

**EFFECT OF MONETARY POLICY ON BANK LENDING TO THE PRIVATE
SECTOR IN NIGERIA**

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ABSTRACT

The study examines the effect of monetary policy on bank lending in Nigeria from 2008 to 2024. The dependent variable was proxied by credit to private sector, while the independent variable was proxied by comonetary policy rate and treasury bills. Using Ex post facto research design, quarterly time series data were extracted from the Central Bank of Nigeria's statistical bulletin 2024 and ARDL estimation test was used based on the unit root test result. The result showed that monetary policy rate and treasury bills had a negative significant effect on credit to private sector in Nigeria. The study recommends that since higher monetary policy rates reduce credit to the private sector, the Central Bank of Nigeria (CBN) should carefully balance inflation control objectives with the need to stimulate private sector credit. A gradual and measured adjustment of MPR, rather than sharp increases, would minimize the adverse effects on credit creation. Similarly, heavy reliance on treasury bills for deficit financing may discourage bank lending to businesses, thereby slowing investment and growth. To ensure sustainable credit growth, the Central Bank of Nigeria (CBN) may need to carefully balance monetary tightening with targeted interventions that promote credit flows to productive sectors.

KEYWORDS: - Monetary Policy, Interest Rate, Treasury Bills, Bank Lending, Credit to Private Sector, Nigeria.

JEL Classification:• E52, E58, C01, C32, O16

1.0 INTRODUCTION

Globally, central banks often utilize interest rate adjustments to influence borrowing costs, thereby affecting private sector credit. For instance, the Federal Reserve's monetary policy decisions significantly impact credit availability in the United States. Recent analyses indicate

that private credit markets have shown resilience even amid monetary tightening, suggesting that traditional monetary policy tools may have a muted effect on private credit supply (Rogoff, 2022). International Monetary Fund (2024) has highlighted the rapid growth of the global private credit market, which has expanded to approximately \$2 trillion. This growth raises concerns about financial stability, as private credit markets are less regulated and more opaque than traditional banking sectors. The IMF emphasizes the need for closer monitoring of these markets to mitigate potential systemic risks.

Bank lending to the private sector encompasses loans and advances provided by commercial banks to businesses and individuals for investment and consumption purposes. This lending is crucial for economic growth, as it finances capital formation, enhances productive capacity, and supports consumer spending. The availability and cost of credit are significantly influenced by the central bank's monetary policy stance. Gbanador and Giami (2024) indicate that Nigeria's credit to the private sector has been increasing. For example, in July 2024, net domestic credit to the private sector surged by 33% year-on-year, reaching NGN 75.4 trillion. This growth occurred despite the CBN's tightened monetary policy stance, suggesting that factors beyond traditional monetary policy tools are influencing credit expansion.

Thus, the Central Bank of Nigeria (CBN) keeps employing various monetary policy instruments which include the monetary policy rate, treasury bills, cash reserve ratio, and liquidity ratio, to influence credit to the private sector. The monetary policy rate or interest rate is the lowest rate of interest charged on loans to DMBs by the CBN. Therefore, an increase in the MPR signals an increase in DMBs' lending rates hence a tightening of DMBs' loan books which is expected to reduce DMBs' profitability and will affect the banking sector. From 2007 to 2022, the interest rate in Nigeria has averaged 11.84 percent, with a record low of 6.00 percent in July 2009 and a record high of 18.75 percent in July 2023. As of May, 2024, the interest rate was at 24.75 percent. The Nigeria interest Rate was 27.25 percent by the end of the first quarter of 2024, and in the long-term, it is projected to trend around 18.50 percent in 2025 and 17.00 percent in 2026. The real interest rate in Nigeria was at 0.92% in 2022, which is higher than the long-term average of -0.59%. On the contrary, the Central Bank lowers its bank rate making it cheaper to borrow from them. The deposit money banks also lower their lending rates making it easy for businessmen to borrow money (CBN, 2024).

In addition, the CBN through the open market operations buys and sells eligible treasury bills to regulate the money supply and the credit conditions in the economy. Treasury bills can also be used to stabilize short-term interest rates. When the Central Bank buys securities on the open market, it increases the reserves of DMBs, making it possible for them to expand their loans which increase the money supply. Treasury bills in Nigeria have experienced fluctuations in their

average rate during the period from 2007 to 2022. The average value of the treasury bill rate was approximately 8.75%, with a minimum of 0.03% and a maximum of 14.49%. In 2023, the treasury bill rate in Nigeria for a one-year (364-day) bill was 13.9% per annum. This rate has been increasing since the beginning of 2023, with the average rate for the period between 2007 and 2022 being approximately 8.75% per annum. The highest treasury bill rate recorded during this period was 18.83% per annum in April 2017, while the lowest rate was 0.233% per annum in November 2020 (CBN, 2024). The trend indicates that the treasury bill rate is increasing due to inflation and monetary policy decisions. This means that DMBs can expand their loan book and thus increase in their profits (Almutiri, 2020).

Monetary policy is pivotal in shaping economic outcomes, particularly through its influence on credit allocation to the private sector. In Nigeria, the Central Bank of Nigeria (CBN) employs various instruments to regulate credit flows. Despite these measures, challenges persist in effectively channeling credit to the private sector, which is essential for economic growth and development. Recent data from CBN (2024) indicates a significant increase in private sector credit. In July 2024, net domestic credit to the private sector surged by 33% year-on-year, reaching NGN 75.4 trillion, up from NGN 56.46 trillion in July 2023. This growth occurred despite the CBN's tightened monetary policy stance, but in the first quarter of 2024, the NPL ratio increased to 5.1%, marginally surpassing the prudential benchmark of 5.0%. In response to the rising NPLs, Nigerian banks significantly increased their provisions for loan losses. For instance, in the first quarter of 2024, eight banks collectively raised their provisions to N247.91 billion, a substantial increase from N45.13 billion in the same period of 2023 which has continued to reduce their performance.

The theoretical gap identifies areas where existing theories do not fully explain the relationship between monetary policy and bank lending in the Nigerian context. Although, the theory of the credit channel of monetary policy transmission explains how interest rates influence lending and stability, they may not fully capture the complexities of Nigeria's banking sector, such as regulatory inefficiencies or external shocks. It is against this background this study examines the effect of monetary policy instruments on bank lending to private sector in Nigeria from 2008-2023. The null hypotheses of this research are stated below:

H₀₁: Interest rate has no significant effect on bank lending to private sector in Nigeria.

H₀₂: Treasury bills have no significant effect on bank lending to private sector in Nigeria.

