



FISCAL DEFICIT FINANCING AND UNEMPLOYMENT IN NIGERIA

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Abstract

This paper examined the effect of fiscal deficit financing on unemployment in Nigeria from 1981-2023. To achieve the above objective, secondary data on unemployment rate, domestic debt, external debt, money supply, and public debt servicing were collected from the statistical bulletin of Nigeria's central bank. The main method used for analysis was the Autoregressive Distributed Lag - ARDL approach. The results from the ARDL Bounds test showed that there is a long-term relationship between the variables. The results indicated that in the long run, domestic debt has positive and has insignificant relationship with unemployment rate in Nigeria. External debt has positive and significant relationship with unemployment rate in Nigeria. Money supply and public debt servicing have negative and significant relationship with unemployment in Nigeria. In the short run, domestic debt has positive and insignificant relationship with unemployment rate in Nigeria. External debt and money supply have negative and significant relationship with unemployment rate in Nigeria. Public debt servicing has positive and significant relationship with unemployment rate in Nigeria. The study concluded that fiscal deficit financing through domestic debt and public debt servicing exacerbated the problem of unemployment in Nigeria. However, fiscal deficit financing through external debt, as well as money supply do not exacerbate the problem of unemployment in Nigeria. Therefore, this study suggested that government should ensure that the terms of borrowing and the projects for which the borrowed funds are put should be those that will benefit the economy by creating employment. The government should also make sure that money borrowed through debt is used wisely on projects that can boost economic growth and provide job opportunities in Nigeria.

Keywords: Unemployment Rate, Deficit Financing, External Debt, Domestic Debt, ARDL



INTRODUCTION

In general, budget deficit can be financed by borrowing from internal and/or external sources, printing money, and withdrawing from past reserves (Umo, 2012; Gbosi, 2015). In Nigeria, domestic and foreign debts have become key sources to cover the government's budget shortfalls. This is mainly because oil revenue has been unstable and increasing government expenditure pressures. Although borrowing from internal and external sources can help fund development projects and keep the economy stable, but the effect of this borrowing on unemployment depends on how they influence investment, interest rates, exchange rate, fiscal space, and the overall health of the economy.

One of the most important ways that both domestic and external debts influence unemployment in Nigeria is by helping to pay for government spending. When these debts are used to fund productive and capital-intensive projects such as infrastructure, education, healthcare, and agriculture, they can help the economy grow and create jobs. Government spending raises overall demand, encourages private sector participation, and leads to both direct and indirect employment opportunities. In Nigeria, government expenditure on roads, electricity, security, and housing, financed through domestic and external borrowing have the potential to absorb unemployed labour and reduce underemployment, particularly among youths if managed well (Keynes, 1936; Todaro & Smith, 2020). But when borrowed money is mostly used for recurrent expenses like paying salaries and interest on debt, its impact on employment becomes weak and unsustainable. Nigeria's the persistent allocation of borrowed funds to consumption rather than productive investment in Nigeria limits the long-term employment benefits of domestic and external debts.

Furthermore, domestic debt can affect unemployment through the crowding-out effect. When the government borrows a lot from local financial markets, it competes with private businesses for the same limited money. This competition can make interest rates go up and make it harder for private businesses to get the funds they need. In Nigeria, where small and medium-scale enterprises (SMEs) account for a large share of employment, restricted access to credit will discourage business expansion and job creation. When SMEs or firms have to pay more to borrow money, they might delay their investments or even lay off workers, which leads to more unemployment (Ojo, 2013; IMF, 2023). High levels of external debt can also hurt the private sector by creating a debt overhang effect. Investors might worry about higher taxes or economic problems in the future, which will make them less willing to invest. With less investment, businesses don't expand as much and don't create as many jobs, especially in Nigeria where the private sector is the major source of employment (Krugman, 1988; Iyoha, 2004).

In 2022, a report by the apex bank in Nigeria revealed that when domestic debt increases, interest rates usually go up, especially when the government sells treasury bills and bonds that give high returns to attract investors. Nigerian banks often choose to invest in government bonds because they are safe and give good returns, instead of giving loans to private sector. This makes it more expensive for businesses to get money and reduces the amount they invest in useful projects. High interest rates make it harder for industries to grow, reduce labour demand, lead to fewer job opportunities, and increase unemployment, especially in manufacturing and agricultural sectors.

In addition, a major challenge associated with Nigeria's foreign and local debts is the rising cost of debt servicing. As debts increase, a significant portion of government's revenue is devoted to servicing loans. This leaves less money with government to spend on various sectors of the economy including education, health, agriculture, transport and communications sectors, which are important for creating jobs. This situation is called fiscal crowding-out. When the government spends less on these areas, it makes it harder to create jobs and can lead to more people being unemployed. Recent studies show that Nigeria's debt service-to-revenue ratio has reduced how much the government can invest in public projects and employment growth (IMF, 2023; World Bank, 2022). Supporting this, Akidi, Momodu and Isoghom (2025) said that a big part of Nigeria's federal budget is now used to pay off debt, which means less money is available for important areas like infrastructure, education, and healthcare. High debt payments have taken up a lot of the government's financial space, making it harder to reduce unemployment and support economic growth (Ezeani and Ogiji, 2023). Most of the country's foreign debt is in foreign currencies, so when the naira loses value, it becomes more expensive for Nigeria to pay back this debt. This forces the government to cut spending or make tough financial choices. These cuts reduce overall spending in the economy, discourage private businesses from investing, and slow down economic activity, which can make unemployment worse (World Bank, 2023).

Internal debt can contribute to inflation, especially when the Central Bank is used to fund it. When the government borrows money from the Central Bank, it increases the quantity of money in circulation, which can lead to higher prices. High inflation makes people's money worth less, so their ability to buy things decreases. This reduces overall spending in the economy. Businesses then may cut back on producing goods and hiring workers. In Nigeria, the cost of borrowing domestically has led to higher inflation, which has hit workers in the informal sector and low-income people the hardest. This has made unemployment and underemployment worse. (Friedman, 1968; CBN, 2023)

Interestingly, Akidi, Momodu and Isoghom (2025) identified growth in money supply as one of the critical factors affecting Nigeria's fiscal deficit and macroeconomic performance. Akidi et al. further stated that when the money supply grows too quickly, it can cause inflation, make the currency weaker, and create economic instability. These issues can also lead to more people being unemployed. The Central Bank of Nigeria (CBN) tries to manage monetary policy to support economic growth, but it has to balance controlling inflation with creating jobs. If the money supply grows too fast, it may create inflation, which reduces people's ability to buy things and increases unemployment. Research shows that inflation linked to fiscal deficits, especially when made worse by too much money supply, can harm Nigeria's economy. This is because households have less money to spend and businesses face higher costs (Adewale and Adebayo, 2023). At the same time, borrowing money from within the country or from abroad can help boost economic activity and cut down on unemployment. But if there is too much borrowing or if the money is not used wisely, it can stop private investment, raise interest rates, limit job creation, and make unemployment worse. So, how domestic and external debts affect unemployment in Nigeria really depends on debt sustainability, efficient allocation of borrowed funds, and sound macroeconomic management.

Available statistics reveal that in an attempt to finance deficit in Nigeria, both domestic and external debts have been on the increase over the years. For instance, domestic debt increased from ₦11.19 billion in 1981 to ₦84.09 billion in 1990. It further increased from ₦898.25 billion in 2000 to ₦4551.82 billion in 2010. It stood at ₦8837.00 billion, ₦12589.50 billion and ₦14,272.64 billion in 2015, 2017 and 2019 respectively (CBN, 2019). External debt increased from ₦2.33 billion in 1981 to ₦298.61 billion in 1990. It further increased to ₦3,097.38 billion in 2000. External debt stood at ₦5787.51 billion and ₦9,022.42 billion in 2017 and 2019 respectively (CBN, 2019). At end-September 2024, public debt stock remained within the 70.00 per cent threshold for Market-Access Countries. Total public debt outstanding stood at ₦142.32 trillion (51.29% of GDP), at end-September 2024, and was 5.97 per cent, higher than the level at end-June 2024. A breakdown of the consolidated public debt indicated that domestic debt accounted for 51.60 per cent, while external debt constituted 48.40 per cent (CBN, 2024). Yet the rate of unemployment in Nigeria is still worrisome. For example, in 2015, the percentage of people who were unemployed in the labour force went up to 10.4 per cent, which was higher than the 7.8 per cent recorded in 2014. In 2016, this number rose even more to 14.2 per cent (CBN, 2017; George-Anokwuru & Okowa, 2021). The number of people in the workforce went up from 76.9 million by the end of December 2015 to 80.7 million by the end of December 2016, which is a 4.9 per cent increase. The unemployment rate rose from 14.2 per cent in the fourth

quarter of 2016 to 18.8 per cent in the third quarter of 2017 (CBN, 2018; George-Anokwuru & Okowa, 2021).

