MONEY MARKET DEVELOPMENT AND ECONOMIC GROWTH IN NIGERIA

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DOI: https://doi.org/10.57233/ijamer.v2i2.43

Article History: Received: 12 May 2026 | **Revised:** 20 May 2026 | **Accepted:** 31 May 2026 | **Published:** 25 June 2026

How to Cite This Article
Inaya, A. D. (2026). Money market development and economic growth in Nigeria. *International Journal of Accounting, Management and Economic Review, 2*(2). https://doi.org/10.57233/ijamer.v2i2.43

Abstract
In this study, the link between Nigeria's economic growth and money market development was examined. The variables used as stand-ins for money market development were total value of treasury bills issued (TRB), total value of certificates of deposit issued (COD), total value of commercial papers issued (COP) and total value of bankers' acceptance issued (BAC). The real GDP served as a proxy for economic. The ARDL model, which was intended to examine the influence of money market development variables on economic growth, was specified using the Autoregressive Distributed Lag (ARDL) approach using annual data from 1981 to 2024. The E-view 9.0 econometric analysis software was utilized for the analysis. The results show that while certificate of deposit (COD), commercial paper (COP) and bankers acceptance (BAC) exerts significant impact on economic growth (RGDP) either in the short or long run; treasury bill (TRB) has no significant effect on economic growth in Nigeria in the short or long run. Furthermore, the two years lag monetary policy rate (MPR (-2), which is the control variable significantly reduce economic growth in the short run. According to the study's findings, we find partial evidence that money market development influences Nigeria's economic growth, as two (2) out of the four (4) proxies show a significant positive long-run effect on economic growth. The study recommends measures to improve and strengthen the money market instruments in order to boost economic growth in Nigeria. Also, policies measures by the monetary authority (CBN) to promote market integrity and soundness which will enable the money market to continue to stimulate economic growth in Nigeria were recommended.

Keywords: Bankers acceptance, certificate of deposit, real GDP, Treasury bills, ARDL

1.0 Introduction

A common argument is that a nation's financial sector development is inextricably linked to its overall growth and development. The claim is that the financial industry helps close the gap in the availability of capital required for profitable businesses through the process of financial intermediation. As a result, the economy performs better (Kolapo & Adaramola, 2012). It is consequently anticipated that the money market, which is a crucial part of a nation's financial system, will have a favorable effect on the expansion and advancement of the nation's economy. Based on the aforementioned, it can be broadly concluded that a nation's money market development is closely linked to its economic growth and development. Therefore, a healthy money market effectively supports the nation's expansion and development (Korgbeelo & Amadi, 2023).

The money market serves as the primary source of short-term funding to support economic activity in every country and offers tools for efficient liquidity management. High transaction

volumes, low interest rate volatility, and the capacity to move money between lenders and borrowers effectively are characteristics of a well-developed money market (Agbada & Odejimi, 2015). The money market's main purpose is to modify liquidity; in other words, it offers a mechanism for short-term funds with a duration of less than a year. These markets are crucial to any contemporary economy. Households, businesses, and even the government can raise money from the savings of surplus economic units thanks to the markets (CBN, 2007).

The money market was essential in luring investment capital through financial intermediation. In order to fulfill the urgent requirements of major money consumers, such as banks, the government, and other organizations of a similar nature. According to Nwosu and Hamman (2008), a lack of securities, a scarcity of instruments, and a broad range of lending and deposit rates have all contributed to the Nigerian money market's inconsistent overall performance. Furthermore, the market lacks the breadth, depth, and resilience required to fulfill its primary function of financial intermediation. When compared to developed countries, these changes have definitely had an impact on the growth and development of the Nigerian money market (Tsintop & Bala, 2023).

It is generally believed that money markets play significant role in the process of economic growth and development. However, in empirical literature, there is no general consensus with regard to empirical evidence on the effect of money market development oneconomic growth. For instance, researchers such as Agbadaand Odejimi (2015), Igbinosa and Aigbovo (2016), Eze and Mansi (2019) and Omogbai and Umoru (2025) among others, have investigated the effect of diverse money market development variables of mechanisms (treasury bills, certificates of deposits, commercial paper,bankersacceptances among others) on economic growth. They concluded that money market variables significantly influences economic growth while the studies of Pavtar (2019), Faith et al., (2020) and Tsintop and Bala (2023) on the influence of money market development variables on economic growth all concluded otherwise: that money market development has no significant influence on economic growth, indicating that the relationship may be context-dependent and need further exploration.

This study therefore provides further empirical evidence on the impact of money market development on economic growth in Nigeria using more recent data. The use of more recent data will provide up-to-date insights into the money market development economic growth nexus as it will consider any changes or developments that may have occurred in the money market in recent years. Specifically, the study investigated the impact of treasury bills, certificates of deposit, commercial papers and bankers' acceptance on economic growth in Nigeria.

The general objectiveof this study is to examine the effect of money market development on economic growth in Nigeria. However, the specific objectives are to:

i. Ascertain the effect of Treasury Bills on economic growth in Nigeria;
ii. Determine the effect of Certificates of Deposit on economic growth in Nigeria;
iii. Ascertain the effect of Commercial Papers on economic growth in Nigeria;
iv. Examine the effect of Bankers' Acceptances on economic growth in Nigeria.
This paper is organized in five sections. Section one is the introduction. Section two is the review of related literature, the third section talks about the methodology of the study, section four

presents and analysis the data, and finally, section five summarises, makes recommendations and concludes the work

2.0 Literature Review

Conceptual Review of Economic Growth

The rise in the market value of the products and services generated by an economy over time is known as economic growth. It is a rise in an economy's ability to generate products and services over time. Both nominal and real terms can be used to measure it. It is calculated as the real gross domestic product growth percentage. Abdulkadir et al. (2010) define economic growth as merely an increase in per capita income or the gross national product (GNP). Pavtar (2016) asserts that economic growth is a sign of a nation's dynamic economic processes. Cvetanovic et al. (2019) define economic growth as "an overall increase in the value of a country's production." They go on to say that economic growth is the expansion of an economy's ability to generate the goods and services required to improve the welfare of its people.

