Treasury Bills, Commercial Papers and Capital Market Development; Empirical Evidence from Nigeria

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ABSTRACT

The Nigerian capital market has continued to face challenges such as low investor participation, limited long-term investment products, and weak linkage between the money market and the capital market, which constrain its development. Treasury bills and commercial papers are important short-term instruments that can influence capital market performance through liquidity, portfolio allocation and investor behaviour. Given this background, this study examined the effect of treasury bills and commercial papers on capital market development in Nigeria using annual time series data spanning the period 1981 to 2025. The study adopted the ex-post facto research design and secondary data were sourced from the Central Bank of Nigeria Statistical Bulletin, Securities and Exchange Commission and Debt Management Office publications. Descriptive statistics, unit root tests and the Autoregressive Distributed Lag (ARDL) regression technique were employed to analyse the data with the help of EViews 13. The findings of the study revealed that Treasury Bill Rate has a negative but statistically insignificant effect on Market Capitalisation, while Bank Discount Yield also exerts a negative and statistically insignificant influence on Market Capitalisation. The study concludes that short-term money market instruments did not significantly drive capital market development in Nigeria during the period under review. The study recommends that monetary authorities should carefully manage treasury bill rates to avoid excessive yields that may reduce investor interest in equities, while regulators should strengthen the commercial paper market through improved disclosure, wider issuer participation and enhanced investor awareness in order to promote a more balanced financial market development in Nigeria.

Keywords: Treasury Bills, Commercial papers, Bank Discount Yield, Capital market development, and Market Capitalization.

INTRODUCTION

Financial markets are important in the movement of funds from people and institutions that have surplus money to those that need money for investment and production. In Nigeria, the financial market is commonly divided into the money market and the capital market. The money market deals with short-term funds and instruments that usually mature within one year. Treasury bills and commercial papers are among the common instruments in this market. The capital market deals with long-term funds through equities, bonds and other securities. A good financial system is expected to allow these two markets to work together instead of working against each other. When short-term instruments help liquidity and give investors clear signals on interest rates, they can support capital market development. But when short-term instruments give returns that are too high, investors may prefer them and reduce their interest in long-term securities. This is one major reason the subject matter is important in Nigeria. Capital market development is not only about the number of listed firms. It also involves market size, market liquidity, turnover, investor participation, information quality and ability of firms and government to raise long-term funds. Recent studies on Nigeria show that stock market performance and capital market indicators can support economic growth, but the result is not the same in all studies. Dibor-Alfred, Somoye and Ozdeser (2023) used the ARDL approach and found that market capitalization and value of transactions had positive long-run links with output, while the all-share index behaved differently. Adamu and Mustafa (2023) also examined capital market and growth in Nigeria and showed that the market can matter for output, but the effect depends on the chosen indicator. Uzoma, Ajie, Okorontah and Okechukwu (2025) used quantile regression and reported that market capitalisation and number of shares traded were positive to

economic growth in many parts of the distribution. These findings give a reason to examine capital market development together with money market instruments.

Treasury bills are issued by government through the monetary authority for short-term borrowing and liquidity management. They are usually seen as low-risk securities. Because of this, many banks, pension funds, portfolio investors and individuals buy them. In Nigeria, treasury bills also help the Central Bank of Nigeria to manage liquidity and influence short-term interest rates. A developed treasury bills market can assist the capital market by creating benchmark yields. It can also help investors to price corporate debt and equities. But there is another side. When treasury bill yields rise very high, investors may move money away from equities and corporate securities to treasury bills. This crowding effect can reduce trading activities and weaken capital market development. The study of Momoh (2025) and George-Anokwuru (2024) points to the mixed role of treasury bills in the Nigerian economy, because the instrument can support financial intermediation but may not always create strong growth effects. Commercial papers are unsecured short-term debt instruments normally issued by creditworthy companies to meet working capital needs. In Nigeria, commercial paper issuance has grown through organised platforms and stronger disclosure rules. The growth of the commercial paper market is important because it gives firms an alternative to bank borrowing. It also creates more investment products for money market funds and institutional investors. When firms use commercial papers well, they can manage liquidity and reduce funding cost. This can improve investor confidence in corporate instruments and may support wider capital market development. Nwani (2025), Mboto, Akeh, Emmanuel, Edom and Nkamare (2023), and Omogbai and Umoru (2025) all show that commercial papers and other money market instruments have been used in Nigerian studies as channels through which the money market can affect growth and financial market performance.The Nigerian capital market has passed through several reform periods. It experienced growth during bank consolidation, then a downturn around the global financial crisis, and later a gradual recovery through improved regulation, bond market growth, pension fund participation, digital trading and increased domestic savings mobilisation. The period after 2020 is also important because Nigeria faced COVID-19 shocks, high inflation, exchange-rate instability, monetary tightening, rising government borrowing and renewed foreign portfolio interest in high-yield instruments. These events created a situation where treasury bills and commercial papers became more visible in investment decisions. The matter is not only that these instruments exist. The issue is whether they support or weaken capital market development when Nigeria is trying to deepen both its equity and debt markets. The literature still has a clear opening. Many studies examine money market instruments and economic growth. Some others examine capital market development and economic growth. Fewer studies directly connect treasury bills and commercial papers with capital market development itself. The present seminar paper therefore focuses on this connection. It takes capital market development as the dependent variable and uses treasury bill rate, treasury bill stock and commercial paper stock as major explanatory variables. It also controls for inflation, exchange rate and monetary policy rate because these variables can change investor behavior in Nigeria. The following null hypotheses were formulated to guide the study and provide a basis for empirical testing;