2.0 LITERATURE REVIEW

2.1 Concept of Bank Lending

Bank lending practices in the world can be traced to the period of industrial revolution which increased the pace of commercial and production activities thereby bringing about the need for large capital outlays for projects. Many captains of industry at that period were unable to meet up with the sudden upturn in the financial requirements and therefore turned to the banks for assistance (Modugu & Dempere, 2021). However, the emergence of banks in Nigeria in 1872 with the establishment of the African Banks Corporation (ABC) and later appearance of other banks in the scene during the colonial era witnessed the beginning of banks' lending practice in Nigeria. Though, the lending practices of the then colonial banks were biased and discriminatory and could not be said to be a good lending practice as only the expatriates were given loans and advances. This among other reasons led to the establishment of indigenous banks in Nigeria. Prior to the advent of Structural Adjustment Programme (SAP) in the country in 1986, the lending practices of banks were strictly regulated under the close surveillance of the bank's supervisory bodies. The SAP period brought about some relaxation of the stringent rules guiding banking practices (Paavo, 2017).

2.2 Concept of Monetary Policy

Monetary policy has been reported as a vital tool for the central bank to carry out macro control (CBN, 2024). The apex bank is capable of formulating monetary policy in accordance with monetary policy rules or discretionary choices. Monetary policy rules can fall into quantitative monetary policy rules and price-based monetary policy rules. Monetary policy is adopted by the monetary authorities of a nation to control the interest rate, money supply and inflation. It can also be said to be the macroeconomic policy laid down by the monetary policy committee of the central bank. It is the demand-side economic policy used by the government of a country to achieve macroeconomic objectives (Giraldo et al, 2024).

Monetary policy is an aspect of macroeconomics which deals with the use of monetary instruments designed to regulate the value, supply and cost of money in an economy, in line with the expected level of economic activity. The study measures the combination of volume, prices as well as direction of money in the economy per unit of time (Ayodele, 2014). Specifically, it permeates all the efforts by the monetary authorities to control the money supply and credits conditions for the purpose of achieving diverse macroeconomic objectives. In Nigeria, the responsibility for monetary policy formulation rests with the Central Bank of Nigeria (CBN) and the Federal Ministry of Finance (Abata et al., 2012). Monetary policy is usually used to attain a set of objectives oriented towards the growth and stability of the economy. These objectives include, promotion of price stability, stimulation of economic growth, creation of employment,

reduction of pressures on the external reserves and stabilization of the naira exchange rate (Osakwe et al 2019).

2.3 Interest Rate

Monetary policy rate is also known as interest rate which is the minimum lending rate of the Central Bank at which it rediscounts bill of exchange and government securities held by the deposit money banks (Didigu et al, 2022). The higher rates of interest as a contractionary monetary policy which definitely lower demand for loans and lead to decrease in output or production. When there is high inflation, CBN raises the monetary policy rate. In this period, borrowing from the CBN becomes difficult and so the deposit money banks borrow less. Also, the deposit money banks' borrowers such as individual and industries borrow less due to an increase in the lending rate (Shuja & Tunio, 2024).

2.4 Treasury Bills

According to Kausar and Sahi (2020), treasury bills are short-term sovereign debt securities maturing in one year or less. They are sold at a discount and redeemed at par. These bills are by nature, the most liquid money market securities and are backed by the guarantee of the Federal Government of a nation. According to Denis (2021), treasury bills are debt instruments used by the federal government to borrow funds for short periods of about three months pending the collection of its revenues. The Federal Government of Nigeria, through the Central Bank of Nigeria, issues Nigerian Treasury Bills to provide short-term funding for the government budget deficit. The treasury bills are usually issued through a competitive bidding process, quoted, and traded on FMDQ's platform (FMDQ, 2019).

2.5 Empirical Review

Giraldo et al (2024) examined the impact of U.S. monetary policy shocks on bank lending in five major Latin American countries where large U.S. banks have limited presence. The analysis covered annual balance sheet data from 2000 to 2021 for all banks in these nations, utilizing a recently developed measure of U.S. monetary policy shocks. The study revealed the existence of an international bank lending channel, with a one-percentage-point increase in the Fed funds rate resulting in an average 80.6 basis-point reduction in domestic bank loan growth in these countries. Liquidity and solvency emerge as crucial factors driving variations in lending behaviour among Latin American banks with banks exhibiting stronger liquidity and solvency profiles experiencing higher loan supply growth rates. However, the study focused on developed country while this study will focus on developing nation of Nigeria, of which the variable impact or results may be different.

Shuja and Tunio (2024) examined the effects of bank lending channel of monetary policy in seventeen emerging countries (Bangladesh, Brazil, Cambodia, India, Indonesia, Kyrgyzstan,

Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Russia, South Africa, Srilanka, Tajikistan, Uzbekistan) comprising of 5,574 banks over the sampled years from 2006-2021. Due to the importance of monetary policy and its transmission effect into the real economy via multiple channels, this research will focus on the bank lending channel because of the significant effects which banks have on the economy and financial markets. The study utilizes dynamic panel model with sys-GMM and fixed effect regressions along with performing robustness check, firstly by performing instrumental variable regressions and secondly by taking higher lags from the data sample. Results of the study indicate that bank lending channel operates in the capital markets. The financial development indicators exhibit a strong and significant effect on bank lending channel where monetary policy negatively affects and economic growth positively influences bank lending in the sampled countries. However, the study focused on emerging countries while this study will focus on Nigeria, which the variable impact or results may be different.

Kamasa et al (2023) examined the effect of monetary policy rate (MPR) on the lending rate of commercial banks in Ghana. The paper employed the autoregressive distributed lag (ARDL) model as well as the non-linear autoregressive distributed lag (NARDL) model econometric techniques on a quarterly time series data from 2002 to 2018. The ARDL results revealed that, MPR has a positive and significant effect on lending rate in the long and short run. Although there exists a direct relationship between MPR and lending rate, from the NARDL revealed an asymmetric effect of MPR on lending rate to the effect that, lending rate in Ghana responds more to positive shock (a rise in MPR) compared to a negative shock (a decrease in MPR) both in the long and short run. The paper contributes to policy and literature in Ghana by providing empirical evidence on the asymmetric effect that MPR has on lending rates in Ghana. However, the study used the aggregate lending rate as the measure of performance of banks in Ghana, while this study will focus on bank lending to private sector.