Moreover, many studies have been done in and across Nigeria to understand how deficit financing affects unemployment. However, these studies have given different results. For instance, while the studies of Iortyer, Okoro and Idoko (2024), as well as Ogaga (2025) indicated that fiscal deficit financing sources including external debt has negative and significant effect on unemployment in Nigeria. The study of Eze and Nwambeke (2015), Hossen, Fagge and Adam (2021), Elekwa and Onyenama (2022), as well as Alnaa and Matey (2023) revealed that deficit financing increased unemployment and thereby causing instability in the economy. Therefore, difference in opinion and empirical findings on the effect of fiscal deficit financing on unemployment in Nigeria is of serious concern and the above state of affairs raised a relevant question: what is the relationship between fiscal deficit financing and unemployment in Nigeria? An answer to this question was the major concern of this paper because in related terms, similar studies have lost touch on current realities of fiscal deficit financing sources and unemployment in Nigeria. Strictly speaking, this paper looked at the influence of fiscal deficit financing sources on unemployment rate in Nigeria from 1981 to 2023. The paper is divided into five parts: introduction, literature review, materials and methods, results and discussion, and conclusion along with recommendations.

LITERATURE REVIEW

Conceptual Clarifications

A government budgets for a deficit when it plans to spend more in the year than the revenue it expects to collect. The government will in such a case have a budget deficit equal to the amount by which the expenditure exceeds the revenue. Supporting the above, Akidi, Momodu and Isoghom, (2025) opined that fiscal deficit occurs when government expenditure exceeds government revenue within a fiscal year. In an attempt to bridge the gap between its revenue and expenditure, government has increasingly relied on both domestic and external borrowing as sources of fiscal deficit financing.

Fiscal deficit financing influences unemployment in Nigeria through several channels. Deficit financing used for capital projects such as building assets of a lasting character, like construction of canals, dams, water storage, roads and railway lines, public building of various kinds, ports, and etcetera can stimulate labour demand directly through public works and indirectly by encouraging private investment. However, when deficits are largely used to finance recurrent expenditure - day-to-day functioning of the government machinery including civil

administration, police, judiciary and current expenses of beneficent departments including agriculture, health and education), the employment impact tends to be weak.

Borrowing heavily from domestic sources to finance deficits can raise interest rates, crowd out private investment, and constrain credit availability to private sector, thereby reducing employment opportunities. If the government prints more money to cover its debts, it can cause inflation, which reduces the real value of people's wages and increases the cost of doing business. High inflation discourages investment and may result in job losses, especially in the manufacturing sector. When public debt gets too high because of unending budget deficits, the government has to use more of its revenue just to pay back the debt, leaving less money for projects that can create jobs.

Furthermore, people who have jobs are said to be in employment whether this employment is paid or self-generated. Conversely, people who do not have jobs but are looking for jobs are said to be unemployed. Specifically, unemployment is when some people who are of working age, able and willing to work, can't find suitable jobs that pay the usual wages. In recent years, Nigeria's unemployment rate has been increasing steadily. The main reasons for unemployment in Nigeria's economy lately include poor economic policies, bad educational planning, corruption, the weak state of small businesses, poor communication of market information, and rapid population growth, among other factors (Akpakpan, 1999; Gbosi, 2015).

Stylized Facts on Selected Fiscal Deficit Financing Sources in Nigeria

In this study, stylized facts on external debt, domestic debt, and money supply in Nigeria were discussed.

Stylized Facts on External Debt in Nigeria

In 2011, Nigeria's external debt reached US\$5.7 billion, which was a 23.8% increase compared to the end of December 2010. This increase was mainly due to the government taking out more loans from international organizations, totaling US\$351.2 million, and also borrowing from the global financial market, including issuing Euro-bonds worth US\$500 million. Out of the total external debt, US\$4.6 billion came from multilateral institutions, making up 80.6% of the total, while the remaining US\$1.1 billion came from other sources (CBN, 2011).

In 2013, at US\$8.8 billion, Nigeria's external debt grew by 35.2 per cent from the level at end-December 2012. The rise reflected additional multilateral loans amounting to US\$1.7 billion by the Federal Government. Of the external debt outstanding, the share from multilateral institutions was US\$6.2 billion and accounted for 71.1 per cent, while 'others' amounting to US\$2.5 billion accounted for the balance (CBN, 2013).

In 2014, at US\$9.7 billion, Nigeria's external debt grew by 10.1 per cent over the level at end-December 2013. The rise reflected the drawdown on additional multilateral loans, particularly IDA loans, amounting to US\$0.6 billion. Consequently, the stock of IDA debt rose from US\$5.3 billion in 2013 to US\$5.9 billion and accounted for 60.3 per cent of the total external debt stock. Of this, outstanding debt to multilateral institutions, at US\$6.8 billion, accounted for 70.0 per cent of the total, while Eurobond and bilateral debt at US\$1.5 billion and US\$1.4 billion accounted for 15.5 and 14.5 per cent, respectively (CBN, 2014).

At US\$10.7 billion, Nigeria's external debt at end-December 2015 grew by 10.4 per cent over the level at end-December 2014. The rise reflected the disbursement of additional multilateral loans, principally IDA loans, amounting to US\$0.4 billion. Consequently, the stock of IDA debt rose from US\$5.9 billion in 2014 to US\$6.3 billion and accounted for 58.7 per cent of the total external debt stock. Of the external debt outstanding, debt to multilateral institutions, at US\$7.6 billion, accounted for 70.5 per cent, while bilateral and Eurobond, at US\$1.7 billion and US\$1.5 billion, accounted for 15.5 and 14.0 per cent, respectively (CBN, 2015).

At US\$11.4 billion, Nigeria's external debt at end-December 2016 grew by 6.4 per cent or 3.4 per cent of GDP over the level at end-December 2015. The rise reflected the disbursement of additional multilateral loans, principally IDA loans, amounting to US\$0.4 billion. Consequently, the stock of IDA debt rose from US\$6.3 billion in 2015 to US\$6.7 billion and accounted for 58.5 per cent of total external debt stock. Of the external debt outstanding, debt to multilateral institutions, at US\$8.0 billion, accounted for 70.0 per cent, while bilateral and Eurobond, at US\$1.9 billion and US\$1.5 billion, accounted for 16.8 and 13.2 per cent, respectively (CBN, 2016).

At US\$18.9 billion or 5.0 per cent of GDP, Nigeria's external debt at end-December 2017 grew by 65.8 per cent over the level at end-December 2016. The rise reflected largely the drawdown on commercial loans, Euro and Diaspora bonds, for infrastructure funding and refinancing of matured NTBs. This was in line with Nigeria's Debt Management Strategy, which aimed to restructure the outstanding debt portfolio and gradually reduce the share of the domestic component by increasing the external debt component to 40.0 per cent of the total debt portfolio. This was informed by the imperative to reduce the debt service burden through cheaper and longer tenured foreign financing for the FGN, thereby releasing funds for private sector investments at reduced interest rates in the domestic market. As part of the strategy, maturing NTBs were refinanced from commercial loans (Eurobonds), thereby increasing the stock of Eurobonds from US\$1.5 billion in 2016 to US\$ 6.0 billion. A breakdown of the debt portfolio showed that debt to multilateral institutions (concessional loans) was US\$10.2 billion or

54.2 per cent of the total, while commercial and bilateral debts, at US\$6.3 billion and US\$2.4 billion accounted for 33.3 and 12.5 per cent, respectively (CBN, 2017).

At US\$21.6 billion or 5.3 per cent of GDP, Nigeria's external debt at end-September 2018 grew by 14.2 per cent over the level at end-December 2017. The rise reflected largely, additional disbursements on commercial loans (Euro and Diaspora bonds), for infrastructure funding and refinancing of matured NTBs. This was in line with Nigeria's Debt Management Strategy, aimed at restructuring the outstanding debt portfolio and gradually, reducing the share of the domestic component to 60.0 per cent. The Federal Government thus, sought to switch the debt portfolio in favour of cheaper and longer tenored foreign concessionary loans to reduce its debt service burden. As part of the strategy, maturing NTBs were refinanced from commercial loans (Eurobonds), thereby increasing the stock of Eurobonds from US\$6.0 billion in 2017 to US\$ 8.0 billion. A breakdown of the debt portfolio showed that Debt to multilateral institutions (concessional loans) was US\$10.9 billion or 50.4 per cent of the total, while commercial and bilateral debts, at US\$8.3 billion and US\$2.4 billion, respectively accounted for 38.4 and 11.1 per cent (CBN, 2018).

At US\$26.9 billion or 5.7 per cent of GDP, Nigeria's external debt at end-September 2019 grew by 6.6 per cent over the level at end-December 2018. The rise reflected, largely, additional multilateral and bilateral loans, for infrastructure funding and refinancing of matured NTBs. This was in line with Nigeria's Debt Management Strategy, aimed at reducing the cost of debt service through debt portfolio switching to less expensive external debt from domestic debt. As part of the strategy, maturing NTBs were refinanced from commercial loans (Eurobonds), leaving the stock of Eurobonds unchanged at US\$10.9 billion in 2019, same as in 2018. A breakdown of the debt portfolio showed that debt owed to multilateral institutions (concessional loans) was US\$12.3 billion or 45.8 per cent of the total, while commercial and bilateral debts, at US\$11.2 billion and US\$3.4 billion, respectively, accounted for 41.5 and 12.7 per cent of the total (CBN, 2019).