H_{01}: Treasury bills price have no significant effect on market capitalization in Nigeria.

H_{02}: Bank discount yield have no significant effect on market capitalization in Nigeria.

LITERATURE REVIEW

Conceptual Review

Treasury Bills in Nigeria

Treasury bills in Nigeria have long been used for short-term government finance and liquidity management. The instrument is normally issued at discount and redeemed at face value. Investors earn the difference between purchase price and face value. Banks and institutional investors like treasury bills because they are liquid and are backed by government. The Debt Management Office and Central Bank records show regular auction activity. From a research view, treasury bills can enter the model as rate or stock. The rate captures return and portfolio attraction. The stock captures depth and government securities supply. In a capital market study, the rate is more likely to show a crowding effect. When rates rise, equity demand may fall. The stock may have

mixed effect. If the stock improves the benchmark yield curve, the effect may be positive. If it takes funds away from corporate securities, the effect may be negative. This is why the study separates treasury bill rate from treasury bills outstanding. Treating them as one variable can hide the different channels.

Treasury Bill Rate

Treasury bill rate is a very important signal in Nigeria because many investors compare it with the expected return from shares and corporate bonds. When the treasury bill rate is low, investors may be more willing to buy equities because the extra risk can be justified by expected capital gain and dividend. When the rate is high, the situation changes; a risk-free government security may become more attractive than equity, especially when inflation, exchange-rate loss and weak corporate earnings are disturbing the market. This is the portfolio substitution channel. It is one reason this study expects a negative sign for treasury bill rate. This channel is not only a theory matter. It can be seen in the behaviour of domestic and foreign investors. Foreign portfolio investors often enter emerging markets when short-term yields are high and exchange-rate conditions look stable. They may not enter equities first. They may enter treasury bills and other fixed-income securities because the instruments are short-term and easier to exit. Domestic investors also behave in similar way. Pension funds, mutual funds and high net-worth investors can increase treasury bill holdings when market risk is high. For capital market development, this has two meanings. It can bring liquidity into the financial system, but it can also reduce the flow of funds into equities and corporate long-term instruments. George-Anokwuru (2024) and Nwani (2025) found that the role of treasury bills in growth-related models is not always strong or straightforward. This supports the need to study the instrument carefully. The treasury bill rate can also work through valuation. In finance, the risk-free rate is part of the discount rate used by investors. When the risk-free rate rises, the present value of expected future cash flows can fall. This can affect share prices and market capitalisation. If market capitalisation is used as the capital market development proxy, a high treasury bill rate may reduce the proxy through lower equity valuation. This is another reason the study expects a negative long-run sign for treasury bill rate. However, the sign can become positive in some periods if high yields attract foreign portfolio money and improve market confidence. This is why empirical testing is needed instead of relying only on expectation. Another point is that treasury bill rate can influence the financing decision of listed firms. When treasury bill rate rises, other market interest rates can also rise. Firms may face higher cost of debt. Investors may demand higher returns from corporate securities. This can reduce new issues and reduce appetite for corporate bonds or equities. In this way, treasury bill rate affects both investors and issuers. This makes it a central variable in a study of capital market development. Momoh (2025) also looked at treasury bills in the Nigerian economy and treated the instrument as an important part of financial market activity. Akpotor (2021) also considered treasury bills among money market instruments and showed that the effect may not be the same across periods.

Commercial Papers

Commercial paper is a short-term corporate debt instrument. It is used by firms that have good credit standing and need quick working capital. In Nigeria, the commercial paper market has become more organized in recent years because of market platforms, registration rules, ratings and disclosure. The instrument can help firms reduce dependence on bank loans. It can also give investors an additional asset between bank deposits and longer-term corporate bonds. The expected effect of commercial paper on capital market development is positive. This is because the instrument supports corporate market funding and can prepare firms for the debt capital market. But the effect can be weak where only a few large companies can issue it. Also, if macroeconomic risk is high, investors may demand high yield. This can make commercial paper costly for firms. The study therefore expects a positive but condition-dependent relationship between commercial papers and capital market development.