Faisal (2022) analyzed the impact of monetary policy on bank credit in Iraq. The study depended on the application of standard methods by applying a Nonlinear Autoregressive Distributed Lag (NARDL), based on monthly data for a time series for the period (2005 - 2021). The results showed a positive, long-term positive shock relationship to the independent variables (money supply, policy interest rate, inflation and bank deposits) on the dependent variable (bank credit), while the results did not show an effect of long-term negative shocks by the independent variables (money supply, price of money, Policy interest, inflation and deposits) on the dependent variable (bank credit). In light of the results of the study, as well as unifying the efforts of the central bank and commercial banks operating in the Iraqi banking sector to create a suitable climate for bank credit. The study did not conduct post estimation test, in order to have a robust result.

Modugu and Dempere (2022) examined the effect of monetary policies and bank lending in the emerging economies of Sub-Sahara Africa. The dynamic system-generalized method of moments (GMM) that overcomes issues of unobserved period and country-specific effects, as well as potential endogeneity of explanatory variables, is applied in the estimation exercise. The study uses the data for 80 banks across 20 Sub-Saharan African countries from 2010 to 2019. The findings showed that expansionary monetary policy such as an increase in money supply stimulates bank lending, while contractionary monetary policies like increase in the treasury bills by the central banks lead to credit contraction, albeit a weak effect due to possible underdevelopment of financial markets, institutional constraints, bank concentration and other rigidities in the system characteristic of developing countries that undermine the effectiveness of monetary policy transmission. Capital adequacy ratio and size of economic activities are other variables that significantly influence bank lending channels. While greater empirical attention has been devoted to the nexus between monetary policies and macroeconomic variables in country-specific studies, the connection between monetary policies and bank lending at an extensive regional or cross-country level is still scanty. However, there is no sufficient empirical study.

Nikhil and Deene (2021) ascertained the impact of monetary policy tools on the performance of banks in India, and this could be an excellent suggestion to the regulators in framing the favourable interest rates which would meet the macroeconomic objectives of the Indian economy. The design adopted in this study is descriptive and analytical research. Correlation and regression analysis were used to determine the relationship between bank rate (BR) and the performance of public sector banks in India. The sample chosen for this study is the public sector banks actively performing in India. The performance is measured by taking three factors, and they are deposits, loans and advances (L&A) and total asset value of the banks. All three factors have shown an impact of BR on them during the five years. L&A affected the least amongst the three factors, but the other two were significantly impacted by the change in BR by the Reserve Bank of India. So, there should be a favourable fluctuation in the BR which will bring flexibility in the banking system, and they can perform well in the economy and the central bank also can concentrate on the macro-economic situation in the country. This study helps in giving suggestions to the Central bank, researchers, and financial institutions to look into the financial performance and monetary policy rates and the central bank also can concentrate on the macro-economic situation in the country. However, the study focused in India while this study will focus in Nigeria, which the variable impact or results may be different.

Akpan et al (2022) examined the effect of treasury bills on private sector credit in Nigeria using annual data from 1981 to 2018 was examined. The specific objectives of the study were to examine the impact of treasury bills and treasury bill rate on private credit. Treasury bills was

disaggregated into its various components and used as explanatory variables along with other essential macroeconomic variables. The study was conducted in the light of the crowding out effect hypothesis. The behavior of variables was captured in an autoregressive distributed lag (ARDL) model. The result of the estimated model shows that treasury bills held by commercial banks, treasury bills held by the public and treasury bill rate has significant negative effect on credit to private sector, showing that treasury bills have a crowding out effect on private sector credit. However, the data stopped at 2018 which is far from when the study was conducted in 2022.

Hassan and Ahmad (2022) examined the reaction of banking loan to the shocks of treasury bills in Nigeria using a monthly time series dataset from January 2010 to December 2021. In the estimate instruments of treasury bills was used while banking loan was measured as loan-to-asset-ratio and loan-to-deposit ratio. In addition, the impulse response function was used as the technique of analysis. The results of this study revealed that treasury bills had a positive shock to banking loan. However, the pre and post estimation test was not conducted.

Omitogun (2018) studied the effect of treasury bills on private investment in Nigeria using annual data from 1981-2015. Econometric estimation of Auto Regressive Distributed Lag (ARDL) model was used for the analysis. The result shows that in general, the effect of treasury bills on private investment depends on the components of the expenditure. Evidence of crowding in and crowding out was found in the study. This implies that not all government expenditure is channeled in such a way that it attracts private investment in the economy. The study recommended that policy should take into consideration the existence of private investors in expenditure plans. However, the study did not conduct post estimation test, in order to have a robust result.

Akpansung (2018) studied the relationship among domestic debt of treasury bills on private credit, lending rate and output in Nigeria from 1981 to 2016. He used Vector Auto Regression (VAR) to model the behavior of variables. The model allows for the analysis of the dynamic interactions among variables as well as the impacts of treasury bills on the variables of interest. The results showed that government treasury bills has statistically insignificant positive impacts on both private sector credit and prime lending rate, but a statistically significant negative impact on real output in Nigeria for the period under consideration. Thus, the study did not conduct post estimation test, in order to have a robust result.

Zaheer et al (2017) studied the effect of treasury bills borrowing on the credit to private sector in Pakistan, using monthly data from 1998 to 2015. They used volume of government borrowing of treasury bills along with other explanatory variables. Their result showed that government

treasury bills borrowing have a significant effect on private sector credit. Although the effect appears small as shown by the coefficient of the estimated relationship, it was statistically significant and hence shows strong evidence of the negative effect of government borrowing treasury bills on the private sector credit. However, the study focused in Pakistan while this study will focus in Nigeria, which the variable impact or results may be different.

Krishnamurthy and Vissing-Jorgensen (2015) studied the impact of treasury supply on financial sector lending using data of the US economy from 1874 to 2014. The study was conducted in the light of the crowding out effect hypothesis. In their study, they present a theory that the key driver of short-term debt issued by the financial sector is the portfolio demand for safe and liquid assets from the non-financial sector. Their findings showed that government debt which is mainly treasury bills crowded out financial sector lending financed by short term debt. However, the study focused in US while this study will focus in Nigeria, which the variable impact or results may be different.