Money Market Development

The process of creating, improving, and maturing the financial institutions, instruments, and infrastructure that enable low-risk, short-term (usually less than a year) borrowing and lending of funds is referred to as money market development. To increase financial efficiency, it entails developing liquid secondary markets, promoting different participants, and fortifying regulatory frameworks. Important facets of the growth of the money market include: Enhanced Liquidity & Instruments (development of a variety of low-risk, highly liquid short-term debt instruments, such as commercial paper, certificates of deposit, and Treasury bills);Effective Monetary Policy Transmission (a developed market enables central banks to manage liquidity and carry out monetary policy through indirect instruments); Institutional Framework (the existence of strong institutions, such as banks, dealers, and the central bank, that facilitate transactions and manage risk); Economic Impact (makes it easier to mobilize excess funds for short-term investment needs, which maximizes savings and fosters industrial growth) (Igbinosa & Aigbovo, 2016).

Lower T-bill yields lower borrowing costs for businesses and encourage private investment since Treasury bills pay government spending on infrastructure and services and set the benchmark interest rate. Additionally, by ensuring trade payments and enabling businesses to acquire raw materials or export items without upfront cash, banker's acceptances promote growth by streamlining production and increasing trade volumes. Additionally, commercial papers boost growth by providing large, creditworthy firms with cheaper short-term financing than bank loans, lowering operating costs, and freeing up bank credit for SMEs. Together, these factors improve liquidity, lower financing costs, and support higher output. Certificates of deposit also boost growth by mobilizing idle short-term savings into stable bank funding, allowing banks to extend more loans to businesses for working capital and expansion.

Indicators of Money Market Development

The development of a variety of highly liquid, low-risk, short-term debt instruments, such as Treasury bills, commercial paper, and certificates of deposit, is a crucial component of the money market. Treasury bills (TB), Treasury certificates (TC), certificates of deposit (CD), commercial papers (CP), and banker acceptances (BA) are the main and most often used money

market products in Nigeria. These instruments may be described in terms of usage, attributes, or maturity period.

Treasury Bills: Treasury bills (TB) are short-term debt instruments having maturities of 90, 180, and 360 days that are primarily utilized by the government to borrow short-term financing. According to Nzotta (2004), there is no credit risk for investors using Treasury bills, and there is no withholding tax on interest earneds. Governments employ Treasury Bills, which are short-term financial securities, to fund their expenditures. The public and organizations are given discounts by governments. In that they mature after a predetermined amount of time, they operate similarly to central bank promissory notes issued by the government. Because of their tight connections to the capital and financial markets, Treasury bill yields can affect the interest rates of banks and other corporate bonds (Nyawata, 2012). Government uses Treasury bill proceeds for infratructure, salaries, projects and this will in turn stimulate aggregate demeand.

Treasury certificates: Treasury certificates, on the other hand, are government-issued short-term obligations with a 12- to 36-month maturity date and interest payable through coupon redemption. The main distinction between Treasury Certificates and Treasury Bills is their term (Agbada & Odejimi, 2015).

Certificates of Deposit: Banks provide certificates of deposit (CDs) against deposited monies for specific durations, such as three, six, nine, or twelve months. They are one of numerous interest-bearing "time deposits" that banks provide; in Nigeria, they are frequently referred to as "fixed deposits." Through CDs, bank clients can lend the bank a given amount of money for a predetermined amount of time in exchange for the bank agreeing to refund the money at a predetermined interest rate at the conclusion of the time period (Eze & Mansi, 2017).

Commercial Paper: Unsecured short-term promissory notes with maturities of up to 270 days that are issued by corporations at a discount to face value and redeemed at face value are referred to as commercial paper. Commercial papers typically have a low default risk because they are issued by financial institutions and big, reputable businesses with unused bank credit lines. The CBN issues commercial paper, which are short-term promissory notes with values ranging from $5 to $100 and maturities ranging from 50 to 270 days. These are loans obtained for commercial use. In 1960, Nigerian business papers were first known to be published. The third-largest money market instrument in Nigeria today is commercial papers, formerly known as treasury bills (Tsintop & Bala, 2023).

Banker Acceptance: Conversely, a Banker Acceptance (BA) is an instrument issued by a corporation that is guaranteed by a bank or in the name of a bank, signifying that the bank will pay the instrument's face value at a later date. To put it another way, a BA is a bill of exchange or draft that is drawn on and approved by a bank. Banker acceptances can be traded on the secondary market at a discount from face value and are frequently utilized financial instruments in money market operations and international trade. These money market instruments serve as our independent or explanatory variables in our study (Agbada & Odejimi, 2015).

Theoretical Review

This section reviews selected theories that explain how and why money market development influences economic growth. The study considers two key theories: the Financial Intermediation Theory and the Modern Growth Theory.

Financial Intermediation Theory

The Financial Intermediation Theory was first codified in the works of Goldsmith (1969), McKinnon (1973), and Shaw (1973). According to Goldsmith (1969), the positive relationship between financial development and the level of real per capita Gross National Product (GNP) can be attributed to the role of financial development in promoting a more efficient utilization of capital stock. Furthermore, economic growth itself influences financial markets by creating incentives for additional financial development.

McKinnon (1973) introduced the Complementarity Hypothesis, which departs from the neoclassical theory of monetary growth. According to this theory, the accumulation of physical capital and the demand for money are complementary. The theory argues that savings and investment decisions are strongly influenced by the manner in which money is supplied and managed within the economy. Since the composition of the money supply has a direct influence on saving and investment decisions, the complementary relationship between money demand and capital accumulation contributes positively to economic growth.Similarly, Shaw (1973) proposed the Debt Intermediation Hypothesis, which suggests that financial liberalization and development enhance financial intermediation between savers and investors. Higher real interest rates encourage savings and investment, increase the supply of credit, and improve the efficiency of investment allocation. This theory emphasizes the importance of competition and open access within financial markets as essential conditions for effective financial intermediation.

In addition, McKinnon and Shaw (1973) argued that policies that adversely affect financial markets reduce incentives to save and invest by creating financial repression. They identified major elements of financial repression as high reserve requirements on deposits, regulatory ceilings on lending and deposit interest rates, direct credit controls, restrictions on foreign capital transactions, and barriers to entry into banking operations. Such policies hinder financial development and, consequently, economic growth.

Modern Growth Theory

Modern Growth Theory was developed by Romer (1986), Lucas (1988), and Grossman and Helpman (1991). The theory posits that the financial sector influences long-run economic growth through two major channels: the accumulation of capital, including both physical and human capital, and the promotion of technological progress. According to the theory, financial systems foster economic growth by mobilizing savings for productive investment, facilitating capital inflows, and allocating available resources efficiently among competing investment opportunities. These functions are achieved through the core activities of an efficient financial system, which include mobilizing and pooling savings, generating information about investment opportunities, allocating capital effectively, monitoring investments and enforcing corporate governance, facilitating risk diversification and management, and promoting the exchange of goods and services. Through these mechanisms, the financial sector contributes significantly to sustained economic growth and development.