In 2022, the holdings of external debt revealed that Multilateral, Commercial, and Bilateral loans accounted for 48.5 per cent, 39.4 per cent, and 12.2 per cent of the total, respectively. The mix was influenced, largely, by cost of funds, tenor, and borrowing terms and conditions (CBN, 2022).

Stylized Facts on Domestic Debt in Nigeria

In 2011, the stock of Federal Government domestic debt at end-December 2011 was ₦5,622.8 billion, representing an increase of 23.5 per cent over the level in FY2010. The development reflected the substantial borrowing through the issuance of FGN Bonds and

Nigerian Treasury Bills. The banking system remained the dominant holder of the outstanding debt instruments with 76.2 per cent, and the non-bank public accounted for the balance of 23.8 per cent. Disaggregation of the banking system's holdings indicated that ₦3,790.8 billion, or 88.4 per cent, was held by the DMBs and DHs, and ₦495.2 billion or 11.6 per cent by the CBN and the Sinking Fund (CBN, 2011).

The stock of Federal Government domestic debt at end-December 2013 was ₦7,119.0 billion, representing an increase of 8.9 per cent over the level in 2012. The development reflected the significant borrowing through the issuance of additional FGN Bonds and Nigerian Treasury Bills. The banking system remained the dominant holder of the outstanding debt instruments with 66.4 per cent, and the non-bank public accounted for the balance of 33.6 per cent. A disaggregation of the banking system holdings indicated that ₦3,865.9 billion, or 81.7 per cent, was held by the DMBs and DHs, while ₦864.6 billion, or 18.3 per cent, were held by the CBN and the Sinking Fund (CBN, 2013).

The stock of Federal Government domestic debt at end-December 2014 was ₦7,904.0 billion, representing an increase of 11.0 per cent over the level in 2013. The development reflected the significant borrowing through the issuance of additional FGN Bonds and Nigerian Treasury Bills. The banking system remained the dominant holder of the outstanding debt instruments with 68.7 per cent, and the non-bank public accounted for the balance of 31.3 per cent. A disaggregation of the banking system holdings indicated that ₦4,643.3 billion, or 85.6 per cent, was held by the DMBs and DHs, while ₦783.8 billion or 14.4 per cent was held by the Bank and the Sinking Fund (CBN, 2014).

The stock of Federal Government domestic debt at end-December 2015 was ₦8,837.0 billion, representing an increase of 11.8 per cent over the level in 2014. The development reflected the substantial increase in FGN Bonds to bridge the FGN financing gap and facilitate the domestic bond market operations. The holding structure of the outstanding domestic debt stock changed in favour of the non-bank public, which increased by 26.6 per cent above the level in 2014 to ₦4,513.5 billion (51.1% of the total). At ₦4,323.5 billion (48.9% of the total), the share of the banking system declined by 20.3 per cent relative to the level in 2014. A disaggregation of the banking system holdings indicated that ₦3,284.0 billion, or 76.0 per cent, was held by the banks and discount house (DH), while ₦1,039.5 billion, or 24.0 per cent, was held by the CBN and the Sinking Fund (CBN, 2015).

The stock of Federal Government domestic debt at end-December 2016 was ₦11,058.2 billion, representing an increase of 25.1 per cent over the level in 2015. The development reflected the substantial increase in FGN Bonds and Treasury Bills to bridge the FGN financing gap and facilitate domestic bond market operations. As a result, FGN Bonds and Treasury Bills

increased by 30.2 and 18.2 per cent to ₦7,564.9 billion and ₦3,277.3 billion, respectively, above the level in 2015. The banking system remained the dominant holder of outstanding domestic debt stock with ₦5,857.6 billion or 53.0 per cent, while the non-bank public accounted for the balance of ₦5,200.6 billion or 47.0 per cent. This indicated that the holdings of non-bank public increased by 15.2 per cent above the level in 2015, while that of the banking system also rose by 35.5 per cent. A disaggregation of the banking system holdings showed that the banks and discount house (DH) held 83.9 per cent and the balance of 16.1 per cent was held by the CBN and the Sinking Fund (CBN, 2016).

The stock of Federal Government domestic debt at end-December 2017 was ₦12,589.5 billion or 11.0 per cent of GDP, representing an increase of 13.8 per cent over the level in 2016. The development reflected the increased issuance in existing debt securities, FGN Bonds and Nigerian Treasury Bills (NTBs) and the introduction of new ones, FGN Savings Bonds, FGN Green Bonds, and FGN Sukuk to bridge the shortfall in revenue and boost domestic bond market operations. As a result, the outstanding FGN Bonds and Treasury Bills increased by 15.2 and 9.2 per cent to ₦8,715.8 billion and ₦3,579.8 billion, respectively, at end-December 2017, above the levels in 2016. The banking system remained the dominant holder of outstanding domestic debt with ₦6,668.7 billion or 53.0 per cent, while the non-bank public accounted for the balance of ₦5,920.7 billion or 47.0 per cent. The structure of debt holding in 2017 indicated that the share of nonbank public increased by 7.8 per cent above the level in 2016, while that of the banking system rose by 19.8 per cent. A disaggregation of the banking system holdings showed that the banks held 83.9 per cent and the balance of 16.1 per cent was held by the CBN and the Sinking Fund (CBN, 2017).

The stock of Federal Government domestic debt at end-September 2018 was ₦12,286.8 billion or 9.9 per cent of GDP, representing a decline of 2.4 per cent below the level in 2017. The development reflected the decline in the issuance of existing domestic debt securities, Nigerian Treasury Bills (NTBs) and FGN Bonds as well as the redemption of maturing NTBs amounting to ₦638.9 billion. As a result, the outstanding FGN Bonds increased by 5.6 per cent to ₦9,201.4 billion, while the Treasury Bills and Treasury Bonds declined by 21.4 and 14.2 per cent to ₦2,814.0 billion and ₦151.0 billion, respectively, at end-September 2018, below the levels at end-December 2017. The banking system remained the dominant holder of outstanding domestic debt with ₦6,508.4 billion or 53.0 per cent, while the non-bank public accounted for the balance of ₦5,778.4 billion or 47.0 per cent. Thus, the shares of the non-bank public and the banking system increased by 2.4 per cent apiece above the level in 2017. A disaggregation of the banking system holdings showed that the banks held 83.9 per cent while the CBN and the Sinking Fund accounted for the balance of 16.1 per cent (CBN, 2018).

The stock of Federal Government domestic debt at end-September 2019 was ₦13,901.5 billion or 9.5 per cent of GDP, representing an increase of 8.8 per cent above the level in 2018. The development reflected the rise in the net issuance of existing domestic debt securities; FGN Bonds, Promissory Notes and Green Bonds, amounting to ₦1,236.6 billion. As a result, the outstanding FGN Bonds at year end, increased by 7.9 per cent to ₦10,074.9 billion, while the Treasury Bills (NTBs) and Treasury Bonds declined by 3.1 and 16.6 per cent to ₦2,651.5 billion and ₦126.0 billion, respectively. The decline in NTBs was as a result of the redemption of maturing NTBs and the need to reduce the share of short-term debt in favour of long-term debt in the ratio 25:75 to reduce the cost of debt service and roll-over risk. However, the issuance of Sukuk Bonds remains unchanged at ₦200.0 billion at end-September 2019. The banking system remained the dominant holder of outstanding domestic debt with ₦7,239.5 billion or 52.1 per cent, while the non-bank public accounted for the balance of ₦6,662.1 billion or 47.9 per cent. Thus, the share of banking system holdings rose by 23.3 per cent, while, the share of the nonbank public declined by 3.5 per cent, below the level in 2018. A disaggregation of the banking system holdings showed that the banks held 72.6 per cent, while the CBN and the Sinking Fund accounted for the balance of 27.4 per cent (CBN, 2019).

The 2020-2023 MTDS, which details the borrowing plan, limit, and composition of government borrowing, specifies an optimal domestic-external debt ratio of 70:30 and a long-to-short-term domestic debt ratio of 75:25. Consequently, domestic debt at 54.3 per cent of the total was lower than the 70.0 per cent target, while external debt was 15.7 per cent above the 30.0 per cent threshold. The consolidated debt stock of the FGN at end-December 2022, at ₦40,912.62 billion or 28.7 per cent of GDP, was within the 40.0 per cent of GDP threshold specified in the MTDS, and was 16.6 per cent above the 2021 level. Analysis of the domestic debt portfolio revealed a preference for longer-tenored instruments, with FGN bond retaining dominance at 73.9 per cent of the total domestic debt portfolio, followed by Promissory Notes / FGN Sukuk (5.7 per cent); and others¹⁹ (0.4 per cent), while the short-tenored Treasury Bills constituted 19.9 per cent. The debt portfolio mix was in tandem with the FGN's objective to hold more long-term domestic debt instruments than short, to guide against refinancing risk (CBN, 2022).