3.0 THEORETICAL REVIEW

3.1 The Keynesian Theory of Monetary Policy

The theory was proposed by Keynes in 1930. The theory states that monetary policy works primarily through interest rate as suggested by Keynesian Economist affects bank lending. Also, an increase in the money supply leads to a fall in interest rate to include the public to hold additional money balances as suggested by Keynesian transmission mechanism. Consequently, a drop-in interest rate level may stimulate investment. Through the multiplier, the increased investments also increase the level of income or output, which may stimulate economic activities. Interest rates and investment are affected by monetary policy, indirectly through economic activity. A highly detailed sector building up of aggregate demand and a detailed specification of portfolio adjustment process which is characterized by the Keynesian transmission mechanism which attaches key role to interest as an indirect linkage between fiscal demand and monetary policy (Krishnamurthy & Vissing-Jorgensen,2015). The monetary mechanism of Keynesians stresses on the role of money in simple terms, but involves an indirect link of money with total demand through the interest rate as representatively shown below: OMO, RMS, GNP Where, OMO = Open Market Operation R = Commercial Bank Reserve MS = Stock of Money r = Interest Rate I = Investment GNP = Gross National Product. On a more analytical note, if the economy is initially at equilibrium and there is open market purchase of government securities by the Central Bank of Nigeria (CBN), this Open Market Operation (OMO) will increase the commercial banks reserve (R) and raise the bank reserves.

The theory also provides interest rate as a determinant of demand and supply of money, hence, the theory indicated that money supply is usually determined by monetary authority which is the

central bank; while, the demand for money is a function of income and interest rate. The theory further explains that transactionary and precautionary motives of liquidity preference depends on income, whereas, speculative motive depends on interest rate. Thus, the Keynesian theory implies that low interest rate as a component of cost administered is detrimental to increasing savings; and, hence investment demand. The work of Aliyu and Daida (2018) revealed that the proponents of this theory argued that increase in the real interest rate will have strong positive effect on savings which can be utilized in investment; because, those with excess liquidity will be encouraged to save subject to favourable interest rate. Therefore, banks will have excess money to lend to investors for investment purposes thereby raising the volume of productive investment and increasing their profitability. This theory introduced the concept of liquidity trap, a situation where low interest rate discourages savings and consequently reduces investments due to lack of investable fund (Bellowa & Amelant, 2017).

3.2 Loan able Funds Theory

The Loan able Funds Theory was propounded by Knut Wicksell (1898) and later developed by economists such as Dennis Robertson and Bertil Ohlin. The central thrust of the theory is that the rate of interest is determined by the interaction between the demand for and supply of loan able funds in the financial market. On the supply side, loan able funds are generated from household savings, business savings, government surpluses, bank credit creation, and foreign capital inflows, while the demand side consists of borrowing for investment, government deficit financing, household consumption, and foreign demand for domestic credit (Jhingan, 2011). The theory further highlights the crowding-out effect, where excessive government borrowing through instruments such as Treasury Bills raises interest rates and diverts resources away from private investment.

Empirical evidence lends support to this theoretical proposition. Onwumere et al (2012) found that excessive government domestic borrowing in Nigeria increased interest rates and constrained private sector access to credit, in line with the crowding-out hypothesis of the Loan able Funds Theory. Similarly, Iyoha and Oriakhi (2002) argued that in developing economies, persistent reliance on Treasury securities to finance fiscal deficits reduces private investment by competing for the same pool of loan able funds. However, not all studies confirm this effect. Akinlo and Oni (2015) reported that the impact of government borrowing on private sector credit was statistically insignificant in some periods of their Nigerian analysis, suggesting that the extent of crowding-out may depend on the depth and structure of the financial system. Moreover, Keynesian economists have criticized the theory, contending that investment decisions are driven more by business expectations and aggregate demand than by interest rate movements alone (Keynes, 1936).

Overall, the Loan able Funds Theory provides a useful framework for understanding how government borrowing and policy rates, such as the Treasury Bill Rate, can influence credit to the private sector. This theoretical underpinning aligns with the observed lagged negative impact of Treasury Bill Rates on private sector credit in the present study, affirming the crowding-out channel of monetary transmission.

4.0 METHODOLOGY

The research design employed in this research work is *Ex post facto* research design. The study employed monthly data from the Central bank of Nigeria Statistical bulletin (2024) from 2008 to 2024. Due to time series data, the technique adopted in this research requires the use of empirical analysis, descriptive statistics, unit root test, variance inflation factor statistics (VIF) and auto-regressive distribution lag (ARDL) because it recognizes that different factors not just one can affect or establish the effect of monetary policy on bank lending to private sector. The following model was estimated.

$$CPS = f(MPR, TRB) \dots\dots\dots (1)$$

$$CPS_t = a + \beta_1MPR_t + \beta_2TRB_t + e \dots\dots\dots (2)$$

Where:

CPS = Credit to private sector

MPR= Monetary policy rate

TRB= Treasury bills

a = intercept (value of Y when Xj is zero)

e = Error term

Building equations (2) into an ARDL model, we have:

$$\Delta CPS_t = \mu + \alpha_1CPS_t + \alpha_2MPR_t + \alpha_3TRB_t \sum_{i=1}^{p-1} \lambda_1\Delta CPS_t + \sum_{i=0}^{q-1} \lambda_2 \Delta MPR_t + \sum_{i=0}^{q-1} \lambda_3 \Delta TRB_t + \varepsilon_t \dots\dots\dots (3)$$

4.1 Decision Rule

The decision rule to test the hypothesis of the study is as follows: If the p-value of the t-coefficient is less than 5% (0.05), the null hypothesis is rejected, otherwise accept.

Table 3.1: Variables, Measurement

S/N	Variable	Nature	Measurement	Supporting Sources
1.	Bank Lending	Dependent variable	Measured the performance of banks with total credit or loans to the private sectors	Modugu and Dempere (2021)
2.	Treasury bills	Independent variable	Measured as short-term securities issued by the CBN on behalf of the Federal government at a discount for a tenor ranging from 91 to 364 days.	Agundu, and Akani (2018)
3	Monetary Policy Rate	Independent variable	Measured as average minimum lending rate of the Central Bank at which it rediscounts bill of exchange and government securities held by the deposit money banks	Iddrisu and Alagidede (2020).

5.0 RESULTS AND DISCUSSIONS

In this section, the results of the study are presented and discussed with reference to the aim of the study, which was to determine the influence of using time series data of the effect of monetary policy on bank lending to private sector.

Table 2: Descriptive Statistics

	CPS_	MPR_	TRB_
Mean	7.160682	1.087700	0.996572
Median	7.179940	1.079181	1.042090
Maximum	7.772446	1.439333	1.271489
Minimum	6.741225	0.778151	0.319875
Std. Dev.	0.257626	0.145424	0.219008
Skewness	0.662563	-0.213738	-0.853033
Kurtosis	2.782428	4.109280	3.100126
Jarque-Bera	5.109335	4.004176	8.275274
Probability	0.077718	0.135053	0.015961
Sum	486.9264	73.96363	67.76688
Sum Sq. Dev.	4.446883	1.416924	3.213635
Observations	68	68	68

Source: E-Views 13, 2025.