Empirical Literature

This section reviews empirical studies relating to money market development and economic growth in both developed and developing economies. Particular attention is given to studies that examine the relationship between money market instruments and economic growth. For instance, Agbada and Odejimi (2015) investigated the effect of money market operations on Nigeria's economic sustainability over the period 1981–2011. Gross Domestic Product (GDP) was used as a proxy for economic sustainability, while the explanatory variables consisted of major money market instruments commonly utilized in Nigeria, including Treasury Bills, Treasury Certificates, Certificates of Deposit, Commercial Papers, and Bankers' Acceptances. The study employed the Ordinary Least Squares (OLS) estimation technique for empirical analysis. The findings revealed that Treasury Bills and Bankers' Acceptances had statistically significant relationships with GDP, whereas Treasury Certificates, Certificates of Deposit, and Commercial Papers exhibited weak relationships with economic growth. The study concluded that some money market instruments contribute more significantly to economic performance than others within the Nigerian economy.

Igbinosa and Aigbovo (2016) examined the impact of money market development on economic development in Nigeria between 1986 and 2013. The study employed money market indicators such as the values of Treasury Bills, Commercial Papers, and Bankers' Acceptances as proxies for money market development, while real GDP per capita served as a proxy for economic development. The monetary policy rate was included in the model as a control variable. The study utilized multivariate Ordinary Least Squares (OLS) estimation and the Granger causality test to determine the direction of causality among the variables. The findings revealed that Bankers' Acceptances exert a significant influence on economic development in both the short and long run. In contrast, the values of Commercial Papers, Treasury Notes, and the monetary policy rate significantly influence economic development only in the long run. Furthermore, the study identified a unidirectional causal relationship running from economic development to both the monetary policy rate and the value of Bankers' Acceptances.

Akarara and Eniekezimene (2018) investigated the impact of selected money market instruments on Nigeria's economic growth. The study employed data obtained from the 2017 Central Bank of Nigeria Statistical Bulletin and adopted the Autoregressive Distributed Lag (ARDL) Bounds Testing approach to cointegration. The results indicated that money market variables generally exhibit a positive relationship with economic growth in both the short and long run. However, Certificates of Deposit (CD) and Commercial Papers (CP) were found to have an inverse relationship with economic growth in the long run.Pavtar (2019) examined the relationship between money market instruments and economic growth in Nigeria using time-series data spanning the period from 1985 to 2014. The study adopted an ex-post facto research design and utilized data sourced from the Central Bank of Nigeria Annual Statistical Bulletin. Descriptive statistics and Ordinary Least Squares (OLS) multiple regression techniques were employed for data analysis, while the study hypotheses were tested using the t-statistic at a 5 percent significance level. The findings revealed that Treasury Bills, Treasury Certificates, and Commercial Papers do not exert a significant influence on Nigeria's Gross Domestic Product (GDP), whereas Certificates of Deposit have a significant impact on economic growth.

Eze and Mansi (2017) investigated the relationship between selected money market instruments and economic growth in Nigeria over the period 1990-2014. The study regressed Gross Domestic Product (GDP), used as a measure of economic growth, on four money market instruments: Treasury Bills, Treasury Certificates, Certificates of Deposit, and Bankers' Acceptances. The analytical techniques employed included regression analysis, unit root tests, cointegration tests, and parsimonious error correction modelling. The findings showed that money market instruments significantly influence Nigeria's economic growth. However, the effects of Bankers' Acceptances and Certificates of Deposit were found to be particularly significant.

Faith, Hakeem, and Samuel (2020) examined the effects of selected money market instruments, including Treasury Bills, Certificates of Deposit, Commercial Papers, and Development Stocks, on economic growth in Nigeria. The study utilized time-series data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and publications of the National Bureau of Statistics (NBS) covering the period from 1989 to 2019. Multiple regression analysis and the Granger causality test were employed in the analysis. The results revealed that Treasury Bills and Commercial Papers have a positive relationship with Gross Domestic Product (GDP), although their long-run effects are insignificant. Conversely, Bankers' Acceptances and credit to the private sector were found to exert a positive and significant effect on GDP in the long run. Development Stock, however, was found to have no significant impact on GDP in either the short run or the long run, and no Granger causal relationship was established between Development Stock and GDP.

Using yearly data from 1986 to 2019, Akpotor (2021) investigated the impact of money market instruments on economic growth in Nigeria. The findings indicated that while loans to the private sector and commercial papers had a weak negative impact on GDP, Treasury bills, certificates of deposit, and bankers' acceptance had a weak positive impact. Ishola, Oni, and Kolap (2021) use multiple regression and the Granger Causality Test to analyze the effects of money market instruments (Treasury bills, Treasury certificates, Certificate of Deposits, Banker's Acceptances, Development Stock, and Commercial Papers) on economic growth in Nigeria between 1990 and 2020. Results show that GDP is caused by commercial paper grangers and bank acceptance. Although there is a positive correlation between GDP and Treasury bills, Treasury certificates, and commercial papers, the long-term impact is negligible. However, over time, banker acceptance and certificates of deposit have a favorable and substantial impact on GDP. In contrast, developmentstockhasnosignificanteffectonGDPintheshortandthelongrunwithno granger causal relationship with GDP. Ebi and Ihejirika (2022) investigated how money market activity affected Nigeria's economic expansion between 1985 and 2020. According to their findings, commercial papers had a negligible beneficial impact on GDP, but the inflation rate, Treasury bills, and certificates of deposit had a considerable negative impact. The GDP was significantly positively impacted by bankers' acceptance.

Korgbeelo and Amadi (2023) examined the effect of money market instruments on Nigeria's economic growth over the period 1981-2021. Specifically, the study investigated the impact of Commercial Papers, Certificates of Deposit, Development Stocks, Treasury Bills, Treasury Certificates, and Bankers' Acceptances on economic development in Nigeria, with per capita income serving as a proxy for economic growth. The study employed the Autoregressive Distributed Lag (ARDL) Bounds Testing approach to cointegration and the Error Correction

Model (ECM) for analysis. The findings revealed that Treasury Certificates, Development Stocks, Certificates of Deposit, and Bankers' Acceptances contribute significantly to the growth of the Nigerian economy. However, Treasury Bills and Commercial Papers were found to exert a significant negative effect on economic growth.