Stylized Facts on Money Supply (M_2) in Nigeria

In 2011, broad money supply (M_2) grew by 15.4 per cent at end-December 2011 to ₦13,300.3 billion, compared with the indicative benchmark of 13.8 per cent for fiscal 2011 and the growth of 6.9 per cent at end-December 2010. The development was largely driven by the expansion in domestic credit (net) and foreign assets (net) of the banking system.

Correspondingly, the growth in total monetary liabilities, M2, was driven by the increase in its components, namely, narrow money and quasi-money. Analysis of the composition of M2 showed that, as in the preceding year, the distribution was skewed in favour of the highly liquid M1, especially in the last quarter of the year, due to seasonal factors. Demand deposit and currency outside bank grew by 23.1 and 15.0 per cent, respectively, compared with 9.8 and 16.7 per cent at end-December 2010. As a proportion of the total monetary liabilities, demand deposit and currency outside bank stood at 41.1 and 9.4 per cent, respectively, at the end of the year under review. At 13.6 per cent at end-December 2011, foreign currency deposit, remained a significant component of M2 (CBN, 2011).

Growth in broad money supply (M2) was modest in 2013. At ₦15, 668.95 billion, M2 grew by 1.2 per cent, which was significantly below both the indicative benchmark growth rate of 15.2 per cent for fiscal 2013 and the 16.4 per cent attained at end-December 2012. The development reflected, largely, the decline in net foreign and other assets (net) of the banking system, which fell, respectively, by 5.9 and 26.0 per cent at end-December 2013. The corresponding sluggish growth in monetary liabilities was, wholly, accounted for by the fall in narrow money supply (M1), which declined by 5.5 per cent, in contrast to the growth of 9.6 per cent at end-December 2012. The development reflected, wholly, the decline of 9.1 per cent in its demand deposits component. The ratio of currency outside bank to total monetary liabilities (COB/M2) increased to 9.2 at end-December 2013, from 8.4 per cent at end-2012 (CBN, 2013).

Despite the Bank's restrictive policy stance to maintain favourable monetary conditions for price stability, credit policies remained supportive of domestic economic activities in 2014. Both the supply of liquidity to the economy and credit to the private sector grew at a moderate pace, but stood above their indicative benchmarks for the year. Thus, broad money supply (M2) grew by 20.6 per cent to ₦18,913.03 billion at end-December 2014, which was higher than the growth rate of 1.3 per cent recorded at the end of 2013, due to the 32.6 and 2.5 per cent growth in aggregate credit (net) and other assets (net) of the banking system, respectively (CBN, 2014).

Notwithstanding the Bank's restrictive policy stance to maintain favourable monetary conditions for price stability, credit policies remained supportive of domestic economic activities in 2015. Broad money supply (M2) grew by 5.9 per cent to ₦20, 029. 8 billion at end-December 2015 and was lower than the growth rate of 20.6 per cent recorded at the end of 2014 and the 15.2 per cent programmed benchmark for 2015 (CBN, 2015).

Broad money supply expanded at the end of 2016 despite the Bank's tight monetary policy stance. At end-December 2016, M2 rose by 17.8 per cent, compared with the growth of 5.9 per cent at end-December 2015. The development reflected respective growth of 61.8 and

24.3 per cent in net foreign assets and domestic credit (net) of the banking system, which more than offset the 71.6 per cent decline in other assets (net). The 273.9 per cent and 210.6 per cent decline in other assets (net) of commercial banks and the CBN accounted for the fall in other assets (net) of the banking system (CBN, 2016).

In 2017, the growth in the major monetary aggregate was moderate in the review period, due to the restrictive monetary policy stance. Relative to the level at end-December 2016, broad money supply grew by 1.7 per cent at end-December 2017, compared with the growth of 17.8 per cent, but lower than the 10.3 per cent programmed benchmark for 2017. The development was due, wholly, to the 61.9 per cent increase in net foreign assets of the banking system, which was more than offsetting the effect of the 3.7 and 34.3 per cent decline in net domestic credit and other assets (net) of the banking system, respectively (CBN, 2017).

In 2018, growth in broad measures of money supply, M2 accelerated, despite the restrictive monetary policy stance of the Bank. Growth of broad money (M2) stood at 12.1 per cent at end-December 2018, compared with 0.6 per cent recorded at end-December 2017, and the 11.9 per cent indicative target for fiscal 2018. The development was due to the 18.5, 6.4 and 1.7 per cent increase in net foreign assets, domestic credit (net) and other assets (net) of the banking system, respectively (CBN, 2018).

Broad money supply (M2), rose by 8.8 per cent at end-December 2019, compared with 10.5 per cent at end-December 2018, resulting from the growth of 13.7 per cent in other deposits, comprising savings and time deposits, compared with 11.0 per cent at end-December 2018 (CBN, 2019).

Theoretical Framework

The Keynesian theory of fiscal deficit and employment provides a theoretical justification for government intervention through deficit financing as a means of stimulating aggregate demand and reducing unemployment. The Keynesian theory originated from John Maynard Keynes' seminal work - *The General Theory of Employment, Interest and Money* (1936). Keynes challenged the classical assumption that markets automatically adjust to full employment through flexible wages and prices. Instead, Keynes argued that an economy can remain in a state of underemployment equilibrium for long periods due to inadequate aggregate demand. According to Keynes, employment is determined by the level of effective demand, which comprises consumption, investment, and government expenditure. When aggregate demand is insufficient, firms reduce output, leading to layoffs and rising unemployment. In such circumstances, private sector investment and consumption alone may not be sufficient to

restore full employment. Keynes therefore advocated for active government intervention through fiscal policy, especially deficit financing, to stimulate demand and increase employment.

Keynes argued that when an economy is operating below full employment, deficit-financed government spending will increase income and employment without necessarily causing inflation. This is because idle resources and unemployed labour will be absorbed into productive activities. Through the multiplier effect, an initial increase in government spending will lead to multiple rounds of income generation, consumption, and job creation, thereby reducing unemployment (Keynes, 1936; Jhingan, 2018).

Following this idea, fiscal deficit financing will influence employment through several transmission channels. First, increase in government expenditure on public works, infrastructure, education, health, and social programmes will directly create employment opportunities. Second, increase in government expenditure will raise household income, which will increase consumption and stimulate demand for goods and services. Firms will respond to higher demand for goods and services by expanding their production and hiring more workers. Third, government expenditure to improve public infrastructure will encourage private sector investment and enhance private sector productivity which in turn will boost employment.

Keynesians argued that deficit financing is most effective in reducing unemployment when government spending is directed toward productive and labour-intensive sectors. As long as the economy has unused capacity, deficit spending does not crowd out private investment but rather “crowds in” investment by improving demand conditions (Arestis & Sawyer, 2003). Over the years, Nigeria has experienced persistent fiscal deficits because its revenue is unstable, especially the over reliance on oil revenue, growing population burden, infrastructural needs, and the growth of recurrent expenditure. Successive governments in Nigeria have justified deficit financing as a necessary tool for economic stabilization and employment generation, in line with the Keynesian prescriptions.

In principle, fiscal deficit financing in Nigeria should reduce unemployment by expanding government spending on infrastructure, agriculture, manufacturing, education, and social investment programmes. Capital projects such as road construction, power generation, rail transport, and housing have strong employment multipliers and can absorb both skilled and unskilled labour. Empirical evidence suggests that government capital expenditure can stimulate growth and employment when efficiently implemented (Todaro & Smith, 2020; CBN, 2022).

However, the Keynesian link between fiscal deficits and employment has been weak in Nigeria due to several structural and institutional challenges. A large proportion of fiscal deficits has been financed through borrowing to support recurrent expenditure, including wages, subsidies, and administrative costs, which have limited long-term employment effects.

Additionally, mismanagement, corruption, project abandonment, and poor fiscal governance have reduced the effectiveness of deficit spending. Rising public debt and debt servicing obligations have also crowded out capital expenditure, weakening the employment-generating impact of fiscal deficits.

Despite the wide acceptance of the Keynesian theory, it (i.e., the Keynesian theory) has been criticized. One main criticism is the crowding-out effect, advanced by classical and monetarist economists, which argues that deficit financing will raise interest rates and reduce private investment, thereby offsetting employment gains. This argument is particularly relevant in economies with shallow financial markets. Another criticism relates to inflationary pressure. Persistent fiscal deficits, especially when financed through money creation, can lead to inflation which will erode real incomes and discourage private sector investment. In Nigeria, high inflation has often accompanied fiscal expansion, reducing the real employment benefits of deficit spending. Also, the Ricardian Equivalence hypothesis argued that rational consumers anticipate future taxes required to repay public debt and therefore reduce consumption, neutralizing the impact of deficit spending on aggregate demand (Barro, 1974). Critics also point to implementation lags, political interference, and inefficiency, which can reduce the effectiveness of fiscal policy in addressing unemployment.