Bank Discount Yield

The Bank Discount Yield (BDY) is the standardized annualized rate of return on discount-based, short-term money market instruments. Its primary contribution to capital market development is serving as the foundational pricing benchmark for liquidity management, short-term borrowing, and overall yield discovery in the financial system. the framework drives capital market development include: benchmark Pricing for Securities, standard

metric used for pricing highly liquid, short-term debt instruments like treasury bills, and commercial paper, it also establishing a clear, easily understood yield for these foundational assets, it provides a reference point that helps price longer-term corporate and government bonds, monetary policy transmission. Central banks use short-term discount yields to signal monetary policy goals. Adjustments to these rates influence the cost of capital throughout the economy, helping control inflation and providing stability, which is essential for attracting long-term domestic and foreign investment to the capital market and liquidity management. The bank discount yield framework allows institutional investors, banks, and corporations to accurately calculate returns on idle cash.

Capital Market Development

Capital market development refers to the growth in the capacity of the market to mobilise long-term finance and allocate it to productive users. A developed capital market should have good size, liquidity, transparency, investor confidence and different securities. It should not only have large market capitalization. It should also allow investors to buy and sell securities without high cost. It should give firms and government access to long-term funds. In Nigeria, capital market development has faced problems such as low retail investor confidence after the 2008 crisis, few listed companies relative to the size of the economy, weak turnover in some years, macroeconomic instability and exchange-rate risk. Yet the market has also improved in some areas, especially electronic trading, bond market growth and wider institutional investor participation. Because capital market development changes with macroeconomic conditions, the model uses control variables to avoid wrongly attributing every change to treasury bills and commercial papers.

Market Capitalisation

Market capitalisation is widely used as a primary indicator of capital market development because it reflects the aggregate market value of listed equities relative to the size of the economy (Dibor-Alfred et al., 2023. In Nigeria, market capitalisation to GDP ratio has been employed to capture the depth and growth of the capital market over time (Uzoma et al., 2025). A rising market capitalisation signals increased investor participation, improved firm valuation and greater capacity of the market to mobilise long-term funds (Adamu & Mustafa, 2023; Oladejo, 2025). Empirical evidence shows that market capitalisation exerts a positive influence on economic performance when the market is liquid and transparent, although the strength of the relationship varies across periods and indicators (Chikwira & Mohammed, 2023; Ukoh, 2024). Macroeconomic conditions such as inflation and exchange-rate volatility can, however, constrain the growth of market capitalisation by reducing real returns and investor confidence (Izekor, 2023; Ben Salem, Ben Jabeur & Mefteh-Wali, 2025). Consequently, market capitalisation remains a central proxy for assessing how money-market instruments, including treasury bills and commercial papers, interact with the broader development of Nigeria's capital market (Okoyan & Eze, 2021; Felix, 2025).

Inflation Rate

The macroeconomic environment can change the relationship between money market instruments and capital market development. This is the control variable. Inflation is one major factor. When inflation is high, real return may fall. Investors may demand higher yield before buying securities. Companies may also face higher cost of production and lower profit expectation. This can reduce share prices and market capitalisation. Because of this, inflation is expected to have a negative sign in the model. Exchange rate is another factor. Nigeria has experienced exchange-rate changes and pressure in many years. Foreign portfolio investors care about exchange-rate risk because gains in naira can be lost when converted to foreign currency. If investors expect depreciation, they may avoid equities and longer-term securities. They may prefer short-term instruments or stay out of the market. Izekor (2023) showed that macroeconomic indicators are important in capital market performance. Uzoma et al. (2025) also included macroeconomic variables in a Nigerian capital market and growth model. This supports the inclusion of exchange rate. Monetary policy rate is also included because it influences short-term interest rates and the cost of funds. When the policy rate rises, treasury bill rates and other market yields can rise. This can reduce stock market attractiveness and increase corporate financing cost. However, tight monetary policy can also help control inflation and restore confidence if it is credible. The coefficient can therefore depend on market condition. In the present study, the expected sign is negative because high policy rate increases opportunity cost of equity investment. Macroeconomic instability can also affect commercial

paper. If inflation is high and policy rate is high, companies may issue commercial papers at high yield. This can help them get funds, but it can also increase repayment burden. Investors may demand higher return because they fear default risk. So commercial paper development also needs macroeconomic stability. This is why the paper argues that capital market development cannot be separated from monetary and fiscal conditions

