations: 100

Correlation t-Statistic Probability	VAT	SIB	PLHW	HPDC
VAT	1.0000			

SIB	-0.3058	1.0000		
	-3.1799	-----		
	0.0020	-----		
PLHW	-0.3048	0.3332	1.0000	
	-3.1679	3.4979	-----	
	0.0020	0.0007	-----	
HPDC	-0.3395	0.4689	0.1626	1.0000
	-3.5731	5.2549	1.6311	-----
	0.0005	0.0000	0.1061	-----

Source: Author (2025)

Table 4.2 above presents the correlation results among Value Added Tax (VAT), Saving and Investment Behaviour among Households (SIB), Poverty Levels and Household Welfare (PLHW), and Household Purchasing Decision and Consumption (HPDC). The relationship between VAT and SIB shows a negative and statistically significant correlation of -0.3058, with a corresponding t-statistic of -3.1799 and a p-value of 0.0020. This indicates that increases in VAT are associated with declines in household saving and investment behaviour. In essence, higher VAT rates or inefficient VAT utilization may reduce disposable income, limiting the capacity of households to save and invest.

The relationship between VAT and PLHW is negative and significant, with a correlation coefficient of -0.3048, t-statistic of -3.1679, and p-value of 0.0020. This suggests that higher VAT levels may contribute to worsening poverty levels and household welfare, likely due to the regressive nature of consumption taxes which disproportionately affect low-income households. The correlation between VAT and HPDC is negative and significant, with a correlation coefficient of -0.3395, t-statistic of -3.5731, and p-value of 0.0005. This implies that higher VAT rates or poor tax utilization can suppress household purchasing decisions and consumption levels.

4.4 Regression Diagnostics

Test of Heteroskedasticity

Table 4.3: Test of Heteroskedasticity

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.473552	Prob. F(3,96)	0.7014
Obs*R-squared	1.458271	Prob. Chi-Square(3)	0.6919
Scaled explained SS	3.238399	Prob. Chi-Square(3)	0.3563

Source: Author (2025)

Table 4.3 displays the results of the Breusch-Pagan-Godfrey test for heteroskedasticity. The probability value obtained is 0.7014, which is greater than 0.05. This suggests that there is no issue of heteroskedasticity in the model. Therefore, the alternative hypothesis of homoskedastic residuals is accepted, indicating that the variance of the residuals in the regression model is constant.

Test of Serial Correlation

Table 4.4: Result of the Breusch-Godfrey Test of Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.338037	Prob. F(2,94)	0.1021
Obs*R-squared	4.738812	Prob. Chi-Square(2)	0.0935

Source: Author (2025)

The results from the Breusch-Godfrey Serial Correlation LM Test suggest that there is a significant issue with serial correlation in the model. The F-statistic is 2.338037, and its associated probability value (Prob. F(2,94)) is 0.1021, which is statistically insignificant. This indicates that the null hypothesis of no serial correlation is accepted at 5% level of significant.

Ramsey Reset Test

Table 4.5: Results of the Ramsey RESET of Model Specification

Ramsey RESET Test

Equation: UNTITLED

Specification: VAT SIB PLHW HPDC C

Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.915980	95	0.3620
F-statistic	0.839019	(1, 95)	0.3620
Likelihood ratio	0.879301	1	0.3484

Source: Eviews 10 (2025)

The Ramsey RESET Test is used to detect model misspecification, particularly to check if any important nonlinear relationships have been omitted from the model. The t-statistic and F-statistic values are 0.915980 and 0.839019 respectively, with a corresponding p-value of 0.3620. Since the p-value is greater than the conventional significance level of 0.05, we fail to reject the null hypothesis that the model is correctly specified. This suggests that there is no evidence of misspecification in the model based on this test.

4.5 Analysis of the Regression Result / Test of Hypotheses

Hypothesis One: Value Added Tax has no significant effect on household purchasing decisions and consumption.