Even with these criticisms, the Keynesian theory remains highly relevant to Nigeria. The Nigerian economy is characterized by high unemployment, underutilized resources, infrastructural deficits, and weak private sector capacity. In such conditions, government intervention through deficit financing is necessary to stimulate demand and economic activity thereby creating adequate employment for inhabitants of Nigeria. Keynesian deficit financing is particularly relevant during economic recessions, such as those caused by oil price shocks or global crises. When properly managed, fiscal deficits can serve as a countercyclical policy tool to stabilize output and employment. However, for the theory to be effective in Nigeria, fiscal deficits must be sustainable, well-targeted, and focused on productive investment rather than consumption. Strictly speaking, for deficit financing to translate into employment gains, there must be transparency, strong institutions and fiscal discipline. The Keynesian theory of fiscal deficit and employment provides a strong theoretical foundation for the use of deficit financing as a tool to reduce unemployment in Nigeria. The theory made it clear that fiscal deficits can stimulate aggregate demand, increase output, and generate employment, particularly in economies operating below full employment. In Nigeria, fiscal deficit financing has the potential to reduce unemployment if directed toward productive, labour-intensive sectors and supported by sound macroeconomic management. However, structural weaknesses, inflationary pressures, rising debt, and governance challenges have limited its effectiveness. Therefore,

while the Keynesian framework remains relevant to Nigeria, its success depends on efficient utilization of public funds, debt sustainability, and strong institutional capacity.

Empirical Literature

Nigeria frequently experiences fiscal deficits due to volatile oil revenues, increasing population burden, and growth of recurrent expenditures. While fiscal deficits are justified as tools for stimulating economic activity and employment, their impact has been mixed in practice. For instance, Eze and Nwambeke (2015) examined the effect of deficit financing on unemployment rate in Nigeria from 1970-2013. The Error Correction Model (ECM) as used as the main analytical technique. The result revealed that external source of deficit financing, ways and means source of deficit financing and interest rate have negative and insignificant implications on economic stability through unemployment level in Nigeria while banking system source of deficit financing, non-banking public source of deficit financing, and exchange rate have positive and significant implication on economic stability in Nigeria except non-banking system financing which indicated insignificant relationship. The implications of this result is that deficit financing through external source of deficit financing and ways and means source of deficit financing reduced the level of unemployed individuals in Nigeria which maintain economic stability in the short and long run. The result also revealed that deficit financing through banking sector source of deficit financing and non-banking public source of deficit financing increased unemployment and thereby causing instability in the economy.

Similarly, Ogonna, Idenyi, Ifeyinwa and Gabrie (2016) investigated the implications of rising public debt on unemployment in Nigeria (1980-2015) using the auto regressive distributed lag model and Wald test econometric analytic tools. The findings revealed that public debt and GDP growth rate influenced unemployment rate positively in Nigeria. However, inflation rate has a negative relationship with unemployment rate. The study therefore concluded that public borrowing in Nigeria has not created its desired impact in the economy; hence the increase in public debt has not reduced unemployment. Also, rapid increasing debt service obligations constitute an obstacle to the implementation of new development oriented projects; therefore, worsening unemployment situation in the economy.

A study by Cahyadin and Ratwianingsih (2020) examined the empirical relationship between external debt, exchange rates, and unemployment in selected ASEAN countries Indonesia, Malaysia, Thailand, and the Philippines over the period 1980–2017. The study employed the ARDL-ECM and Granger Causality Test (GCT) to address the research objectives. Findings indicated short-term effects in each empirical model (external debt,

exchange rate, and unemployment). Additionally, a stability test demonstrated that the models were precise and stable. The GCT results showed causality among external debt, exchange rate, and unemployment, particularly in Indonesia. Furthermore, the linkages among these variables exhibited co-movement in the selected ASEAN countries.

Weoha (2020) probed whether borrowing could alleviate unemployment in Nigeria using time series data from 1981 to 2019 using the Vector Error Correction (VECM) model. The results indicated an inverse relationship between public debt and unemployment. Further, unemployment was found to Granger-cause government debt and debt servicing, suggesting that public debt has had limited impact on reducing unemployment in Nigeria. While borrowing for critical infrastructure was not discouraged, the study emphasized the need for anti-corruption measures to ensure that borrowed funds are effectively used for visible infrastructure improvements, as public debt may also pose adverse economic effects.

Hossen, Fagge and Adam (2021) studied the effect of deficit finance on selected macroeconomic variables in Nigeria from 1986-2019. The study employed Vector Error Correction Model (VECM) as the main analytical technique. The results revealed that deficit financing has a positive effect on unemployment rate, inflation rate, interest rate and exchange rate but real Gross Domestic product is negatively affected. What this suggests is that deficit financing exacerbated the problem of unemployment in Nigeria.

Importantly, government sometimes raised money to finance deficit through taxes. In this regard, George-Anokwuru and Okowa (2021) studied the impact of company income tax on unemployment in Nigeria from 1980 to 2019 using Ordinary Least Squares (OLS) method. The result revealed that corporate income tax has positive and significant relationship with unemployment rate in Nigeria. Prime lending rate has negative and significant relationship with unemployment rate in Nigeria. Inflation rate has negative and insignificant relationship with unemployment rate in Nigeria. The study therefore concluded that tax revenue from company income has not been efficiently and effectively used to provide infrastructural facilities and social amenities that will help the different sectors of the economy to function very well thereby reducing unemployment in the country.

At the same time, Enueshike, Dele and Nwala (2021) examined the effect of tax revenue on unemployment in Nigeria from 1994 to 2020 using Error Correction Model (ECM). The finding showed corporate taxes and Value Added Tax has a positive and significant effect on unemployment in Nigeria, while Customs and Excise Duties have a negative effect and significantly affect unemployment in Nigeria. The study recommended that government should reduce the rate of Corporate Tax on company from its current rate to 25 percent, as well as reduce VAT to 5 percent and CED payable on export duties on finished goods and import duties

on raw materials. This would encourage investment, boost the profitability of manufacturing companies, minimize the tax burden on producer of finished goods, boost market competitiveness, increase tax compliance and create greater employment opportunities.

Elekwa and Onyenama (2022) investigated the impact of disaggregated debt components on unemployment in Nigeria from 1992 to 2020 using an Autoregressive Distributed Lag (ARDL) method. The results indicated a highly positive and significant relationship between unemployment and external debt. The study recommended that future public borrowing should prioritize employment generation, establishing a benchmark to ensure that no jobs are endangered where new employment cannot be created.

George-Anokwuru (2022) investigated the influence of fiscal policy on employment generation in Nigeria spanning 1981 to 2020. The Error Correction Model was applied as the main analytical tool. The results showed that aggregate government expenditure, tax revenue, and external debt service had weak and statistically insignificant effects on employment generation, suggesting that fiscal policy in Nigeria has not effectively translated into job creation.

Equally, Alnaa and Matey (2023) examined the dynamic relationship between external debt and unemployment in Sub-Saharan Africa using data from 25 countries. This study demonstrates a direct relationship between foreign debt and unemployment, which is attributed to the erroneous application of discretionary fiscal policy decisions and the inefficient use of borrowed funds. Evidence also suggested a nonlinear relationship between external debt and unemployment across the countries studied.

Iortyer, Okoro and Idoko (2024) examined how deficit finance sources affect the amount of unemployment in Nigeria using an Autoregressive Distributed Lag technique from 1986 to 2022. The outcomes of the study revealed that both in the long and short runs, external debt has positive and significant relationship with unemployment rate in Nigeria. However, domestic debt has negative and significant relationship with unemployment rate in Nigeria both in the long and short runs. The study advised that government at all levels in the country should uphold fiscal discipline to effectively use government budget deficit funding sources to enhance economic growth and minimize unemployment.

Fatmawati, Mirzalina, Mayanggita and Alkanan (2024) analyzed the effect of government foreign debt on labour demand in Indonesia using the Vector Error Correction Model (VECM) for estimation. The Real Effective Exchange Rate (REER) is used to quantify the exchange rate, while estimates of the labour force participation rate characterize labour demand. The study expanded upon the Cobb-Douglas production function by including public debt as an integral element of the statistical model. The results revealed that an increase in government external debt would result in a decline in labour demand, especially during economic shock associated

with an expansion of the government deficit. Moreover, the Real Effective Exchange Rate has a beneficial long-term impact on labour demand. Enhancing the purchasing power and stimulating investment through the appreciation of the domestic currency against foreign currencies will consequently increase economic productivity.