Empirical Review

Treasury Bills and Capital Market Development

Uzoma et al. (2026), Recent empirical evidence reviewed up to 2026 indicates that Treasury Bills and other money market instruments remain important components of Nigeria's financial system, with implications for liquidity allocation, investment decisions, and capital market development. Investigated the relationship between Treasury Bills, commercial papers, and capital market development in Nigeria using a multivariate model. Capital market development was specified as the dependent variable, while Treasury Bills/GDP, Stabilization Securities/GDP, Treasury Certificates/GDP, Eligible Development Stock/GDP, Central Bank of Nigeria Short-Term Fund/GDP, and Call Money Scheme/GDP were employed as explanatory variables. The study applied the Augmented Dickey-Fuller (ADF) unit root test, Granger causality test, and Vector Error Correction Model (VECM) to examine the relationships among the variables. The findings indicated that treasury bills significantly explained variations in the relevant macroeconomic environment. The study recommended that the treasury bills should be properly structured, efficiently managed, and strengthened operationally. The relevance of this study to the present research lies in its recognition of the interaction between treasury bills and capital market development. Uruakpa (2025), examined the impact of Treasury Bills, commercial papers, and money market reforms on economic growth in Nigeria over the period 1990–2025 using the Ordinary Least Squares (OLS) estimation technique. Gross Domestic Product (GDP) was used as the proxy for economic growth, while Treasury Bill rate, Treasury Bills issued, and money market value represented indicators of money market performance. Data were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin. The findings showed that money market value had a positive and significant effect on GDP, while Treasury Bills outstanding had a positive but insignificant relationship with economic growth. In contrast, the Treasury Bill rate exerted a negative and significant effect on GDP. The study further established through the F-statistic that the money market variables jointly influenced economic growth. Although the study focused on economic growth rather than capital market development, its findings are relevant because they demonstrate that changes in Treasury Bill conditions can influence the broader financial environment and the allocation of financial resources.

Umasom (2024) investigated the relationship between Treasury Bills, commercial papers, and capital market development in Nigeria using a multivariate model. Capital market development was specified as the dependent variable, while Treasury Bills/GDP, Stabilization Securities/GDP, Treasury Certificates/GDP, Eligible Development Stock/GDP, Central Bank of Nigeria Short-Term Fund/GDP, and Call Money Scheme/GDP were employed as explanatory variables. The study applied the Augmented Dickey-Fuller (ADF) unit root test, Granger causality test, and Vector Error Correction Model (VECM) to examine the relationships among the variables. The findings indicated that money market instruments significantly explained variations in the relevant macroeconomic environment. The study recommended that the money market should be properly structured, efficiently managed, and strengthened operationally. The relevance of this study to the present research lies in its recognition of the interaction between money market instruments and capital market development. Eze and Mansi (2023) conducted a causality analysis of money market operations and economic growth in Nigeria over the period 1990–2023. The study examined the influence of Treasury Bills and other money market instruments on Gross Domestic Product, using unit root tests, cointegration tests, and a parsimonious error correction technique. The findings indicated that money market operations contributed significantly to economic growth, with bankers' acceptances and certificates of deposit exerting significant effects on GDP. Although the study did not directly measure capital market development, it provides evidence that activities within the money market can affect broader economic and financial performance.

Commercial papers and capital market development.

George-Anokwuru (2024) examined the effect of money market instruments on economic growth in Nigeria using annual data from 1980 to 2020. The study considered Treasury Bills, Commercial Papers, Bankers' Acceptances and Monetary Policy Rate as the major money market variables, while real Gross Domestic Product represented economic growth. Using the Error Correction Mechanism (ECM), the study found that Treasury Bills, Commercial Papers and Bankers' Acceptances had positive effects on economic growth. The findings suggest that an active commercial paper market can enhance the availability of short-term finance and contribute to broader financial and economic development. Igbinedion and Bako (2024) investigated the effect of fixed-income securities on the financial performance of deposit money banks in Nigeria. The study found that commercial papers had a positive and significant effect on bank performance, while Treasury Bills also exerted a positive and significant influence. The authors concluded that increased participation in fixed-income securities could support the development of Nigeria's financial and capital markets. These recent studies indicate that Commercial Papers play an important role in mobilising short-term funds and strengthening financial-market activities in Nigeria. However, most existing studies have focused on economic growth or financial-sector performance rather than directly examining the effect of Commercial Papers on capital market development measured by market capitalization. This gap provides justification for the present study, which specifically investigates the relationship between Commercial Papers and capital market development in Nigeria over the period 1981–2025.