Dependent Variable: HPDC
Method: Least Squares
Date: 11/05/25 Time: 00:27
Sample: 1 100
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAT	-0.330305	0.092441	-3.573135	0.0005
C	8.412854	1.118845	7.519233	0.0000

Source: Eviews 10 (2025)

The coefficient for value-added tax (VAT) is -0.330305, which suggests a negative relationship between value-added tax and household purchasing decisions and consumption. This means that, holding other variables constant, an increase in value-added tax is associated with a decline in household purchasing decisions and consumption. The t-statistic for value-added tax is -3.573135, and the corresponding probability value of 0.0005 indicates that the effect is statistically significant at the 5% level. Therefore, the null hypothesis that value-added tax has no significant effect on household purchasing decisions and consumption is rejected at the 5% level of significance.

Hypothesis Two: Value Added Tax has no significant effect on the saving and investment behaviour among households in Nigeria.

Dependent Variable: SIB

Method: Least Squares

Date: 11/05/25 Time: 00:29

Sample: 1 100

Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAT	-0.308203	0.096924	-3.179857	0.0020
C	8.246969	1.173097	7.030086	0.0000

Source: Eviews 10 (2025)

The coefficient for value-added tax (VAT) is -0.308203, which suggests a negative relationship between value-added tax and saving and investment behaviour among households in Nigeria. This means that, holding other variables constant, an increase in value-added tax is associated with a decline in saving and investment behaviour among households in Nigeria. The t-statistic for value-added tax is -3.179857, and the corresponding probability value of 0.0020 indicates that the effect is statistically significant at the 5% level. Therefore, the null hypothesis that value-added tax has no significant effect on the saving and investment behaviour among households in Nigeria is rejected at the 5% level of significance.

Hypothesis Three: Value Added Tax has no significant effect on poverty levels and household welfare in Nigeria.

Dependent Variable: PLHW

Method: Least Squares

Date: 11/05/25 Time: 00:26

Sample: 1 100

Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAT	0.281763	0.088944	3.167867	0.0020
C	8.412936	1.076516	7.814965	0.0000

Source: Eviews 10 (2025)

The coefficient for value-added tax (VAT) is 0.281763, which suggests a positive relationship between value-added tax and poverty levels and household welfare in Nigeria. This means that, holding other variables constant, an increase in value-added tax is associated with an increase in poverty levels in Nigeria. The t-statistic for value-added tax is 3.167867, and the corresponding probability value of 0.0020 indicates that the effect is statistically significant at the 5% level. Therefore, the null hypothesis that value-added tax has no significant effect on poverty levels and household welfare in Nigeria is rejected at the 5% level of significance.

4.6 Discussion of Findings

The first result indicates that the coefficient for Value Added Tax (VAT) on household purchasing decisions and consumption (HPDC) is -0.330305, with a t-statistic of -3.573135 and p-value 0.0005, implying a statistically significant negative relationship at the 5% significance level. In other words, holding other variables constant, an increase in VAT is associated with a decline in household purchasing decisions and consumption. This suggests that higher consumption taxation via VAT may reduce disposable income or push households to curb spending. This is in line with the findings of Usman (2018), that consumption tax including VAT had negative effects on household standard of living in Nigeria. This supports the idea that consumption taxes can dampen household consumption in developing economies where many households are low-income and less resilient to tax burdens.

The impact of VAT on savings and investment behaviour among households (SIB) has a coefficient of -0.308203, with a t-statistic of -3.179857 and p-value 0.0020, indicating a statistically significant negative effect. That is, as VAT increases, households reduce their saving and investment behaviour. This is consistent with the reasoning that when consumption tax burdens rise, households may have lower residual income to allocate into savings or investments. Although the specific study by Usman (2018) focused more on living standards, the logic extends: reduced consumption may also reduce capacity to invest for the future. These results thus highlight the potential crowding-out effect of high consumption tax burdens on household financial behaviour.