Tsintop and Bala (2023) investigated the effect of money market activities on economic growth in Nigeria during the period 1981-2020. The study employed regression analysis to examine the relationship between money market instruments and economic growth. The findings indicated that the value of Treasury Bills had a positive and significant effect on Nigeria's Gross Domestic Product (GDP) throughout the study period. Similarly, the values of Bankers' Acceptances and Commercial Papers were found to exert significant positive effects on economic growth, suggesting that these instruments contribute meaningfully to Nigeria's economic performance.

Omogbai and Umoru (2025) examined the effect of money market development on economic growth in Nigeria using time-series data spanning the period from 1994 to 2023. The study employed Ordinary Least Squares (OLS) multiple regression analysis and the Error Correction Mechanism (ECM) to estimate the relationships among the variables. The results revealed that Treasury Bills have a positive and significant effect on economic growth, while Commercial Papers also exert a positive and significant influence on economic growth. In contrast, Certificates of Deposit were found to have a negative and significant effect on economic growth. Furthermore, inflation exhibited a negative but statistically insignificant effect on economic growth during the study period.

3.0 Methodology

The ex-post research design was employed in this study. The entire Nigerian economy is included in the study's working population. The sample period includes data from 1981 to 2024. The researcher's secondary source of information for this investigation was the Central Bank of Nigeria's (CBN) Statistical Bulletin, 2023. Numerical estimates of the parameters in the models were provided using descriptive statistics, correlation analysis, co-integration, and the Autoregressive Distributed Lagged (ARDL) estimation technique due to the linearity of the model developed to examine the impact of money market development on economic growth in Nigeria. The Autoregressive Distributed Lag (ARDL) estimation method was employed to examine the models and accomplish the objectives of the study using E-Views 9.0 econometric software.

Theoretical Framework

The study's foundation is the Financial Intermediation Theory, which was propounded by Goldsmith (1969), McKinnon (1973), and Shaw (1973). These authors highlighted the crucial role that financial markets both money and capital markets play in promoting economic development. They contended that the degree and caliber of services provided by financial institutions could account for a significant portion of the differences in economic growth between countries. According to Goldsmith (1969), the apparent positive correlation between financial development and real per capita GNP can be attributed to financial development's function in encouraging more effective capital allocation and utilization. Furthermore, by generating incentives for additional financial innovation and expansion, economic growth itself can aid in the development of financial markets.

Model Specification

A modified version of the model used by Igbinosa and Aigbovo (2016) was provided in order to examine the relationship between money market development and economic growth. This study focuses on the relationship between money market development (of Treasury Bills, Certificates of Deposit, Commercial Papers, and Bankers' Acceptances) and economic growth (Real GDP), whereas Igbinosa and Aigbovo (2016) concentrate on the impact of money market development (values of issued Treasury Bills, Commercial Papers, and Bankers' Acceptances) on economic development (proxied by Real GDP per Capita). Monetary Policy Rate is included in the model as a control variable because it serves as the benchmark for short-term interest rates in Nigeria and directly influences both money market activity and economic growth. Our model's functional form is described as follows:

RGDP = f(TRB, COD, COP, BAC MPR) ..... (1

In stochastic form, the functional model mentioned above is further expressedasfollows:$RGDP_t=\alpha_0 + \alpha_1 TRB_t + \alpha_2 COD_t + \alpha_3 COP_t + \alpha_4 BAC_t + \alpha_5 MPR_t + \varepsilon_t$ .....(2)

The equation is specified in implicit form using Autoregressive Distributed Lag (ARDL) Model as follows:

$$RGDP_t = \beta_0 + \sum_{i=1}^{p} \beta_1 \Delta RGDP_{t-1} + \sum_{i=1}^{q} \beta_2 \Delta TRB_{t-1} + \sum_{i=1}^{q} \beta_3 \Delta CAD_{t-1} + \sum_{i=1}^{q} \beta_4 \Delta COP_{t-1} + \sum_{i=1}^{q} \beta_5 \Delta BAC_{t-1} + \sum_{i}^{q} \beta_6 \Delta MPR_{t-1} + \varepsilon_t \quad (3)$$

The long-term equilibrium impact of money market development on economic growth includes the error correcting mechanism (ECM), which restores economic equilibrium in the event of a shock. Consequently, the shock effect that ECM captures is re-specified in equation 3 as follows:

$$RGDP_t = \beta_0 + \sum_{i=1}^{p} \beta_1 \Delta RGDP_{t-1} + \sum_{i=1}^{q} \beta_2 \Delta TRB_{t-1} + \sum_{i=1}^{q} \beta_3 \Delta CAD_{t-1} + \sum_{i=1}^{q} \beta_4 \Delta COP_{t-1} + \sum_{i=1}^{q} \beta_5 \Delta BAC_{t-1} + \sum_{i}^{q} \beta_6 \Delta MPR_{t-1} + \varphi ECM_{t-1} + \varepsilon_t \quad (4)$$

Where:

RGDP stands for Real Gross Domestic Product, which is a proxy for economic growth; TRB for total value of Treasury Bills; CAD for Certificates of Deposit; COP for Commercial Papers; BAC for Bankers' Acceptance; MPR for Monetary Policy Rate; and μt for the stochastic disturbance term, which serves as a stand-in for other variables not captured in the model.

The dependent variable is economic growth, or RGDP for short. The error correlation term, ECM = (RGDPt-1 - θxt), the constant or slope, β0, and the negative-sign speed of adjustment parameter, , are the recovered residuals from the regression of the long-run equation.

Regarding the behavior of their coefficients to be estimated in the model, the explanatory variables' a priori expectation trends are $\beta1 > 0$, $\beta2 > 0$, $\beta3 > 0$, and $\beta4 > 0$, while $\beta5 < 0$. Theoretically, all the explanatory independent variables (except MPR) have a positive effect on economic growth (RGDP).

Measurement of Variables

Table 1:

Measurement of Variables

Variables	Measurement	Previous Researcher That Utilized the Variable Source	A Priori Sign
Economic Growth (RGDP)	Economic growth is proxied by Real Gross Domestic Product (RGDP), which is measured as the monetary value of all goods and services produced in a country, adjusted for inflation (Nominal GDP/GDP Deflator × 100).	Akarara and Eniekezimene (2018)	
Treasury Bills (TRB)	Measured as the total value of Treasury Bills traded.	Omogbai and Umoru (2025)	+
Certificates of Deposit (COD)	Measured as the total value of Certificates of Deposit traded.	Korgbeelo and Amadi (2023)	+
Commercial Papers (COP)	Measured as the total value of Commercial Papers traded.	Tsintop and Bala (2023)	+
Bankers' Acceptance (BAC)	Measured as the total value of Bankers' Acceptance traded.	Ebi and Ihejirika (2022)	+
Monetary Policy Rate (MPR)	Monetary Policy Rate determined by the CBN.	Igbinosa and Aigbovo (2016)	-

Source: Researcher's Compilation (2026).