Aruofor and Ogbeide (2024) examined the impact of external debt on the Nigerian economy as a whole, using the total differential systems modeling and analysis approach (ecostatometrics). The result revealed that even though external debt has a positive influence on economic growth, it promotes poverty and unemployment in Nigeria

Using an Autoregressive Distributed Lag (ARDL) technique, Akidi, Momodu and Isoghom (2025) examined the relationship between fiscal deficits financing and unemployment rate in Nigeria from 1990 to 2022. The ARDL long-run results revealed that debt servicing has a positive but statistically insignificant effect on the unemployment rate; domestic debt has a significant negative relationship with the unemployment rate; external debt has a positive but statistically insignificant effect on unemployment; and money supply has a positive and statistically significant impact on unemployment.

Ogaga (2025) examined the effect of external borrowing on unemployment in Nigeria spanning 2010-2024 using Ordinary Least Squares technique. The result revealed that external borrowing has statistical negative effect on unemployment in Nigeria within the study period. The study recommends that government should only borrow for well assessed, employment-generating projects—especially in infrastructure, agriculture, and manufacturing.

Awa, Nteegah and Ohale (2025) examined the impact of external debt servicing on poverty and unemployment rates in Nigeria using quantitative technique. The findings revealed that the impact of external debt servicing on poverty and unemployment rates in Nigeria, were statistically significant and positive. This implies that high external debt servicing by the Nigerian government limits spending on social infrastructure and job-creating initiatives, further entrenching poverty and unemployment.

An examination of the previous studies on fiscal deficit financing and unemployment revealed conflicting outcomes. While the studies of Iortyer, Okoro and Idoko (2024), as well as Ogaga (2025) indicated that fiscal deficit financing sources including external debt has negative and significant effect on unemployment in Nigeria. The study of Eze and Nwambeke (2015), Hossen, Fagge and Adam (2021), Elekwa and Onyenama (2022), as well as Alnaa and Matey (2023) revealed that deficit financing through increased unemployment and thereby causing instability in the economy. This state of affairs raised a relevant question: what is the relationship between fiscal deficit financing and unemployment in Nigeria? An answer to this question was the major concern of this paper. Interestingly, none of the previous scholars

examined the effect of fiscal deficit financing sources on unemployment rate in Nigeria from 1981 and 2023. Therefore, this study is unique as it investigated the influence of fiscal deficit financing sources on unemployment rate in Nigeria between 1981 and 2023.

MATERIALS AND METHODS

The Study

This study is quantitative in nature and employed the ex-post facto research design which is often employed as a substitute for true experimental research to test hypotheses about cause-and-effect relationships. The study used secondary data for the period 1981 to 2023. Annual time series data on unemployment rate, domestic debt, external debt, money supply, and public debt servicing were obtained from the Statistical bulletin of Nigeria's apex bank. In addition, the researcher would have loved to cover up to 2024 but because of paucity of data the researcher decided to cover for the period data were available. This investigation adopted an ex-post facto research design, which is often applied as a substitute for true experimental research to test hypotheses about cause-and-effect relationships. That is, it is interested in cause-and-effect relationship between fiscal deficit financing sources and unemployment rate in Nigeria. Therefore, the study is purely analytical in nature. The analytical method was applied for the purpose of determining variation in explained variable as a result of changes in independent variables.

Model Specification

The research model for this study is founded on the explicit form of the Keynesian theory which made it clear that fiscal deficits financing can stimulate aggregate demand, increase output, and generate employment, particularly in economies operating below full employment.

$$\text{That is, } E = f(\text{FDF}) \quad (1)$$

Where, E is employment rate and FDF is fiscal deficit financing. Equally, this study adopted the model of Akidi, Momodu and Isoghom (2025), whose model is in line with the Keynesian theory and is presented thusly;

$$\text{UER} = F(\text{DDT}, \text{EDT}, \text{M2}, \text{DS}) \quad (2)$$

The log form of equation (2) produced;

$$\text{UER}_t = \varphi_0 + \varphi_1 \text{LnDDT}_t + \varphi_2 \text{LnEDT}_t + \varphi_3 \text{LnM2}_t + \varphi_4 \text{LnDS}_t + \varepsilon_t \quad (3)$$

Where; UER is unemployment rate, DDT is domestic debt, EDT is external debt, M2 is money supply, DS is public debt servicing, ε is error term which denotes other variables not included in the model, Ln is natural log, t is the period of time and φ_0 is the intercept. The parameter estimates are expected to behave in line with $\varphi_1 - \varphi_3 < 0$ and $\varphi_4 > 0$.

Procedures of Data Analysis

Augmented Dickey-Fuller (ADF) unit root test and Autoregressive Distributed Lag (ARDL) Bounds Test were used in this study as the main analytical techniques. Importantly, all the variables in the model were tested for stationary using the Augmented Dickey-Fuller unit root test procedure. Usually, the ADF test consists of estimating the following regression:

$$\Delta Y_t = M_1 + M_2 t + \delta Y_{t-1} + \sum \alpha_i \Delta Y_{t-i} + \varepsilon_t \quad (4)$$

Where: Y is a time series, t is a linear time trend, Δ is the first difference operator, ε is a pure white noise error term, M_1 is a constant, M_2 and δ are parameters and $\Delta Y_{t-1} = (Y_{t-1} - Y_{t-2})$, $\Delta Y_{t-2} = (Y_{t-2} - Y_{t-3})$, etc. The number of lagged difference terms to include is often determined empirically, the idea being to include enough terms so that the error term in (3) is serially uncorrelated. In ADF, we test whether $\delta = 0$ (Gujarati & Sangeetha, 2007).

This study employed Autoregressive Distributed Lag Bounds testing method to co-integration developed by Pesaran and Shin (1999). Unlike other co integration test, bounds test is applicable irrespective of whether the variables included in the model are $I(0)$ or $I(1)$ or a mixture of those. However, the technique is not appropriate in the presence of $I(2)$ series. Therefore, before employing the Bounds Test it was necessary to test for the level of integration of all the variables of interest by using the ADF Test. The test to find out if the variables in this study are co-integrated or have long-run relationship was done by computing the Bounds F-statistic (bound test for co-integration). The null hypothesis of no co-integration is rejected when the value of the test statistic exceeds the upper critical bounds value, while it is not rejected if the F-statistic is lower than the lower bounds value. Otherwise, the co-integration test is inconclusive. The Autoregressive Distributed Lag (ARDL) method was employed in order to capture the long-run as well as the short-run dynamic relationship among the variables. Therefore, the ARDL model is written as follows:

$$\begin{aligned} \Delta UER_{t,j} = & b_0 + b_1 UER_{t-1,j} + b_2 \text{LnDDT}_{t-1,j} + b_3 \text{LnEDT}_{t-1,j} + b_4 \text{LnM2}_{t-1,j} + b_5 \text{LnDS}_{t-1,j} \\ & + \sum_{i=1}^{n1} a_{1i,j} \Delta UER_{t-1,j} + \sum_{i=0}^{n2} a_{2i,j} \Delta \text{LnDDT}_{t-1,j} + \sum_{i=0}^{n3} a_{3i,j} \Delta \text{LnEDT}_{t-1,j} \\ & + \sum_{i=0}^{n4} a_{4i,j} \Delta \text{LnM2}_{t-1,j} + \sum_{i=0}^{n5} a_{5i,j} \Delta \text{LnM2}_{t-1,j} + \mu_t \text{ --- --- (5)} \end{aligned}$$

The vector error correction model is specified as follows:

$$\Delta UER_{t,j} = b_0 + \sum_{i=1}^{n1} a_{1i,j} \Delta UER_{t-1,j} + \sum_{i=0}^{n2} a_{2i,j} \Delta LnDDT_{t-1,j} + \sum_{i=0}^{n3} a_{3i,j} \Delta LnEDT_{t-1,j} + \sum_{i=0}^{n4} a_{4i,j} \Delta LnM2_{t-1,j} + \sum_{i=0}^{n5} a_{5i,j} \Delta LnM2_{t-1,j} + \lambda ECM_{t-1} + \mu_t \text{ --- (6)}$$

Where; Δ is the difference operator while ϵ_t is white noise or error term, n is the optimal lag length, $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$, represent the short run dynamics of the model and b_1, b_2, b_3, b_4, b_5 , are the long run elasticities and μ_t is the error term. ECM_{t-1} is the error correction term obtained from the co-integration model. The error coefficients (λ_1) show the rate at which the co-integration model corrects its previous period's disequilibrium or speed of adjustment to restore the long run equilibrium relationship. The coefficient of ECM is expected to be negative and statistically significant. A negative and significant ECM_{t-1} coefficient implies that any short run movement between the dependent and explanatory variables will converge back to the long run relationship.

RESULTS AND DISCUSSION

The study sought to examine how fiscal deficit financing has influenced unemployment rate in Nigeria from 1981 to 2023. Therefore, an econometric model was constructed. The model has unemployment rate (UER) as the dependent variable while domestic debt (DDT), external debt (EDT), money supply (M2) and public debt servicing (DS) are the independent variables. See Tables one to seven for the various regression results and post estimate test results.