The descriptive statistics shows the behavior of the three variables (CPS, MPR, and TRB) over 68 observations. The mean values indicate that CPS (7.16) is generally higher than both MPR (1.09) and TRB (1.00), suggesting that CPS has greater overall magnitude compared to the others. CPS and MPR have their means and medians closely aligned, indicating relatively symmetrical distributions, while TRB shows a slight deviation between mean (0.99) and median (1.04), suggesting mild skewness. The maximum and minimum values reveal that CPS is less volatile compared to TRB, which shows a wider gap between its extremes. Standard deviation confirms this, with TRB (0.22) being more dispersed than MPR (0.15) but less than CPS (0.26).

In terms of distributional shape, CPS has a positive skewness (0.66), indicating a long right tail, while MPR is slightly negatively skewed (-0.21), and TRB is more strongly negatively skewed (-0.85). Kurtosis values show that MPR (4.11) is leptokurtic, implying heavier tails and a more peaked distribution, while CPS (2.78) and TRB (3.10) are close to the normal benchmark of 3. The Jarque-Bera probability further supports this: CPS (p = 0.078) and MPR (p = 0.135) are normally distributed at the 5% level, while TRB (p = 0.016) significantly deviates from normality. Overall, CPS and MPR are fairly stable with near-normal distributions, whereas TRB exhibits higher non-normality and negative skewness, suggesting more fluctuations in its behavior.

Table 2: Correlation Matrix

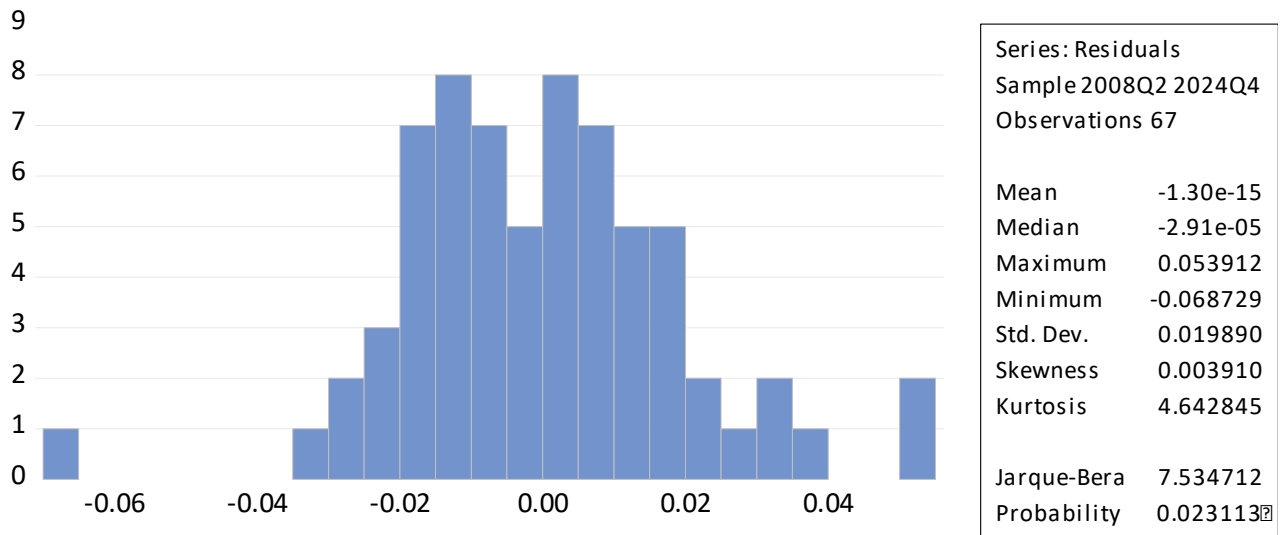
	CPS	MPR	TBR
CPS	1	0.7538523143	0.0355422881
MPR	0.753852314	1	0.3734982686
TBR_	0.035542288	0.373498268	1

Source: E-Views 13, 2025.

The correlation matrix shows the degree of association among CPS, MPR, and TBR. CPS has a very strong positive correlation with MPR (0.75), meaning that as monetary policy rate (MPR) increases, credit to the private sector (CPS) also tends to rise. This suggests that credit expansion is closely tied to changes in monetary policy stance. However, the correlation between CPS and TBR is very weak (0.036), implying that treasury bill rates (TBR) have almost no direct relationship with private sector credit. On the other hand, MPR and TBR exhibit a moderate positive correlation (0.37), indicating that changes in the monetary policy rate are somewhat reflected in treasury bill rates, though the link is not very strong.

Overall, the results suggest that CPS is largely influenced by MPR, while TBR is more loosely connected, reflecting that the transmission of monetary policy may affect credit to the private sector more strongly than it does short-term interest rates.

Table 3: Normality Test



Source: E-Views 13, 2025.

The normality test result with a Jarque-Bera statistic of 7.5347 and a probability value of 0.0231 indicates that the data does not follow a normal distribution at the 5% significance level. The Jarque-Bera test examines skewness and kurtosis to check if a series matches a normal distribution. Since the p-value (0.0231) is less than 0.05, the null hypothesis of normality is rejected.

This means the dataset is significantly non-normal, suggesting that the distribution of the variable is either skewed, has heavy tails, or both. In practical terms, it implies that caution should be taken in applying statistical methods that assume normality, and robust or non-parametric techniques might be more reliable.

Table 4: Summary of Unit Root Test

Variables	Adj. T-Statistic	Prob. Values	Order of Integration
CPS	-6.019047	0.0000	I(1)
MPR	-7.811086	0.0000	I(1)
TBR	-2.891144	0.0517	I(0)

Source: Researcher’s Computation using E-view 13, 2025

The unit root test results indicate the stationarity properties of the variables. Both CPS and MPR are stationary at first difference, as shown by their highly significant adjusted t-statistics (−6.02 and −7.81 respectively) with probability values of 0.0000, meaning they are integrated of order

one, $I(1)$. This implies that their original series are non-stationary, but they become stable after differencing once.

On the other hand, TBR has an adjusted t-statistic of -2.89 with a probability of 0.0517 , which is marginally 5% significance level. This suggests that TBR is stationary at level, $I(0)$, indicating that it does not require differencing to achieve stability.