4.0 Data Presentation and Analyses

Descriptive Statistics

Descriptive statistics are used to perform a basic characterization of the datasets in order to summarize the data. The annualized summary data for every variable in the study from 1981 to 2024 is displayed in Table 2.

Table 2:

Descriptive Statistics

	RGDP	TRB	COD	COP	BAC	MPR
Mean	40387.91	1246.380	16.86000	67.12364	20.78432	13.34545
Median	31875.00	579.7350	0.260000	9.570000	12.19000	13.50000
Maximum	79395.47	4786.140	82.46000	822.7000	81.83000	26.00000
Minimum	16048.31	5.780000	0.000000	0.070000	0.010000	6.000000

Std.Dev.	22005.09	1455.033	28.97848	155.4579	22.82933	4.041828
Skewness	0.453327	1.049248	1.335051	3.411323	1.261877	0.539505
Kurtosis	1.569010	2.769761	3.063869	15.21032	3.827926	3.875103
Jarque-Bera	5.261218	8.170607	13.07814	358.6741	12.93379	3.538455
Probability	0.072035	0.016818	0.001446	0.000000	0.001554	0.170465
Sum	1777068.	54840.71	741.8400	2953.440	914.5100	587.2000
SumSq.Dev.	2.08E+10	91036174	36109.36	1039188.	22410.66	702.4641
Observations	44	44	44	44	44	44

Source: Researcher's Computation (2026) Using E-views 9.0 Software.

According to the results presented in Table 2, 44 observations were made during the period under review. The result revealed that the ratio of the mean to the median values was not excessively high, indicating a good level of consistency among the variables. Except for economic growth (RGDP) and Treasury Bills (TRB), there was a significant difference between the minimum and maximum values, with relatively low standard deviations. All the variables under investigation appeared to be positively skewed, indicating a longer tail to the right.

Commercial Papers (COP), Bankers' Acceptances (BAC), and Monetary Policy Rate (MPR) exhibited peaked properties, as their kurtosis values were greater than three (3). In contrast, Economic Growth (RGDP) and Certificates of Deposit (COD) did not exhibit peaked properties, as their kurtosis values were less than three (3). The Jarque-Bera statistics indicated that the corresponding probability values for RGDP and MPR were greater than 0.05, while the probability values for TRB, COD, COP, and BAC were less than 0.05. This suggested that RGDP and MPR were normally distributed, whereas TRB, COD, COP, and BAC were not normally distributed.

Correlation Analysis

It was important to examine the strength and direction of the relationship among the variables used in the study, and correlation analysis was employed for this purpose. The results of the correlation test are presented in Table 3.

Table 3:
Correlation Matrix

Correlation Probability	RGDP	TRB	COD	COP	BAC	MPR
RGDP	1.000000					

TRB	0.543947	1.000000				
	0.0000	-----				
COD	0.773239	0.771447	1.000000			
	0.0000	0.0000	-----			
COP	0.134032	-	-	1.000000		
	0.3857	0.0922	0.0618	-----		
		380.55	140.69			
		15	02			
BAC	0.379128	0.184822	0.009740	0.735737	1.000000	
	0.0111	0.2297	0.9500	0.0000	-----	
MPR	-	0.140970	0.011596	-	-	1.000000
	0.0070	0.3614	0.9405	0.3448	0.2692	-----
	980.96			770.02	270.07	
	35			19	72	

Source: Researcher's Computation (2026) Using E-views 9.0 Software

TRB and COD have a strong, substantial positive association with RGDP, according to the correlation result in Table 4.2. As seen by their matching positive coefficients, this suggests that increases in these variables strongly and significantly enhance RGDP throughout the examined time. Nevertheless, there is a weak but significant positive correlation between BAC and RGDP. According to their corresponding positive coefficients, this suggests that a growth in BAC both somewhat and significantly increased RGDP throughout the analyzed time. Whereas MPR COP has a weak, negligible inverse relationship with RGDP, COP has a weak, insignificant direct link. This indicates that, as indicated by their associated probability values, these variables have no meaningful relationship with RGDP. Similar outcomes are shown by the independent variables; that is, some are significant while others are not. Additionally, Table 4.2 showed that there was no multi-co-linearity issue among the explanatory factors since, according to Gujarati (2008), no correlation coefficient between the explanatory variables was greater than 0.80.

Unit Root Testing

The issue of non-stationarity is always associated with time series data. Forecasts based on such data may become less valid as a result. To address this issue, the study employed the conventional Augmented Dickey-Fuller (ADF) test to determine whether or not the data was stationary. Consequently, Table 4.3 presents the estimated results of the ADF tests.

Table 4:
Unit Root Test Result

Augmented Dickey-Fuller (ADF) Test			
Variables	**Atlevel**	**1st Difference**	**Order of Integration**
RGDP	-0.7476	-3.3747*	I[0]
TRB	1.6321	-4.4327**	I[1]
COD	-3.8829*	-1.2993	I[0]
COP	-2.3811	-5.9698**	I[1]
BAC	-2.1041	-7.4291**	I[1]
MPR	-3.2119*	-8.7134**	I[0]

Source: Author's computations, (2026) using Eviews 9.0. Note:* and** indicate significance at 5 and 1 percent levels.

It is evident from Table 4.3 that variables like the monetary policy rate (MPR) and certificate of deposit (COD) were stationary in their level form. Treasury bills (TRB), commercial papers (COP), economic growth (RGDP), and bankers' acceptance (BAC) were all stationary at first difference. This suggests that the data used in this study's econometric analysis is a combination of I(0) and I(1). We use the ARDL co-integration technique because it can handle whether all variables are I(0), all are I(1), or a combination of both. This is because the test results show that the variables are integrated of 1(0) and I(1) and that none of the variables are integrated of I(2) or higher. This implies performing co-integration test utilizing the ARDLco- integration bounds test approach proposed by Pesaran et al., (2001).