Inferential Statistics

Table 1: Augmented Dickey-Fuller (ADF) Unit Root Test (*E-views 10 output*)

Variables	Level form		First difference		Order of integration
	ADF Statistics	5% Critical Value	ADF Statistics	5% Critical Value	
UER	-3.790114	-3.520787	-	-	1(0)
DDT	-1.980679	-3.548490	-3.996058	-3.562882	1(1)
EDT	-2.370629	-3.523623	-3.892983	-3.523623	1(1)
M2	-1.452114	-3.520787	-5.331108	-3.523623	1(1)
DS	-0.905705	-3.520787	-4.847237	-3.523623	1(1)

Note: UER, DDT, EDT, M2 and DS as earlier defined

The result of the ADF test for each of the series presented in Table 1 reveals that at five per cent level of significance, UER was stationary at level 1(0) as its ADF statistics is greater than 5 per cent critical values, while DDT, EDT, M2 and DS were stationary at first difference 1(1). Given that the variables were integrated of order 1(0) and 1(1). The requirement to fit in an ARDL model to test for long run relationship is satisfied.

Table 2: ARDL Bounds Test for Co-integration (*E-views 10 output*)

Model		F-Statistic = 4.425742
UER= F(DDT, EDT, M2, DS)		K = 4
Critical Values	Lower Bound	Upper Bound
5%	3.05	3.97

The result of the ARDL bounds test for co-integration reveals that there is a long run relationship amongst the variables (UER, DDT, EDT, M2 and DS). This is because the computed F-statistic of about 4.4 is higher than the upper critical bounds at 5% critical value. This provided evidence to reject the null hypothesis of no co-integration at 5% significance level for the unemployment rate (UER) model. Following the establishment of long-run co-integration relationship among the variables, the long-run and short-run dynamic parameters for the variables were obtained.

Table 3: Estimated ARDL Long Run Coefficients (*E-views 10 output*)

Dependent Variable: POVARDL (3, 3, 3, 1, 2)

Regressors	Coefficient	t-Statistic	P-Value
LOG(DDT)	0.209221	0.123902	0.9025
LOG(EDT)	2.171324	3.329027	0.0030
LOG(M2)	-2.849044	-2.327022	0.0296
LOG(DS)	-5.705201	-4.429752	0.0002

The estimated ARDL long run coefficients reveal that in the long run, domestic debt and external debt have positive relationship with unemployment rate in Nigeria. However, money supply and public debt servicing have negative relationship with unemployment rate in Nigeria. In addition, external debt, money supply and public debt servicing are statistically significant at conventional level.

Table 4: Error Correction Representation for the
Selected ARDL Model ARDL (3, 3, 3, 1, 2) (*E-views 10 output*)

Regressors	Coefficients	t-Statistic	P-Value
DLOG(DDT)	5.967113	1.880031	0.0734
DLOG(EDT)	-4.738218	-3.825720	0.0009
DLOG(M2)	-20.89485	-3.912829	0.0007
DLOG(DS)	3.468317	2.757985	0.0115
ECM (-1)	-1.786180	-5.708726	0.0000
R-squared = 0.716423	Akaike info criterion = 4.780075	Durbin-Watson stat =	
Adjusted R-squared = 0.590388	Schwarz criterion = 5.328960	2.383196	

Table 4 reveals the result of the short-run dynamic coefficients associated with the long-run relationships obtained from the ECM equation. The ECM is rightly signed (i.e., negative) and is also significant. It shows that disequilibrium in UER in the previous year (since the data are annual) is corrected in the current year. The Durbin Watson (DW) value of 2.383196, suggests that autocorrelation is not a problem to the model. The R^2 of 0.716423 also revealed the good fit of the model.

The coefficient of domestic debt appeared with a wrong sign (i.e., positive). Thus, a percentage increase in domestic debt will increase unemployment by 5.967113 percent. This result does not conform to Keynesian theory. Also, domestic debt is not statistically significant at conventional level. Therefore, it was concluded that there is no significant relationship between domestic debt and unemployment rate in Nigeria during the period of study. What this suggests is that domestic debt as a source of deficit financing exacerbated the problem of unemployment in Nigeria during the period of study. This outcome also suggests that the country did not invest debt from domestic sources in projects which have good potentials and prospects of creating employment opportunities. That is, domestic debt was not invested in viable projects that could create jobs.

Furthermore, the coefficient of external debt appeared with right sign (i.e., negative). Thus, a percentage increase in external debt will decrease unemployment by 4.738218 percent. This result conforms to economic theory (the Keynesian theory). At the same time, the absolute value of the t-statistic for the slope coefficient of external debt is significant at conventional level (i.e., 5 %). Thus, the study concluded that there is a significant relationship between external debt and unemployment rate in Nigeria. That is, external debt influenced unemployment rate in Nigeria meaningfully (significantly). This is consistent with earlier studies including Ogaga (2025) who reported that external debt has statistical negative effect on unemployment in

Nigeria. This suggests that external debt was invested in projects with employment potentials. It also means that if external debt is incurred for a well assessed, employment generating projects - especially in infrastructure, agriculture, and manufacturing, it will help to reduce unemployment in Nigeria.

Moreover, the coefficient of money supply appeared with right sign (i.e., negative). Thus, a percentage increase in money supply will decrease unemployment by 20.89485 percent. This result conforms to economic theory (the Keynesian theory). At the same time, the absolute value of the t-statistic for the slope coefficient of money supply is significant at conventional level (i.e., 5 %). Thus, the study concluded that there is a significant relationship between money supply and unemployment rate in Nigeria. That is, money supply has a meaningful influence on unemployment rate in Nigeria during the period of study.

In addition, the coefficient of public debt servicing appeared with right sign (i.e., positive). Thus, a percentage increase in public debt servicing will increase unemployment by 3.468317 percent. Public debt servicing serves as a leakage to the Nigerian economy because greater revenue of the country during the period of study was devoted to servicing public debt. This revenue could have been used to invest in the various sectors of the economy to enhance economic growth and create jobs for the inhabitants of Nigeria. However, the absolute value of the t-statistic for the slope coefficient of public debt servicing is significant at conventional level (i.e., 5 %). Thus, the study concluded that there is a significant relationship between public debt servicing and unemployment rate in Nigeria. This finding alluded to the work of Awa, Nteegah and Ohale (2025), who averred that the impact of external debt servicing on poverty and unemployment rates in Nigeria, were statistically significant and positive. This implies that high external debt servicing by the Nigerian government limits spending on social infrastructure and job-creating initiatives, further entrenching poverty and unemployment in Nigeria.

Diagnostic tests

Wald Test

Diagnostic tests were conducted in this study to verify whether or not the estimated model is reliable for policy prediction or recommendation purpose. This study specifically employed the Wald test for coefficient of restriction, Breusch-Godfrey (B-G) Lagrange Multiplier (LM) test for serial correlation and Autoregressive Conditional Heteroskedasticity test (Breusch-Pagan-Godfrey). The various test results are hereby reported in the Tables 5, 6 and 7.

Table 5 Wald Test Result (*E-views 10 output*)

Equation: Untitled			
Test Statistic	Value	Df	Probability
F-statistic	37.21910	(5, 22)	0.0000
Chi-square	186.0955	5	0.0000

The result in Table 5 shows that the F-statistic is approximately 37 and the probability value of 0.0000 is less than 0.05 at the conventional 5 per cent level. Therefore, all the explanatory variables included in the estimated model are jointly significant in explaining unemployment rate (UER) in Nigeria over the data period.

Test for Serial Correlation

The Breusch-Godfrey Serial Correlation LM test was used as a more advanced method to check if there is no serial correlation, compared to the alternative idea that there is serial correlation, in the ECM results, at a 5 percent significance level.

Table 6: Breusch-Godfrey Test for Serial Correlation (*E-views 10 output*)

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.124785	Prob. F(2,30)	0.3380
Obs*R-squared	2.790202	Prob. Chi-Square(2)	0.2478

The result in Table 6 shows that the error correction model does not have a serial autocorrelation problem. This is because the chi-square value and its related probability are higher than 0.05.

Heteroskedasticity Test

Autoregressive Conditional Heteroskedasticity test (Breusch-Pagan-Godfrey) was utilized to check whether or not the variance of the residuals in the ECM is homoscedastic.

Table 7: Autoregressive Conditional Heteroskedasticity Test Result (*E-views 10 output*)

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.684892	Prob. F(17,22)	0.1243
Obs*R-squared	22.62352	Prob. Chi-Square(17)	0.1619
Scaled explained SS	21.08977	Prob. Chi-Square(17)	0.2223

The Breusch-Pagan-Godfrey test result in Table 7 confirms that the error correction model is free from heteroskedasticity, which suggests that the variance of the residual in the unemployment rate model is homoscedastic over the period covered in this study.