In summary, CPS and MPR are $I(1)$ processes, while TBR is $I(0)$, which has implications for further econometric analysis. Specifically, since the variables are of mixed order of integration ($I(0)$ and $I(1)$), methods such as ARDL approach would be more appropriate for testing long-run relationships among them, rather than Johansen cointegration which requires all variables to be $I(1)$.

Table 5: ARDL Bound Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
Asymptotic: n=1000				
F-statistic	5.542079	10%	2.63	3.35
k	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5
Finite Sample: n=70				
Actual Sample Size	66	10%	2.73	3.445
		5%	3.243	4.043
		1%	4.398	5.463
Finite Sample: n=65				
		10%	2.74	3.455
		5%	3.285	4.07
		1%	4.538	5.475

Source: Researcher's Computation using E-view 13, 2025

The ARDL Bounds Test was conducted to determine whether a long-run equilibrium relationship exists among the variables in the model. The test evaluates the null hypothesis that no levels relationship (no cointegration) exists. The computed F-statistic for the model is 5.542079 , while

the sample size is approximately 66 observations, which makes the finite-sample critical values for $n \approx 65$ the most appropriate reference for decision-making.

When the calculated F-statistic is compared with the finite-sample critical values, the result shows that the F-statistic exceeds both the lower and upper bound values at all conventional significance levels. At the 5% level, the upper bound critical value is 4.07, while at the 1% level, the upper bound value is 5.475. Since the F-statistic of 5.54 is greater than these thresholds, particularly surpassing even the strict 1% upper bound, the null hypothesis of no long-run relationship is decisively rejected.

This outcome provides strong statistical evidence that the variables included in the ARDL model share a stable long-run relationship. In other words, they move together over time and exhibit a meaningful equilibrium association. The confirmation of cointegration implies that the ARDL model is appropriate for further analysis, and the estimation of both the long-run coefficients and the short-run dynamics becomes valid and meaningful. Additionally, since a long-run relationship has been established, the Error Correction Term (ECT) in the ARDL-ECM framework will be particularly important, as it indicates the speed at which the system returns to equilibrium when deviations occur.

Therefore, the F-Bounds Test demonstrates that the dependent variable and its explanatory variables are cointegrated, thereby supporting the use of the ARDL approach to explain both their short-run adjustments and long-run behaviour.

Table 5: ARDL Estimation

Dependent Variable: CPS

Method: ARDL

Model selection method: Akaike info criterion (AIC)

Dynamic regressors (4 lags, automatic): MPR T_BILLS

Fixed regressors: C

Selected Model: ARDL(1, 0, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
CPS(-1)	0.948663	0.020743	45.73355	0.0000
MPR	-0.004973	0.001264	-3.933719	0.0002
TBR	-0.000755	0.000995	-0.759212	0.4506
TBR(-1)	-0.002972	0.000955	-3.111426	0.0028
C	0.358996	0.139078	2.581256	0.0122

R-squared	0.993883	Mean dependent var	7.166942
Adjusted R-squared	0.993488	S.D. dependent var	0.254306
S.E. of regression	0.020521	Akaike info criterion	-4.863028
Sum squared resid	0.026109	Schwarz criterion	-4.698499
Log likelihood	167.9115	Hannan-Quinn criter.	-4.797924
F-statistic	2518.426	Durbin-Watson stat	1.785766
Prob(F-statistic)	0.000000		

Source: E-View 13 Output, 2025

The ARDL (1,0,1) model provides important insights into the short-run and long-run dynamics of credit to the private sector (CPS) in relation to monetary policy rate (MPR) and treasury bill rate (TBR). The constant term (0.359, $p = 0.0122$) is positive and significant, capturing underlying growth in CPS not explained by the included regressors. The diagnostic statistics show that the model fits very well: R-squared (0.994) indicates that 99% of the variation in CPS is explained by the regressors, while the F-statistic is highly significant. The Durbin-Watson value (1.79) suggests no serious autocorrelation problem. Information criteria (AIC, SIC, HQC) confirm that the selected ARDL(1,0,1) model is optimal.

The coefficient of the lagged CPS (0.949, $p = 0.0000$) is highly significant and close to 1, which shows that CPS is strongly persistent over time, meaning past values of CPS are a strong determinant of current values. MPR has a negative and significant effect (-0.00497, $p = 0.0002$), suggesting that increases in monetary policy rate does not stimulate private sector credit in this specification. On the other hand, the contemporaneous TBR coefficient (-0.00076) is negative but insignificant ($p = 0.451$), meaning treasury bill rates have no immediate effect on CPS. However, the lagged TBR (-0.00297, $p = 0.0028$) is negative and significant, implying that increases in treasury bill rates reduce private sector credit with a lag, consistent with the idea that higher returns on government securities crowd out private sector borrowing.

Overall, the results reveal that CPS is highly persistent, positively influenced by MPR, and negatively affected by treasury bill rates with a lag, highlighting the interplay between monetary policy and credit allocation in the economy.

Table 6: Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.363177	Prob. F(2,58)	0.6970
Obs*R-squared	0.816317	Prob. Chi-Square(2)	0.6649

Source: E-View 13 Output, 2025

The Breusch–Godfrey Serial Correlation LM test was conducted to assess whether the residuals of the ARDL model exhibit autocorrelation up to the second lag. Autocorrelation in the error term can bias standard errors, distort test statistics, and weaken the reliability of model inference. Therefore, confirming the absence of serial correlation is an important diagnostic step in validating the adequacy of the ARDL specification. The null hypothesis of the test states that no serial correlation exists in the residuals of the model.

The test results show an F-statistic of 0.3632 with an associated probability value of 0.6970. Similarly, the Obs*R-squared statistic is 0.8163, with a corresponding p-value of 0.6649. In both cases, the p-values are substantially greater than the conventional significance levels of 1%, 5%, and 10%. As a result, the null hypothesis of no serial correlation cannot be rejected. This indicates that there is no statistical evidence of autocorrelation in the residuals of the estimated ARDL model.

Table 6: Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.055166	Prob. F(5,60)	0.3942
Obs*R-squared	5.334359	Prob. Chi-Square(5)	0.3765
Scaled explained SS	8.785202	Prob. Chi-Square(5)	0.1179

Source: E-View 13 Output, 2025

The Breusch–Pagan–Godfrey test was carried out to determine whether the variance of the error terms in the ARDL model is constant. The null hypothesis of the test assumes homoskedasticity, meaning the variance of the residuals does not change across observations. Heteroskedasticity, if present, can lead to inefficient estimates and biased standard errors, thereby undermining the reliability of statistical inferences. Therefore, testing for this property is essential to validate the robustness of the estimated ARDL model.