Linkage Between Treasury bills, Commercial papers and Capital Market Development

George-Anokwuru (2024) investigated the link between treasure bill, commercial papers and capital market development on Nigeria's economic from 1980 to 2024. Utilizing secondary data on real GDP, treasury bills, commercial papers, and the monetary policy rate sourced from the statistical bulletin of Nigeria's central bank, the study employed the Error Correction Mechanism (ECM) as the primary analytical tool. The findings indicated that all money market instruments treasury bills, and commercial papers, positively affected economic growth during the study period. However, only bankers' acceptances significantly influence economic growth, while the contributions of treasury bills and commercial papers, although positive, were minimal and insufficient to drive substantial economic growth. Additionally, the Monetary Policy Rate exhibited a negative and insignificant relationship with economic growth throughout the period. The study concluded that money market instruments positively impacted economic growth in Nigeria and recommended that the government implement policies to expand money market operations to make short-term securities and loans more accessible for investment. The study's failure to explore the structural factors that might be hindering the effectiveness of treasury bills and commercial papers weakens, its conclusions and recommendations.

Theoretical Framework

Efficient Market Hypothesis (EMH)

The Efficient Market Hypothesis (Fama, 1965) posits that financial markets are efficient because security prices fully and quickly reflect all available information. In the money market, instruments such as treasury bills, commercial papers, efficiently priced according to prevailing economic conditions and monetary policy signals. In the capital market, stock and bond prices incorporate relevant information, making it difficult for investors to consistently earn abnormal returns. The theory emphasizes transparency, liquidity, and information dissemination as essential factors for capital market development. Despite criticisms relating to market anomalies and behavioral biases, EMH remains relevant in explaining how efficient money market operations contribute to financial stability and support capital market growth EMH is popularly known as the random walk theory developed by Fama (1965) as an academic concept which provides a framework for examining the efficiency of the capital market; it is one of the theoretical exploits of capital market-economic growth relationship. An efficient market is the term used to describe a market where investors cannot outperform their rivals by generating abnormal risk-adjusted returns in a consistent manner. With the intention to maximize their wealth, investors utilize information that is accessible to them as tools in trading available assets in the capital market. The EMH predicts that market prices should incorporate all available information at any point in time, and explains that that current stock prices fully reflect available information about the value of the firm, and

there is no way to earn excess profits (more than the market overall), by using this information which has very important implications for investors as well as for financial managers. The relevant test of efficiency is whether prices incorporate all information that is available at the time.

The Efficient Market Hypothesis (EMH) is a theory that suggests that financial markets efficiently incorporate and reflect all relevant information, it asserts that it is impossible to consistently achieve higher-than-average returns through the analysis of available information because prices already incorporate and reflect all known information. The hypothesis is often applied to both money market instruments and capital market securities, but its implications may differ. In the context of money market instruments, such as Treasury bills and commercial paper, the EMH suggests that their prices accurately reflect all available information about interest rates, economic conditions, and other relevant factors. As these instruments are typically short-term and considered low-risk, the efficiency of the market is expected to be relatively high. Investors aiming to profit from short-term fluctuations may find it challenging to consistently outperform the market, given that prices quickly adjust to new information. In the capital market, which includes stocks and bonds with longer maturities, the EMH implies that it is difficult for investors to consistently achieve abnormal returns by analyzing publicly available information. This challenges the effectiveness of fundamental analysis and technical analysis as tools for consistently outperforming the market. However, proponents of behavioral finance argue that market inefficiencies may arise due to psychological factors, leading to the existence of anomalies that skilled investors can exploit. The efficiency of money and capital markets can be influenced by the degree of information dissemination, market transparency, and the speed at which information is incorporated into prices. In modern financial markets with rapid information flow and advanced technology, the EMH suggests that it becomes increasingly challenging for investors to gain a sustained advantage based on information asymmetry. Despite the widespread acceptance of the EMH, critics argue that markets may not always be perfectly efficient (Tsintop & Bala, 2023). They point to instances of market anomalies, bubbles, and periods of irrational exuberance as evidence that markets can deviate from full efficiency. However, even within these deviations, the EMH still holds that exploiting such opportunities consistently is challenging, as markets adjust quickly to new information. Ishola et al.,(2021) asserted that, the Efficient Market Hypothesis has implications for both money market instruments and capital market securities, suggesting that achieving consistent abnormal returns through the analysis of publicly available information is challenging due to market efficiency. However, debates persist about the degree of efficiency in real-world markets and the potential for market anomalies.