CONCLUSION AND RECOMMENDATIONS

In this study, effort was made to ascertain the effect of fiscal deficit financing on unemployment in Nigeria from 1981-2023. The study utilized data on unemployment rate, domestic debt, external debt, money supply and public debt servicing obtained from the statistical bulletin of Nigeria's apex bank and the Autoregressive Distributed Lag (ARDL) bounds testing approach in econometrics was used to examine both the short-term and long-term connections between dependent and independent variables. The outcomes revealed that in the long run, domestic debt has positive and insignificant relationship with unemployment rate in Nigeria. External debt has positive and significant relationship with unemployment rate in Nigeria. Money supply and public debt servicing have negative and significant relationship with unemployment in Nigeria. In the short run, domestic debt has positive and insignificant relationship with unemployment rate in Nigeria. External debt and money supply have negative and significant relationship with unemployment rate in Nigeria. Public debt servicing has positive and significant relationship with unemployment rate in Nigeria. The study concluded that fiscal deficit financing through domestic debt and public debt servicing exacerbated the problem of unemployment in Nigeria. However, fiscal deficit financing through external debt, as well as money supply do not exacerbate the problem of unemployment in Nigeria.

Therefore, this study suggested that government should ensure that the terms of borrowing and the projects for which the borrowed funds are put should be those that will benefit the economy by creating employment. The government should also make sure that money borrowed through debt is used wisely on projects that can boost economic growth and provide job opportunities in Nigeria.

LIMITATIONS AND FUTURE RESEARCH

This paper utilized secondary data from 1981 to 2023 and couldn't expand the sample period beyond 2023 due to paucity of data. In addition, it is clear that this paper doesn't cover all aspects of the study's topic. So, future research should look at a longer time period and examine how fiscal deficit financing affects poverty in Nigeria.

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REFERENCES

- Adewale, A. O., & Adebayo, O. A. (2023). Fiscal deficit, money supply and inflation dynamics in Nigeria. *CBN Journal of Applied Statistics*, 14(1), 85–104
- Akidi, V., Momodu, A. A., & Isoghom, W. K. (2025). Fiscal Deficit Financing and Unemployment Rate in Nigeria: An Empirical Investigation. *International Journal of Economics and Business Management*, 11(4), 238-258.
- Akpakpan, E. B. (1999). *The Economy: Towards a New Type of Economics*. Port Harcourt: New Generation Publishers.
- Alnaa, S. E., & Matey, J. (2023). Dynamic relationship between external debt and unemployment in Sub-Saharan Africa. *Theoretical and Applied Economics*, 1(634), 137-152.
- Arestis, P., & Sawyer, M. (2003). Reinventing fiscal policy. *Journal of Post Keynesian Economics*, 26(1), 3–25.
- Aruofor, R. O., & Ogbeide, D. R. (2024). Analysis of the Impact of External Debt on the Nigerian Economy: The Implications and Consequences of the Recent Request for \$2.2 Billion Loan. *International Journal of Economics and Financial Management (IJEFM)*, 9(9), 242-267.
- Awa, I. O., Nteegah, A., & Ohale, L. (2025). Impacts of External Debt Servicing on Poverty and Unemployment in Nigeria. *Diamond Bridge Economics and Business Journal, A Publication of Garden City Premier Business School, Port Harcourt-Nigeria*, 5(2), 1-6.
- Barro, R. J. (1974). Are government bonds net wealth? *Journal of Political Economy*, 82(6), 1095–1117.
- Cahyadin, M., & Ratwianingsih, L. (2020). External Debt, Exchange Rate, and Unemployment in Selected ASEAN Countries. *Jurnal Ekonomi & Studi Pembangunan*, 21(1), 16-36.
- Central Bank of Nigeria (2011). *Annual Economic Report, 31st December, 2011*.
- Central Bank of Nigeria (2012). *Annual Economic Report, 31st December, 2012*.
- Central Bank of Nigeria (2013). *Annual Economic Report, 31st December, 2013*.
- Central Bank of Nigeria (2014). *Annual Economic Report, 31st December, 2014*.
- Central Bank of Nigeria (2015). *Annual Economic Report, 31st December, 2015*.
- Central Bank of Nigeria (2016). *Annual Economic Report, 31st December, 2016*.
- Central Bank of Nigeria (2017). *Annual Economic Report, 31st December, 2017*.
- Central Bank of Nigeria (2018). *Annual Economic Report, 31st December, 2018*.
- Central Bank of Nigeria (2019). *Annual Economic Report, 31st December, 2019*.
- Central Bank of Nigeria (2021). *Annual Economic Report, 31st December, 2021*.
- Central Bank of Nigeria (2022). *Annual Economic Report, 31st December, 2022*.
- Central Bank of Nigeria (2023). *Annual Economic Report, 31st December, 2023*.
- Central Bank of Nigeria (CBN). (2022). *Statistical Bulletin*. Abuja: CBN.
- Central Bank of Nigeria (CBN). (2023). *Monetary Policy Report*. Abuja: CBN.
- Elekwa, P. O., & Onyenama, J. C. (2022). How Does Public Debt Affect Unemployment in Nigeria? *Madonna Journal of Economics and Finance*, 1(1), 79-84.
- Enueshike, P., Dele, O., & Nwala, N. (2021). Effect of Tax Revenue on Unemployment Rate in Nigeria. *European Journal of Business and Management*, 13(12), 41-54.

- Eze, O. R., & Nwambeke, G. C. (2015). Effect of Deficit Financing on Unemployment Rate on Nigeria: An Error Correction Model. *International Journal of Small Business and Entrepreneurship Research*, 3(7), 28-46.
- Ezeani, E., & Ogiji, F. O. (2023). Public debt servicing and economic growth in Nigeria. *Journal of Economics and Sustainable Development*, 14(3), 45-56.
- Fatmawati, F. R., Mirzalina, Z., Mayanggita, Z., & Alkanan, O. M. T. (2024). The impact of government external debt on labor demand in Indonesia: A VECM approach through the exchange rate channel. *Journal of Infrastructure, Policy and Development*, 8(15), 9132.
- Friedman, M. (1968). The role of monetary policy. *American Economic Review*, 58(1), 1-17.
- Gbosi, N. G. (2015). *Contemporary Macroeconomic Problems and Stabilization Policies* (2nd edition). Spirit and Truth Publishers, Benin City, Nigeria.
- George-Anokwuru, C. C. & Okowa, E. (2021). Entrepreneurship Financing and Unemployment in Nigeria. *International Journal of Economics, Commerce and Management United Kingdom*, IX (1), 156-167.
- George-Anokwuru, C. C. (2022). Fiscal Policy and Employment Generation in Nigeria. *European Journal of Economic and Financial Research*, 6(2), 25-40.
- George-Anokwuru, C. C., & Okowa, E. (2021). Company Income Tax and Unemployment in Nigeria. *South Asian Journal of Social Studies and Economics*, 9(2), 35-41.
- Gujarati, D. N. (2007). *Basic Econometric*. Tata McGraw-Hill Publishing Company Ltd. Delhi.
- Hossen, M. K., Fagge, A. M., & Adam, I. M. (2021). Effect of Deficit Finance on Selected Macroeconomic Variables in Nigeria between 1986-2019. *Dutse International Journal of Social and Economic Research*, 6(3), 52-60.
- International Monetary Fund - IMF. (2023). *Nigeria: Article IV Consultation Report*. Washington, DC.
- Iortyer, A. D., Okoro, E. S., & Idoko, E. O. (2024). Impact of Deficit Financing Sources on Unemployment in Nigeria: A Dynamic Autoregressive approach. *Journal Of Economic and Social Research (JESR)*, 10(1), 115-126.
- Iwuoha, J. (2020). Rising unemployment in Nigeria: Public Debt to the Rescue. *Current research journal of social sciences*, 3(2), 280-290.
- Iyoha, M. A. (2004). *Macroeconomics: Theory and Policy*. Benin City: Mindex Publishing.
- Jhingan, M. L. (2018). *Macroeconomic Theory* (13th ed.). Vrinda Publications.
- Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. London: Macmillan.
- Krugman, P. (1988). Financing versus forgiving a debt overhang. *Journal of Development Economics*, 29(3), 253-268.
- Ogaga, T. C. (2025). External Borrowing and Unemployment in Nigeria. *International Journal of Business & Law Research*, 13(3), 196-205.
- Ogonna, I. C., Idenyi, O. S., Ifeyinwa, A. C., & Gabrie, N. U. (2016). The Implications of Rising Public Debt on Unemployment in Nigeria: An Auto Regressive Distributed Lag Approach. *Asian Research Journal of Arts & Social Sciences*, 1(1): 1-15.
- Ojo, M. O. (2013). Domestic debt and private sector credit in Nigeria. *Journal of Economic Policy Analysis*, 5(2), 45-62.
- Pesaran, M. H., & Shin, Y. (1999). "An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis." *Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium*, Strom, S. (ed.) Cambridge University Press.
- Todaro, M. P., & Smith, S. C. (2020). *Economic Development* (13th ed.). Pearson Education.
- World Bank. (2022). *Nigeria Development Update*. Washington, DC.