The results of the test indicate that the F-statistic is 1.0552 with a corresponding p-value of 0.3942, while the Obs*R-squared statistic is 5.3344 with a p-value of 0.3765. These p-values are well above the conventional significance thresholds of 1%, 5%, and 10%, implying that the null hypothesis of homoskedasticity cannot be rejected. The Scaled Explained SS test also yields a p-value of 0.1179, which similarly fails to provide evidence of heteroskedasticity. Collectively, these results indicate that the residuals of the ARDL model exhibit constant variance.

The auxiliary regression used in the test shows that none of the explanatory variables significantly explain variations in the squared residuals, as all coefficients have p-values exceeding the 10% level. This further confirms that the independent variables do not induce systematic changes in the error variance. Additionally, the Durbin–Watson statistic of 2.083 suggests that the residuals are free from serial dependence, providing further confidence in the stability and reliability of the diagnostic regression.

Therefore, the Breusch–Pagan–Godfrey test results provide strong evidence that the ARDL(2,0,1) model does not suffer from heteroskedasticity. The presence of homoskedastic residuals implies that the estimated coefficients are efficient and the standard errors are reliable. This enhances the credibility of the model’s short-run and long-run interpretations and confirms that the ARDL specification is appropriate for analyzing the relationship between private sector credit, monetary policy rate, and treasury bills rate.

6.0 DISCUSSION OF FINDINGS

The ARDL model provides insights into the interaction between monetary policy instruments and credit to the private sector (CPS) in Nigeria. The results confirm that both the monetary policy rate (MPR) and treasury bill rate (TBR) significantly shape the flow of credit, although in different ways and at different time horizons.

The coefficient of the lagged dependent variable ($CPS(-1) = 0.949$, $p < 0.01$) is positive and highly significant, indicating that past levels of CPS strongly determine present credit levels. This persistence suggests that credit growth in Nigeria follows a path-dependent process, where changes in lending behaviour are gradual rather than instantaneous. Such behaviour is consistent with the financial accelerator theory, which emphasizes that credit expansion tends to build momentum over time due to institutional lending practices and risk perceptions of financial intermediaries.

The monetary policy rate (MPR) has a negative and statistically significant effect on CPS (-0.00497 , $p < 0.01$). This implies that an increase in MPR reduces private sector credit, consistent with conventional monetary theory. According to the Keynesian transmission mechanism, higher interest rates raise the cost of borrowing, thereby discouraging investment and reducing credit demand. This finding aligns with empirical evidence from Nigerian studies such as Ufoeze et al. (2018) and Nwoko, IHEMEJE, & ANUMADU (2016), which document that contractionary monetary policy tightens credit conditions and slows down private sector growth.

For treasury bill rates (TBR), the contemporaneous coefficient is negative but insignificant (-0.00076 , $p = 0.451$), suggesting that immediate changes in TBR do not significantly affect

private sector credit. However, the lagged coefficient is negative and highly significant (-0.00297 , $p < 0.01$), indicating that increases in treasury bill rates crowd out private sector credit with a delay. This outcome is consistent with the crowding-out hypothesis, which posits that government borrowing through short-term securities competes with the private sector for loanable funds (Shuja & Tunio, 2024). Empirical studies in Nigeria, such as Akinlo & Oni (2015), similarly find that treasury bill financing of fiscal deficits reduces bank credit to the private sector.

7.0 CONCLUSION AND POLICY RECOMMENDATIONS

The findings of this study lend strong support to established monetary and financial theories. The negative and significant impact of the monetary policy rate (MPR) on credit to the private sector (CPS) is consistent with the Keynesian interest rate channel of monetary transmission, which posits that increases in policy rates raise the cost of borrowing, discourage investment, and consequently reduce credit creation. In Nigerian, this suggests that contractionary monetary policy implemented through higher MPR translates into tighter credit conditions for private firms, thereby constraining access to funds needed for productive activities.

Furthermore, the evidence of a lagged negative relationship between treasury bill rates (TBR) and CPS supports the loan able funds theory. According to this perspective, government debt instruments compete with the private sector for scarce financial resources in the credit market. When treasury bill rates are high, financial institutions are incentivized to channel funds into government securities, which are risk-free, instead of lending to the private sector, which carries higher default risk. This crowding-out effect diminishes the flow of credit to businesses, potentially dampening investment and slowing economic growth.

In conclusion, the results underscore the importance of designing a balanced policy mix. Policymakers must weigh the short-term stabilization role of higher interest rates and treasury bill issuance against their long-term implications for credit availability and private sector growth. This balance is particularly crucial in an economy like Nigeria's, where sustained private sector financing is essential for job creation, industrial expansion, and overall economic development.

8.0 POLICY RECOMMENDATIONS

Since higher monetary policy rates (MPR) reduce credit to the private sector, the Central Bank of Nigeria (CBN) should carefully balance inflation control objectives with the need to stimulate private sector credit. A gradual and measured adjustment of MPR, rather than sharp increases, would minimize the adverse effects on credit creation.

The evidence of a lagged negative effect of treasury bill rates (TBR) on private sector credit highlights the crowding-out problem. The government should diversify its financing strategies by relying more on external concessional borrowing, long-term bonds, or non-debt instruments such as public-private partnerships (PPPs), rather than short-term treasury bills that compete directly with private sector borrowers.