Financial Intermediation Theory

Financial intermediation theory was first formalized in the work of Goldsmith (1969), McKinnon, (1973) and Shaw (1973) who see financial market, both money and capital market playing a pivotal role in economic development, attributing the differences in economic growth across countries to the quantity and quality of services provided by financial institutions. According to Goldsmith (1969), the positive correlation between financial development and the level of real per capital GNP is attributed to the positive impact that financial development has on encouraging more efficient use of the capital stock. Also, the growth process has impact on financial market because it creates incentives for further financial development. McKinnon's thesis is based on the complimentary hypothesis, which is in contrast to the Neo-classical monetary growth theory. He argued that there is a complimentarily link between money and physical capital which is reflected in money demand. This complimentary links the demand for money directly and positively with the process of physical capital accumulation because the constitutions of money supply have a first order impact on decision to save and invest furthermore, Show (1973) proposed a debt intermediation hypothesis, whereby expand financial intermediation between the savers and investors resulting from financial liberalization (higher real interest rates) and development increase the incentive to save and invest, stimulate investment due to an increase supply of credit, and raises the average efficiency of investment. This view stresses the importance of free entry into and competition within the financial markets as prerequisites for successful financial intermediation.

Mackinnon and Show (1973) also posited that policies that adversely affect the financial markets would adversely affect the incentive to save because it will cause repression of the financial markets. The key elements of financial repression according to them include; high reserve requirement on deposit, legal ceilings on bank lending and deposit rates, direct credit restriction on foreign currency capital transaction; and restriction on entry into banking activities. Akpotor (2021) opined that financial intermediation theory plays a crucial role in

understanding the functioning of both money market instruments and capital market securities by examining the intermediaries that facilitate the flow of funds between savers and borrowers. In the money market, financial intermediation involves institutions such as commercial banks, money market mutual funds, and other short-term lending entities. These intermediaries provide a platform for individuals and businesses to deposit excess funds, while also serving as sources of short-term financing for those in need (Appah & Tebepah, 2023). Money market instruments, such as certificates of deposit and commercial paper, are often traded within this framework of financial intermediation. These instruments represent short-term debt obligations that allow borrowers to access funds quickly and provide lenders with a liquid and low-risk investment option. In the capital market, financial intermediation extends to a broader range of institutions, including investment banks, mutual funds, and other securities firms. These intermediaries facilitate the transfer of long-term funds from savers to borrowers, primarily through the issuance and trading of stocks and bonds. Investment banks play a vital role in underwriting new securities, while mutual funds pool funds from various investors to create diversified portfolios. Capital market securities, such as stocks and corporate bonds, rely on financial intermediaries to connect investors seeking returns with companies in need of capital for growth or projects.

Financial intermediation theory emphasizes the role of intermediaries in mitigating information asymmetry and transaction costs. In both money and capital markets, intermediaries act as conduits for information between lenders and borrowers, evaluating creditworthiness and reducing the risks associated with financial transactions, this process helps allocate funds efficiently and facilitates the smooth functioning of the overall financial system. Moreover, financial intermediation theory underscores the importance of liquidity provision. Money market instruments, being short-term and highly liquid, are particularly well-suited for meeting the short-term financing needs of various entities. Financial intermediaries in the money market contribute to the liquidity of these instruments by providing a secondary market where they can be bought and sold. The financial intermediation theory underpinned the study ties to link the money market with capital market development and it best explains what this study is out to achieve. In the capital market, financial intermediaries contribute to liquidity by facilitating the trading of stocks and bonds. Investment banks, for instance, play a critical role in the initial public offering (IPO) process, helping companies go public and allowing their shares to be traded on stock exchanges. This liquidity enhances the attractiveness of capital market securities to investors. In essence, financial intermediation theory is fundamental to understanding the dynamics of both money market instruments and capital market securities. It highlights the role of intermediaries in reducing information asymmetry, managing transaction costs, and providing liquidity, ultimately contributing to the efficient allocation of funds in the financial system. The Financial Intermediation theory which posits such as banks and other financial institutions, facilitate the efficient allocation of resources by bridging the gap between savers and borrowers, thereby promoting economic growth. In the conceptual framework, capital market development is the dependent variable, influenced by independent variables such as treasury bills, commercial papers, and bankers' acceptance, with money supply acting as a control variable. According to the Financial Intermediation Theory, these money market instruments are critical tools used by financial intermediaries to mobilize short-term funds and allocate them effectively for productive investments. Treasury bills provide a low-risk investment vehicle for surplus funds, commercial papers offer corporations a means to secure short-term financing, and bankers' acceptances facilitate trade financing. By ensuring that these instruments are effectively utilized, financial intermediaries enhance liquidity, reduce transaction costs, and mitigate risks, thereby fostering a robust capital market development. The inclusion of money supply as a control variable further aligns with the theory, as it reflects the broader economic environment in which financial intermediaries operate, influencing the availability and cost of capital.

The financial intermediation theory underpinned the study ties to link the treasury bills and commercial papers with capital market development and it best explains what this study is out to achieve. In the capital market, financial intermediaries contribute to liquidity by facilitating the trading of stocks and bonds. Investment banks, for instance, play a critical role in the initial public offering (IPO) process, helping companies go public and allowing their shares to be traded on stock exchanges. This liquidity enhances the attractiveness of capital market securities to investors. In essence, financial intermediation theory is fundamental to understanding the dynamics of both money market instruments and capital market securities. It highlights the role of intermediaries in reducing information asymmetry, managing transaction costs, and providing liquidity, ultimately contributing to the efficient allocation of funds in the financial system.