Bounds Tests for Co-integration

Comparing F-statistics to critical values is the criterion for the co-integration boundaries test. The test is very significant at the 1% level, as Table 4.4 demonstrates. Because the value in the upper and lower Critical Bounds at the 10%, 5%, 2.5%, and 1% levels of significance is less than the value in the F-statistic (6.88), the null hypothesis that there is no long-run co-integration would be rejected. Consequently, the variables in the model have a cointegrating relationship. Thus, the results in Table 4 confirm that there is a long-term relationship between economic growth and the explanatory variables (commercial papers, certificates of deposit, Treasury bills, and bankers' acceptance). Thus, there is presence of cointegratingrelationshipamongthevariablesinthemodel.Thisoutcomenecessitatestheestimationof the short and long run relationship between these variables.

Table 5:

ARDL Bounds Test for Co-integration [ARDL (3, 0, 0, 2, 0)]		
Test Statistic	**Value**	**k**
F-statistic	6.884675	5

Critical Value Bounds

Significance Level	I(0) Bound	I(1) Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Source: Author's Computations (2026), using E-Views 9.0.

VAR Lag Order Selection Criteria

The time series data was subjected to an unrestricted Vector Auto-regression (VAR) lag selection criterion in order to determine the proper number of lags for the model. Table 4.5 demonstrates that each estimator's lowest result happens under lag two (2). Based on the findings, the AIC criterion was used in this work to establish the ideal lag time for the ARDL model. The ARDL (3, 0, 0, 2, 0) model was selected as a common outcome of the AIC criterion. Therefore, the AIC lag structure in Table 4.5 determines and suggests two (2) lags as the optimal lag structure in the ECM model.

Table 4.5:
Akaike optimal LagSelection

Lag	LogL	LR	FPE	AIC	SC
0	-455.8121	NA	4.86e+08	22.84060	22.88283
1	-345.5126	209.5691	2059212.	17.37563	17.46007
2	-339.7029	10.74784*	1619375.*	17.13515*	17.26181*
3	-339.1734	0.953191	1658562.	17.15867	17.32756
4	-339.0959	0.135630	1737973.	17.20479	17.41590

Source: Author's computations, (2026) using Eviews 9.0.

ARDL Analysis (Short-Run and Long-Run Estimation)

The result of the estimated ARDL model for the relationship between the dependent and independent variables is presented and discussed in this section. The result is presented in Table 4.6.

Table 4.6: Short-Run Error Correction Model and Long-Run Results

Dependent Variable: RGDP
Method: ARDL
Model Selection Criteria: AIC
Model Selected: ARDL (2, 0, 4, 3, 4, 4)

Short-Run Parameters				**Long-Run Parameters**			
Variables	**Coeff.**	**t-stat**	**Prob.**	**Variables**	**Coeff.**	**t-stat**	**Prob.**
D(RGDP(-1))	0.234357	1.610528	0.1257	TRB	4.465960	1.761508	0.0961
D(TRB)	0.885589	1.639076	0.1196	COD	548.840648	3.600568	0.0022
D(COD)	6.590302	0.547449	0.5912	COP	-9.424443	-0.597431	0.5581

D(COD(-1))	-14.935208	-1.071695	0.2988	BAC	676.429360	4.704813	0.0002
D(COD(-2))	-32.991204	-1.832515	0.0845	MPR	77.257081	0.250363	0.8053
D(COD(-3))	-53.514641	-3.488357	0.0028	C	18990.054737	4.144060	0.0007
D(COP)	1.764579	0.914598	0.3732				
D(COP(-1))	-3.780649	-1.262171	0.2239				
D(COP(-2))	7.941182	2.944182	0.0091				
D(BAC)	0.364513	0.020767	0.9837				
D(BAC(-1))	13.913109	0.806295	0.4312				
D(BAC(-2))	-33.584679	-1.969950	0.0654				
D(BAC(-3))	-73.656347	-3.539160	0.0025				
D(MPR)	-30.130571	-0.583049	0.5675				
D(MPR(-1))	65.177021	1.266587	0.2224				
D(MPR(-2))	-106.789955	-2.081262	0.0528				
D(MPR(-3))	72.330315	1.572078	0.1344				
CointEq(-1)	-0.198298	-3.979115	0.0010				

Note: * indicates significance at the 5% and 1% levels, respectively.
Source: Author's Computation (2026), using E-Views 9.0.

The short-term and long-term findings of the relationship between money market development and economic growth in Nigeria are summarized in Table 4.6. The findings show that while the other variables failed the short-term significance test, the three-year lag certificate of deposit (D(COD(-3)), two-year lag commercial paper (D(COP(-2)), three-year lag bankers acceptances (D(BAC(-3)), and two-year lag monetary policy rate (D(MPR(-2)) passed the test at the one and five percent levels. Over time, bankers' acceptances (BAC) and certificates of deposit (COD) pass the significance test, but the other variables do not. This indicates that during the study period, the factors that passed the significance test consistently contributed to economic growth (RGDP). They are crucial for policy suggestions since they are statistically significant. In a similar vein, the variables that failed the short- and long-term significance tests are not statistically significant, making them irrelevant for policy recommendations. The coefficient of error correction term (ECT), which measures how rapidly the variables adjust to equilibrium, is shown to have the expected sign (negative) and to be statistically significant at the 1% level. The $ECM_{(t-1)}$ or CointEq(-1) coefficientof -0.198298issignificantat the 1%levelandindicates how fast the variable adjust to equilibrium. The coefficient of -0.198298suggests that19% of the deviation from equilibrium is corrected with in oneyear.

Diagnostic and Stability Test

The robustness, validity, and reliability of the ARDL results obtained from the empirical study were assessed using the Jarque-Bera normality test, Ramsey RESET stability test, Breusch-Godfrey Serial Correlation LM test, Breusch-Pagan-Godfrey heteroskedasticity test, and normality tests. Table 4.7 displays the test results.

Table 4.7:
Result of the Diagnostic Test for ARDL (2, 0, 4, 3, 4, 4)

Diagnostic Tests (Test Statistics)	Test	Coefficient	P-value	Decision
Breusch-Pagan-Godfrey	Heteroskedasticity	0.48	0.94	No Heteroskedasticity Problem
Breusch-Godfrey LM (F-Stat.)	Serial Correlation	0.54	0.58	No Serial Correlation
Ramsey RESET Test	Model Specification Error: t-stat. F-Stat.	0.21 0.07	0.83 0.83	Equation is Correctly Specified
Jarque-Bera Statistic	Normality Test	3.08	0.21	Residuals are Normal

Source: Author's Computation (2026), using Eviews 9.0.