REFERENCES

- Abata, M. A., Ajayi, F. O. & Atanda, S. (2012). Monetary policy and economic growth in Nigeria: A Theoretical Exploration. *International Journal of Academic Research in Economics and Management Sciences*, 1(5): 75-88.
- Akinlo, A. E., & Oni, B. (2015). Impact of public debt on private investment in Nigeria. *International Journal of Business and Finance Research*, 9(2), 75–86.
- Akinlo, A. E., & Oni, T. E. (2015). Determinants of bank credit growth in Nigeria 1980–2010. *European Journal of Sustainable Development*, 4(1), 23–30. <https://doi.org/10.14207/ejsd.2015.v4n1p23>
- Akpan, O.M., Effiong, E.U. & Ukere, I.J. (2022). Impact of treasury bill on private sector credit in Nigeria. *Research in Social Sciences*, 5(1), 30-42.
- Akpan, A. (2018). Analysis of the impacts of domestic debts of treasury bills on private sector credit, lending rate, and real output: Evidence from Nigeria. *Journal of Finance and Economics*, 6(3), 111-123.
- Aliyu, Q. & Daida, G. (2018). An empirical investigation of monetary policy on foreign trade in Nigeria. *Journal of Economic Development Research and Investment*, 45(23), 175-192.
- Almutiri, A. (2020). House Prices and Monetary Policy: A crossCountry Study, Board of Governors of the Federal Reserve System. *International Finance Discussion Papers*, 841.
- Ayodele, J.C. (2014). Effects of monetary policy on the commercial banks' lending in Nigeria. *Review of Public Administration and Management*, 3(5), 134-146.
- Bellowa, D. & Amelant, G. (2017). Credit Issues: Empirical evidence on Gambia, macro-financial Nexus. *IMF Working Papers* No. WP/23/234.
- Bernanke, B. S., Gertler, M., & Gilchrist, S. (1999). *The financial accelerator in a quantitative business cycle framework*. In J. B. Taylor & M. Woodford (Eds.), *Handbook of Macroeconomics* (Vol. 1C, pp. 1341–1393). Elsevier. [https://doi.org/10.1016/S1574-0048\(99\)10034-X](https://doi.org/10.1016/S1574-0048(99)10034-X)
- Blinder, A. S., & Solow, R. M. (1973). Does fiscal policy matter? *Journal of Public Economics*, 2(4), 319–337. [https://doi.org/10.1016/0047-2727\(73\)90001-6](https://doi.org/10.1016/0047-2727(73)90001-6)
- CBN. (2024). Financial markets development half year report, 1-92.
- Denis, M.C. (2021). The impacts of monetary policy on the performance of deposit money banks (DMBS) in Nigeria. MBA programme/faculty of administration & law distance learning centre ahmadu bello university, Zaria.

- Didigu, C.E., Joshua, N.J., Okon, J.I., Eze, A.O., Gopar, J.Y., Oraemesi, C.N., Udofia, B.U., Yisa, D.N., Ejinkonye, J.C. & Ette, V.E. (2022). Cash reserve ratio and banking sector stability in Nigeria. *CBN Journal of Applied Statistics*, 13(1), 1-26.
- Faisal, F.G. (2022) Analysis of the impact of monetary policy in bank credit: an applied study on the iraqi banking sector using the NARDL Model from 2005 To 2021. *Journal of Accounting Research, Organization and Economics*, 3(3), 2-23.
- Gbanador, M. & Giami, B. (2024). Monetary Policy and Economic Growth in Nigeria: An Autoregressive Distributed Lag Approach. *International Journal of Social Sciences and Management Research*, 10(3), 125-137.
- Giraldo, C., Giraldo, I., Gomez-Gonzalez, J. & Uribe, J. (2024). U.S. monetary policy shocks and bank lending in Latin America: evidence of an international bank lending channel. *Applied Economics Letters*, 140, 2-19.
- Hassan, A. & Ahmad, Z (2022). Monetary policy shocks and health of the banking sector in Nigeria. *East African Scholars Journal of Economics, Business and Management*. 5(8), 236-244.
- Iyoha, M. A., & Oriakhi, D. E. (2002). Explaining African economic growth performance: The case of Nigeria. *African Economic Research Consortium (AERC)*, Nairobi.
- Jhingan, M. L. (2011). *Macroeconomic theory* (12th ed.). Vrinda Publications.
- Kamasa, K., Afful, S.L. & Bentum-Ennin, I. (2023). Impact of monetary policy rate on commercial banks' lending rate: empirical evidence from Ghana. *Journal of Economic and Administrative Sciences*, 22(7), 1-14. <https://doi.org/10.1108/JEAS-07-2021-0141>
- Kausar, A. & Sahi, C.A.I. (2020). Impact of Bank Capital and Monetary policy on Lending Behavior of USA Banking Sector Before and After Global Financial Crises. *The Journal of Educational Paradigms*, 02(02), 120-124.
- Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. Macmillan.
- Krishnamurthy, A., & Vissing-Jorgensen, A. (2015). The impact of treasury supply on financial sector lending and stability. *Journal of Financial Economics*, 118(3), 571-600. Available at: <https://doi.org/10.1016/j.jfineco.2015.08.012>.
- Modugu, K.P. & Dempere, J. (2021). Monetary policies and bank lending in developing countries: evidence from Sub-Sahara Africa. *Journal of Economics and Development*, 24(3) 217-229 Emerald Publishing Limited.
- Nikhil, B. & Deene, S. (2021). Monetary policy collision on the performance of banking sector in India. *Journal of Management, Emerald Publishing Limited*. 20(1), 154-165.
- Nwoko, N. M., Ihemeje, J. C., & Anumadu, E. (2016). The impact of monetary policy on the economic growth of Nigeria. *African Research Review*, 10(3), 192–206. <https://doi.org/10.4314/afrrrev.v10i3.14>

- Omitogun, O. (2018). Investigating the crowding out effect of treasury bills on private investment. *Journal of Competitiveness*, 10(4), 136-150. Available at: <https://doi.org/10.7441/joc.2018.04.09>.
- Onwumere, J. U. J., Ibe, I. G., Ozoh, F. O., & Mounanu, O. (2012). The impact of deficit financing on economic growth in Nigeria. *European Journal of Business and Management*, 4(21), 10–19.
- Osakwe, A. C., Agbo, E.A. & Okonkwo, E.J. (2019). Effect of monetary policy instruments on banking sector credits in Nigeria. *Advance Journal of Management, Accounting and Finance*, 4(4), 32-45.
- Rogoff, K. (2022). Issues in the theory of sovereign debt and post-covid workouts. *Journal of Policy Modeling*, 44(4), 804-811.
- Shuja, S. M., & Tunio, F. H. (2024). Effects of monetary policy on emerging market economies: study perspective from bank lending channel. *Journal of Development and Social Sciences*, 5(1), 481–493. [https://doi.org/10.47205/jdss.2024\(5-1\)44](https://doi.org/10.47205/jdss.2024(5-1)44).
- Ufoeze, L. O., Odimgbe, S. O., Ezeabalisi, V. N., & Alajekwu, U. B. (2018). Effect of monetary policy on economic growth in Nigeria: An empirical investigation. *Annals of Spiru Haret University, Economic Series*, 18(2), 123–140. <https://doi.org/10.26458/1826>
- Zaheer, S., Khaliq, F., & Rafiq, M. (2017). Does government borrowing of treasury bills on private sector credit in Pakistan. State Bank of Pakistan (SBP) *Working Papers* No. 83.