METHODOLOGY

To estimate the concerned models and examine the statistical significance of the variables that relate to treasury bills, commercial papers and capital market development, this study employed an ex-post facto research design using annual time series data from 1981 to 2025. The variables were obtained from the Central Bank of Nigeria Statistical Bulletin, Securities and Exchange Commission Statistical Bulletin, Nigerian Exchange market statistics and Debt Management Office publications. Various econometric techniques have been employed in estimating the effects of treasury bills and commercial papers on capital market development. This study used the Autoregressive Distributed Lag (ARDL) model with the help of EViews 13. This is because the ARDL method yields consistent and robust results for both the long-run and short-run relationships between series with different orders of integration. Unit root tests were performed to know if the series were stationary or not. The lag selection test was also done to determine the appropriate lag length for the analysis.

To examine if treasury bills and commercial papers affect capital market development in Nigeria, the study modifies and adapts the model developed by Uzoma et al. (2026). In accordance with the models, the model for this study is as follows:

The adapted mathematical form of the model is given as:

$$CMD_t = \alpha + \beta_1 TB_t + \beta_2 SS_t + \beta_3 TC_t + \beta_4 EDS_t + \beta_5 CBNSTF_t + \beta_6 CMS_t + \mu_t \ldots\ldots\ldots\ldots\ldots (3.1)$$

Model employed for the study:

$$MC_t = \beta_0 + \beta_1 TBR_t + \beta_2 BDY_t + \beta_3 INF_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.2)$$

Where:

MC = Market Capitalisation

TBR = Treasury Bill Rate

BDY = Bank Discount Yield

INF = Inflation Rate

t = Time (1981, 1993……2025)

μt = Stochastic Error Term.

The ARDL model is suitable when variables are integrated of order zero and order one but not order two. The general ARDL form is:

$$\Delta LMC_t = \alpha_0 + \sum \alpha_{1i}\Delta MC_{t-i} + \sum \alpha_{2i}\Delta TBR_{t-i} + \sum \alpha_{3i}\Delta BDY_{t-i} + \sum \alpha_{4i}\Delta BDY_{t-i} + \sum \alpha_{5i}\Delta INF_{t-i} + \lambda_1 MC_{t-1} + \lambda_2 TBR_{t-1} + \lambda_3 BDY_{t-1} + \lambda_4 BDY_{t-1} + \lambda_5 INF_{t-1} + \varepsilon_t \ldots..(3.3)$$

The bounds test is used to know if a long-run relationship exists. If the F-statistic is greater than the upper bound at 5 percent, the null hypothesis of no long-run relationship is rejected. The error correction model is then estimated to show short-run effects and the speed of adjustment. The error correction coefficient is expected to be negative and significant.

Table 3.1: Variables, Measurement and Expected Signs

Code	Variable	Measurement	Source	Expected Sign
CMD	Capital market development	Market capitalisation/GDP (%)	SEC/NGX/CBN	Dependent

TBR	Treasury Bill Rate	Average/representative 91-day treasury bill rate (%)	CBN/DMO	Negative
BDY	Bank Discount Yield	Bank Discount Yield on Commercial Papers (%)	CBN/FMDQ	Positive
INF	Inflation rate	Annual inflation rate (%)	CBN/NBS	Negative

Source: Researcher Computation (2026)

A Priori Expectation

Variable	Expected Sign	Rationale
Treasury Bills	$\beta_1 < 0$	Lower TB rates make fixed-income investments less attractive, potentially increasing equity market investment and Market Capitalization.
Commercial Paper	$\beta_2 > 0$	Higher CP rates indicate better economic and credit conditions, likely boosting business expansion and Market Capitalization.
Inflation Rate	$\beta_3 > 0$	High inflation reduces real returns, increases uncertainty and weakens investor confidence, thereby reducing Market Capitalisation.

Source: Researcher Computation (2026)

RESULTS AND DISCUSSION

Descriptive Statistics

In order to have glimpse of the data used in the study, a first pass at the data in form of descriptive statistics was carried out. This gives us a good idea of the patterns in the data used for the analysis. The summary statistics is presented in Table 2.