Lastly, the result for the impact of VAT on poverty levels and household welfare (PLHW) shows a coefficient of 0.281763, with a t-statistic of 3.167867 and p-value 0.0020, indicating a significant positive relationship. This suggests that increases in VAT are associated with increases in poverty levels and reductions in household welfare. In effect, the burden of VAT may

disproportionately hit poorer households, eroding welfare even while the government collects revenue. These findings align with Omodero et al. (2022) who observed that VAT's incidence in Nigeria may exacerbate welfare burdens when households are taxed on consumption of basic goods.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

1. The study revealed that value-added tax (VAT) has a negative and significant relationship with household purchasing decisions and consumption in Nigeria. This indicates that an increase in VAT leads to a decline in household spending capacity, suggesting that higher consumption taxes reduce consumer demand and overall purchasing behaviour.
2. The findings showed that value-added tax (VAT) has a negative and significant relationship with household saving and investment behaviour in Nigeria. This implies that as VAT rates increase, households tend to save and invest less due to reduced disposable income, thereby affecting long-term financial stability and capital accumulation.
3. The study found that value-added tax (VAT) has a positive and significant relationship with poverty levels and household welfare in Nigeria. This means that an increase in VAT contributes to higher poverty levels and worsens household welfare, indicating that the tax burden disproportionately affects low-income households.

5.2 Conclusion

The study examines the impact of value-added tax on the consumption level in Nigeria. The study focused on households within Ugbowo, Benin City, from which a sample of 100 households was selected. Different statistical and econometric measures were carried out and the empirical results revealed that value-added tax has a negative and statistically significant impact on household purchasing decisions and consumption and saving and investment behaviour among households in Nigeria, but a positive and statistically significant impact on poverty levels and household welfare in Nigeria.

5.3 Recommendations

The following recommendations were made in line with the above findings:

1. The government should consider reducing VAT rates on essential goods and services to enhance consumer purchasing power and stimulate aggregate demand.
2. Policymakers should introduce targeted tax reliefs or exemptions for savings and investment-related products to encourage household financial growth despite VAT pressures.
3. The government should expand social safety nets and channel a portion of VAT revenue into poverty reduction programs such as cash transfers, education, and healthcare subsidies.

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APPENDIX I

QUESTIONNAIRE

Department of Accounting,
University of Benin,
Benin city, Edo State.

Dear Respondent,

I am inviting you to participate in this academic research by completing this questionnaire. The objective of this research is to investigate the impact of Value Added Tax on consumption level in Nigeria. The questions contained herein will only require approximately 5 – 6 minutes of your time to complete. I express my profound gratitude for your contribution and assistance in completing this research. You are not in any way obligated to answer these questions, but your responses will help my research significantly. Please be rest assured that the information you provide here will be handled with utmost confidentiality and will be used solely for the purpose stated above.

Yours sincerely

Adebayo Fatimah Gift

SECTION A: Demographic Information

Instruction: Please tick the respective boxes to indicate your response.

Demographic Variables	**Responses**
Gender	Male { } Female { }
Age	18 - 25 { } 26 - 35{ } 36 – 45 { } 46 and above { }
Occupation	Civil servant { } Trader { } Artisan { } Unemployed { }
Average Monthly Income	Below ₦50,000{ } ₦50,000 - ₦100,000 { } ₦101,000 – ₦200,000 { } Above ₦200,000 { }

Section B: Instruction

Scaling from 1–5 for decisions of respondents has been provided below, kindly indicate your degree of agreement to the statement by filling the spaces provided with a tick ( ). Note: Strongly Disagree (SD); Disagree (D); Neutral (N); Agree (A); Strongly Agree (SA)

Research Questions on Value Added Tax

S/No	Statements	SA	A	N	D	SD
1.	VAT is a fair way for government to raise revenue.					
2.	The increase of VAT from 5% to 7.5% has affected your household finances.					
3.	Effective utilization of tax revenue reduces unemployment and poverty.					
4.	The government uses VAT revenue effectively for public welfare.					
5.	Businesses often include VAT in prices without clearly informing customers.					