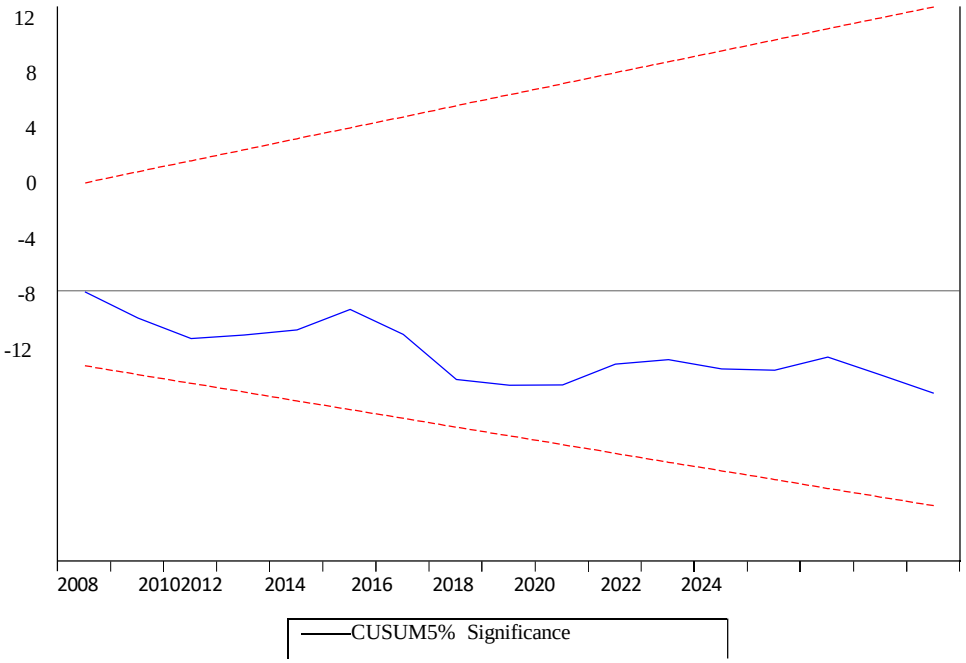
The outcome in Table 4.7 indicates that the probability value (0.94) is greater than 0.05 ($p > 0.05$), suggesting that there is no heteroskedasticity in the model and that the F-statistics value is not significant at the 5% confidence level. In a similar vein, the Breusch-Godfrey Serial Correlation LM test results in Table 4.7 indicate that the probability value (0.58) is greater than the 0.05 ($p > 0.05$) level of significance, indicating that the F-statistics value is not significant at the 5% confidence level. This suggests that the model has no serial correlation issue (that is, there is no serial correlation between the independent variables and disturbance term).

Additionally, the Ramsey RESET test demonstrates that the model is free of specification errors because the probability values of the t-statistic and F-statistic of the Ramsey RESET test in Table 4.7 are greater than 0.05 ($p > 0.05$), indicating that pertinent variables were not omitted and that the model was appropriately specified in its linear form.

Furthermore, the Jarque-Bera statistic has $p > 0.05$ according to the normality test results in Table 4.7, indicating that the null hypothesis that the distribution is normally distributed is accepted.

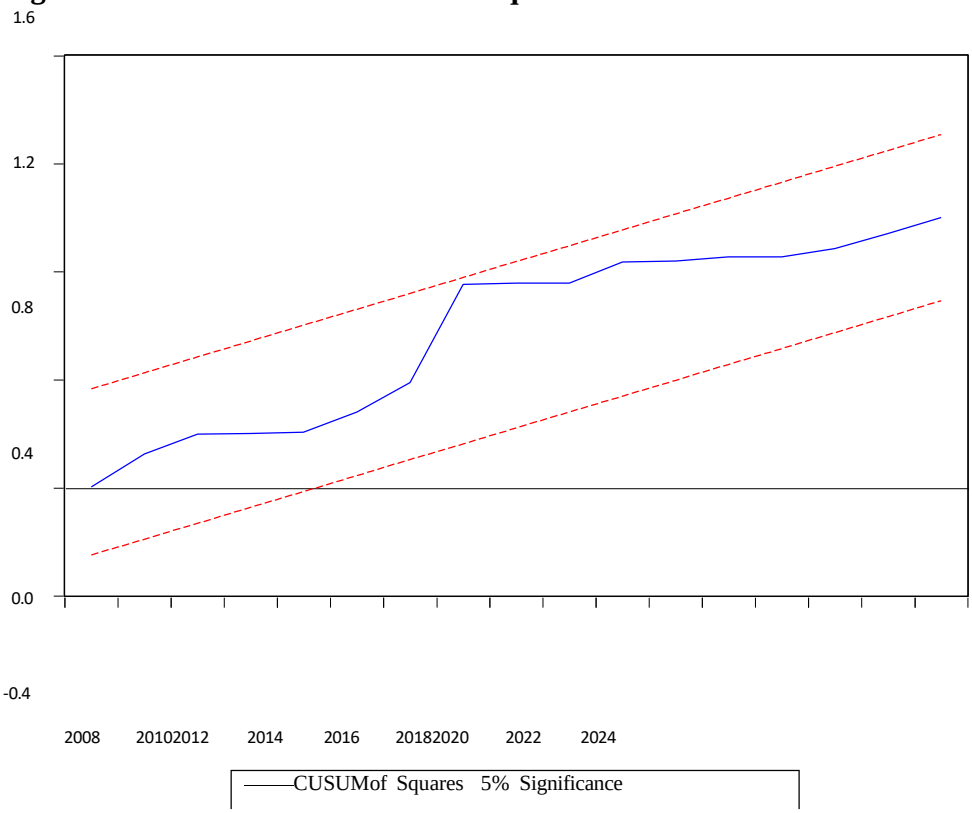
Using the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMQ), a stability test of the long run and short run coefficients was carried out. Cumulative of the recursive residuals (CUSUM) and cumulative sum of squares of recursive residual (CUSUMQ) can therefore be used to verify parametric stability (Figures 1 and 2). The null hypothesis, which asserts that every coefficient in the error correction model is stable, cannot be rejected if the plot of the CUSUM and CUSUMQ statistics stays within the critical bound of 5% significance. To put it another way, we accept the null hypothesis of parameter instability if the blue line crosses the red line, which is a critical line, and never returns between the two critical lines. In contrast, if the cumulative sum falls inside the area (and can return) between the two critical lines, then there is both short-term and long-term parameter stability. As a result, the CUSUM and CUSUM SQURE test statistics plots neatly fall under the 5% significance level. This suggests that the models' parameters have stayed constant inside their crucial boundaries. Therefore, we may say that there is no structural break and long-run estimates are stable.

Figure1: Plot of Cumulative Sum ofRecursive Residuals - CUSUM



Source: Author's computation, (2026) using Eviews 9.0

Figure 2: Plot of Cumulative Sum of Squares ofRecursive Residuals -CUSUMSQUARE



Source: Author's computation, (2026) using Eviews 9.0

Discussion of Findings

All of the independent variables had different short- and long-term effects on economic growth (RGDP). Long-term and short-term economic growth is not significantly impacted by Treasury bills (TRB). This suggests that throughout the time under study, Treasury bills (TRB) were not a significant money market development variable that affected Nigeria's economic growth. These results are consistent with those of Igbinosa and Aigbovo (2016), Eze and Mansi (2017), Pavtar (2019), Faith et al. (2020), and Ishola et al. (2021), who discovered that Treasury bills (TRB) had no appreciable effect on economic growth. The results contradict those of Odejimi (2015), Tsintop and Bala (2023), Korgbeelo and Amadi (2023), and Omogbai and Umoru (2025), who found a direct and significant relationship between Treasury bills (TRB) and economic growth.

Additionally, while the short-term outcome was not substantial, certificates of deposit (COD) have a considerable long-term positive impact on economic growth. This suggests that one important factor influencing Nigeria's economic growth over the long term throughout the period under study is the certificate of deposit (COD). The findings are consistent with those of Eze and Mansi (2017) and Pavtar (2019), who found a strong and direct correlation between economic growth and certificates of deposit (COD).

Also, commercial paper significantly boosts economic growth in the short term [D(COP(-2)] but has a negligible direct impact on economic growth over the long term. The positive and significant coefficient on D(CP)-2 indicates that increases in commercial paper issuance two years prior stimulate current economic growth in the short run. This reflects the working capital cycle of Nigerian firms, where CPs issued in period t-2 finance inventories and inputs for production processes with gestation periods of 18-24 months, with output materializing in period t. The result also captures CPs' role in investment smoothing, as firms use CPs to bridge liquidity gaps and preserve capital projects during temporary shocks, thereby preventing output losses two years later. Additionally, successful CP issuance signals creditworthiness, prompting banks to expand lending with a 12-18 month lag. Because CPs fund flow activities rather than permanent capital formation, the effect is transitory, consistent with the absence of a long-run relationship in the ARDL bounds test. These results are consistent with those of Korgbeelo and Amadi (2023), Tsintop and Bala (2023), and Omogbai and Umoru (2025), who discovered that commercial paper significantly affects economic growth. The results contradict those of Pavtar (2019), Faith et al. (2020), and Ebi and Ihejinka (2022), who concluded that commercial paper had no appreciable impact on economic growth.

Additionally, long-term economic growth is significantly impacted by bankers' acceptance (BAC), whereas economic growth in Nigeria is significantly impacted in an inverse manner by the three-year lag [D(BAC)-3]. This suggests that one important factor influencing Nigeria's economic growth is bankers' acceptances (BAC). The negative and significant three-year lag of bankers' acceptances suggests a debt overhang effect. BAs issued in period t-3 to finance trade and working capital create repayment obligations that constrain firm investment in period t, particularly when rollover conditions tighten or foreign exchange shocks increase the naira cost of import-linked banker's acceptance. This lag captures the gestation period of import-dependent production and the financial accelerator mechanism, where past banker's acceptance booms heighten bank risk aversion and reduce current credit supply following loan performance deterioration. Thus, while contemporaneous BAC depth supports growth, excessive

accumulation three years prior can crowd out future productive expenditure, consistent with the trade credit and debt overhang literature. This result is consistent with the findings of Odejimi (2015), Igbinosa and Aigbovo (2016), Eze and Mansi (2017), and Ebi and Ihejinka (2022), who affirm that bankers acceptances (BAC) is a crucial money market development variable that impacts economic growth. However, the results contradict those of Akara and Eniekzimene (2016) and Korgbeelo and Amadi (2023), who found that bankers' acceptance had a negligible impact on economic growth.

Lastly, a two-year lag in the monetary policy rate has a substantial impact on economic growth in the short term, but no long-term correlation between monetary policy rate and economic growth was discovered. This suggests that monetary policy rates are crucial to Nigeria's short-term economic growth.

5. Conclusion and Recommendation

The purpose of this study was to investigate the relationship between Nigeria's money market development and economic growth. The total value of issued Treasury bills (TRB), certificates of deposit (COD), commercial papers (COP), and bankers' acceptance (BAC) were the variables utilized as stand-ins for the money market. A stand-in for economic growth was the real GDP. Using annual data from 1981 to 2024, the Autoregressive Distributed Lag (ARDL) approach was used to specify the ARDL model, which was designed to investigate the impact of money market development variables on economic growth. The analysis was conducted using the econometric analysis program E-view 9.0. The findings indicate that whereas commercial paper (COP), banker’s acceptance (BAC), and certificates of deposit (COD) significantly influence economic growth (RGDP) in both the short and long term, Treasury bills (TRB) have no discernible impact on Nigeria's economic growth. Additionally, the control variable, the two-year lag monetary policy rate (MPR(-2)), considerably slows down short-term economic growth. The study's conclusions indicate that Nigeria's economic growth is somewhat impacted by money market development. The fact that certificates of deposit (COD), commercial paper (COP), and bankers' acceptance (BAC) have a substantial long-term impact on economic growth serves as evidence of this.

5.4 Recommendations

Based on the empirical findings of this study, the following policy recommendations are suggested for policy action:

(i) The Central Bank of Nigeria should promote commercial paper issuance through reduced regulatory costs and faster SEC approval timelines, given the positive short-run effect of D(CP)-2 on economic growth. For bankers’ acceptances, CBN should implement prudential guidelines limiting continuous rollovers and mandating disclosure of underlying trade transactions, since the three-year lag exerts a negative effect on growth due to debt overhang and repayment burdens. Certificates of deposit should be maintained as core liquidity management tools for deposit money banks.

(ii) The Debt Management Office should align Treasury bill issuance with capital project cash flow requirements to reduce the two-year implementation lag between government deficit

financing and GDP impact. This includes publishing a forward TB auction calendar tied to the approved budget.

(iii) CBN's Financial Markets Department should establish a real-time monitoring framework for CP and BAC rollover ratios. Policies must include early warning thresholds for excessive BAC accumulation and sanctions for ever greening of CP facilities, to prevent the negative growth effects identified at longer lags.

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