Research Question 1: Value Added Tax and household purchasing decisions and consumption

S/No	Statements	SA	A	N	D	SD
6.	The increase in VAT has led to higher prices of goods and services in Nigeria.					
7.	VAT affects the quantity of goods and services my household can afford.					
8.	I often avoid purchasing VAT-inclusive goods to reduce expenses.					
9.	VAT has reduced my household's purchasing power.					
10.	The presence of VAT makes me prefer cheaper substitutes or informal markets.					

Research Question 2: Value Added Tax and saving and investment behaviour among households

S/N	Statements	SA	A	N	D	SD
1.	VAT reduces the amount of disposable income available for savings.					
2.	VAT increases the cost of goods and limits my ability to invest.					
3.	The burden of VAT discourages long-term financial planning.					
4.	Higher VAT rates negatively affect my capacity to purchase assets or invest in small businesses.					
5.	Reduction in VAT could encourage more household savings and investments.					

Research Question 3: Value Added Tax on poverty levels and household welfare

S/No	Statements	SA	A	N	D	SD
6.	VAT contributes to higher cost of living for my household.					
7.	VAT increases household financial stress and hardship.					
8.	The increase in VAT rate has worsened poverty levels in Nigeria.					
9.	VAT has made it difficult for my household to afford basic necessities (food, shelter, clothing).					
10.	Poor households are more affected by VAT compared to wealthy households.					

APPENDIX II

Descriptive Analysis Result

	VAT	SIB	PLHW	HPDC
Mean	11.95000	11.93000	11.78000	12.36000
Median	12.00000	12.00000	12.00000	12.00000
Maximum	16.00000	16.00000	16.00000	16.00000
Minimum	4.000000	7.000000	5.000000	7.000000
Std. Dev.	1.929960	1.944975	1.784218	1.877673
Skewness	-0.657635	-0.199126	-0.341253	-0.198787
Kurtosis	4.681934	2.780294	4.180408	3.043261
Jarque-Bera	18.99516	0.861978	7.746579	0.666405
Probability	0.000075	0.649866	0.020790	0.716625
Sum	1195.000	1193.000	1178.000	1236.000
Sum Sq. Dev.	368.7500	374.5100	315.1600	349.0400
Observations	100	100	100	100

APPENDIX III

Ramsey Reset Test

Ramsey RESET Test
Equation: UNTITLED
Specification: VAT SIB PLHW HPDC C
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.915980	95	0.3620
F-statistic	0.839019	(1, 95)	0.3620
Likelihood ratio	0.879301	1	0.3484

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	2.620000	1	2.620000
Restricted SSR	299.2758	96	3.117456
Unrestricted SSR	296.6558	95	3.122693

LR test summary:

	Value
Restricted LogL	-196.7036
Unrestricted LogL	-196.2640

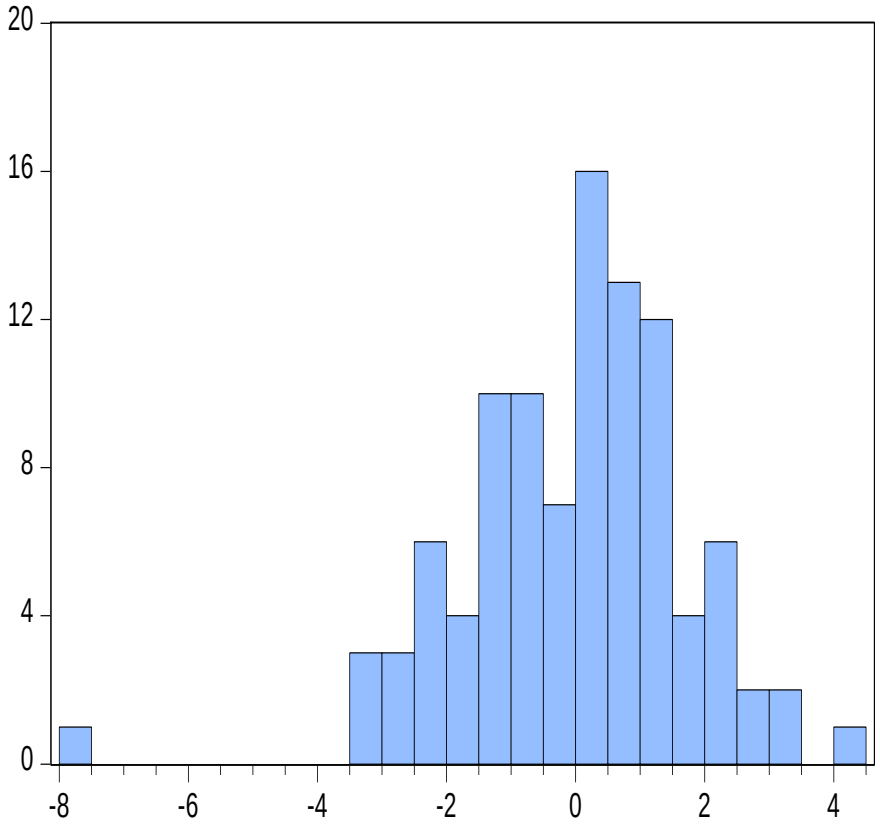
Unrestricted Test Equation:
Dependent Variable: VAT
Method: Least Squares
Date: 11/05/25 Time: 00:35
Sample: 1 100
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIB	-0.323143	0.487769	-0.662493	0.5093
PLHW	-0.680237	1.015533	-0.669832	0.5046
HPDC	-0.730049	1.082326	-0.674519	0.5016
C	9.764762	5.906162	1.653318	0.1016
FITTED^2	0.160818	0.175569	0.915980	0.3620

R-squared	0.195510	Mean dependent var	11.95000
Adjusted R-squared	0.161636	S.D. dependent var	1.929960
S.E. of regression	1.767114	Akaike info criterion	4.025279
Sum squared resid	296.6558	Schwarz criterion	4.155538
Log likelihood	-196.2640	Hannan-Quinn criter.	4.077997
F-statistic	5.771796	Durbin-Watson stat	2.003086
Prob(F-statistic)	0.000335		

APPENDIX IV

Histogram Normality Test



Series: Residuals	
Sample 1 100	
Observations 100	
Mean	-2.36e-16
Median	0.190310
Maximum	4.164449
Minimum	-7.775469
Std. Dev.	1.738674
Skewness	-0.826480
Kurtosis	5.819254
Jarque-Bera	44.50195
Probability	0.000000

APPENDIX V

Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.473552	Prob. F(3,96)	0.7014
Obs*R-squared	1.458271	Prob. Chi-Square(3)	0.6919
Scaled explained SS	3.238399	Prob. Chi-Square(3)	0.3563

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 11/05/25 Time: 00:35
Sample: 1 100
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.822739	5.957144	0.977438	0.3308
SIB	0.391255	0.407527	0.960070	0.3394
PLHW	-0.253339	0.397678	-0.637046	0.5256
HPDC	-0.365155	0.403384	-0.905229	0.3676

R-squared	0.014583	Mean dependent var	2.992758
Adjusted R-squared	-0.016212	S.D. dependent var	6.603040
S.E. of regression	6.656348	Akaike info criterion	6.668197
Sum squared resid	4253.468	Schwarz criterion	6.772404
Log likelihood	-329.4098	Hannan-Quinn criter.	6.710371
F-statistic	0.473552	Durbin-Watson stat	2.021833
Prob(F-statistic)	0.701426		

APPENDIX VI

Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.338037	Prob. F(2,94)	0.1021
Obs*R-squared	4.738812	Prob. Chi-Square(2)	0.0935

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 11/05/25 Time: 00:35
Sample: 1 100
Included observations: 100
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIB	0.035067	0.107850	0.325149	0.7458
PLHW	0.027065	0.104796	0.258267	0.7968
HPDC	0.011064	0.105956	0.104420	0.9171
C	-0.881755	1.614160	-0.546262	0.5862
RESID(-1)	0.012610	0.100975	0.124886	0.9009
RESID(-2)	-0.230188	0.106617	-2.159021	0.0334

R-squared	0.047388	Mean dependent var	-2.36E-16
Adjusted R-squared	-0.003283	S.D. dependent var	1.738674
S.E. of regression	1.741526	Akaike info criterion	4.005525
Sum squared resid	285.0937	Schwarz criterion	4.161835
Log likelihood	-194.2762	Hannan-Quinn criter.	4.068786
F-statistic	0.935215	Durbin-Watson stat	1.909183
Prob(F-statistic)	0.461952		

APPENDIX VII

Correlation Analysis Result

Covariance Analysis: Ordinary
Date: 11/05/25 Time: 00:30
Sample: 1 100
Included observations: 100

Correlation t-Statistic Probability	VAT	SIB	PLHW	HPDC
VAT	1.0000			

SIB	-0.3058	1.0000		
	-3.1799	-----		
	0.0020	-----		
PLHW	-0.3048	0.3332	1.0000	
	-3.1679	3.4979	-----	
	0.0020	0.0007	-----	
HPDC	-0.3395	0.4689	0.1626	1.0000
	-3.5731	5.2549	1.6311	-----
	0.0005	0.0000	0.1061	-----

APPENDIX VIII

Regression Analysis Result

Model One

Dependent Variable: PLHW
Method: Least Squares
Date: 11/05/25 Time: 00:26
Sample: 1 100
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAT	0.281763	0.088944	3.167867	0.0020
C	8.412936	1.076516	7.814965	0.0000

R-squared	0.092890	Mean dependent var	11.78000
Adjusted R-squared	0.083634	S.D. dependent var	1.784218
S.E. of regression	1.707979	Akaike info criterion	3.928296
Sum squared resid	285.8849	Schwarz criterion	3.980399
Log likelihood	-194.4148	Hannan-Quinn criter.	3.949383
F-statistic	10.03538	Durbin-Watson stat	2.090207
Prob(F-statistic)	0.002048		

Model Two

Dependent Variable: HPDC
Method: Least Squares
Date: 11/05/25 Time: 00:27
Sample: 1 100
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAT	0.330305	0.092441	3.573135	0.0005
C	8.412854	1.118845	7.519233	0.0000

R-squared	0.115262	Mean dependent var	12.36000
Adjusted R-squared	0.106234	S.D. dependent var	1.877673
S.E. of regression	1.775137	Akaike info criterion	4.005429
Sum squared resid	308.8088	Schwarz criterion	4.057533
Log likelihood	-198.2715	Hannan-Quinn criter.	4.026517

F-statistic	12.76730	Durbin-Watson stat	1.805492
Prob(F-statistic)	0.000549		

Model Three

Dependent Variable: SIB
Method: Least Squares
Date: 11/05/25 Time: 00:29
Sample: 1 100
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAT	0.308203	0.096924	3.179857	0.0020
C	8.246969	1.173097	7.030086	0.0000

R-squared	0.093528	Mean dependent var	11.93000
Adjusted R-squared	0.084279	S.D. dependent var	1.944975
S.E. of regression	1.861212	Akaike info criterion	4.100130
Sum squared resid	339.4827	Schwarz criterion	4.152233
Log likelihood	-203.0065	Hannan-Quinn criter.	4.121217
F-statistic	10.11149	Durbin-Watson stat	1.867804
Prob(F-statistic)	0.001973		