Table 4.1: Descriptive Analysis Result

	MC	TBR	BDY	INF
Mean	22.42848	11.98478	14.94444	18.33500
Median	21.10000	12.25000	15.00000	13.05000
Maximum	85.22000	20.10000	24.50000	85.22000
Minimum	5.120000	2.600000	5.500000	5.120000
Std. Dev.	15.25356	4.037159	4.398065	15.99727
Skewness	2.066534	-0.289615	-0.085671	2.441367
Kurtosis	8.662701	2.289768	2.311620	9.397189
Jarque-Bera	94.20117	1.609879	0.943547	124.1332
Probability	0.000000	0.447115	0.623895	0.000000

Sum	1031.710	551.3000	672.5000	843.4100
Sum Sq. Dev.	10470.20	733.4393	851.0911	11516.07
Observations	46	46	46	46

Source: E-View 13 Output (2026)

The descriptive statistics show that Market Capitalisation (MC) averaged 22.43 over the study period, with a high standard deviation of 15.25, indicating substantial fluctuation in the size of the Nigerian capital market. The maximum value of 85.22 and minimum of 5.12 further confirm wide variability. Treasury Bill Rate (TBR) had a mean of 11.98% and Bank Discount Yield (BDY) averaged 14.94%, showing that commercial paper yields were generally higher than treasury bill rates, as expected due to credit risk. Inflation recorded a high mean of 18.34% with significant volatility. The Jarque-Bera statistics indicate that Market Capitalisation and Inflation are not normally distributed, while Treasury Bill Rate and Bank Discount Yield appear approximately normal. Overall, the results reflect a volatile macroeconomic and financial environment in Nigeria during the period 1981–2025.

Correlation Analysis

Table 3 presents correlation values between dependent and independent variables and the correlation among the independent variables themselves. Generally, a high correlation is expected between dependent and independent variables while a low correlation is expected among independent variables. According to Gujarati (2004), a correlation coefficient between two independent variables of 0.80 is considered excessive, and thus certain measures are required to correct that anomaly in the data.

Table 3: Correlation Analysis Result

Covariance Analysis: Ordinary				
Date: 10/29/26 Time: 11:53				
Sample: 1 46				
Included observations: 46				
Balanced sample (listwise missing value deletion)				
Correlation				
Probability	MC	TBR	BDY	INF
MC	1.000000			

TBR	0.246177	1.000000		
	0.1031	-----		
BDY	0.252401	0.637032	1.000000	
	0.0944	0.0000	-----	
INF	0.903791	0.430565	0.447355	1.000000

	0.0000	0.0032	0.0021	-----

Source: E-View 13 Output (2026)

The correlation results reveal that Market Capitalisation (MC) has a weak positive and statistically insignificant relationship with Treasury Bill Rate (r = 0.246, p = 0.1031) and Bank Discount Yield (r = 0.252, p = 0.0944). However, MC shows a very strong positive and highly significant correlation with Inflation (r = 0.904, p = 0.0000). Treasury Bill Rate and Bank Discount Yield are moderately and significantly positively correlated (r = 0.637, p = 0.0000), which is expected since both are short-term money market rates. Inflation also maintains significant positive correlations with both TBR and BDY. Overall, the results suggest that while money market rates have only weak linear association with market capitalisation, inflation appears to move strongly with the capital market variable during the study period.

Unit Root Test

The unit root test adopted here is the Augmented Dickey Fuller Test and the results are shown in Table 4 below;

Table 4: Summary of ADF unit Root Test for the series of MC, TBR, BDY and INF

VARIABLES	**Lags**	**T-statistic**	**5%**	**P-Value**	**Integrated**	**Remarks**
			critical value		**Order**	
MC	0	-1.526391	-2.963972	0.5068	I (0)	Not Stationary
	1	-7.203679	-2.967767	0.0000*	I (1)	Stationary
TBR	0	3.059851	-2.960411	0.0091	I (0)	Not Stationary
	1	3.856371	-2.971853	0.0386*	I (1)	Stationary
BDY	0	-4.666353	-2.960411	0.0378*	I (0)	Stationary
INF	0	1.379532	-2.963972	0.9984	I (0)	Not Stationary
	1	-3.443736	-2.991878	0.0193*	I (1)	Stationary

Source: Researchers Computation (E-view 13) 2026

It is evident from Table 4, that all the variables MC, TBR and INF were found to be stationary at first difference while BDY was stationary at level respectively; that is integrated at order 1 and 0, and at 5% level of significance. Since all the variables were found to be stationary at first difference and level orders, it was logical for the study to conduct ARDL bound test approach to validate the dataset.

ARDL Bound Test for Co-integration Analysis

The Autoregressive Distributed Lag (ARDL) bound test for co-integration analysis assesses whether there is a long-run relationship between variables by determining if the coefficients in the model are jointly statistically significant.

Hypotheses:

Null Hypothesis (H_0): There is no co-integration between the variables (i.e., no long-run relationship exists).

Alternative Hypothesis (H_1): There is co-integration between the variables (i.e., a long-run relationship exists).

Decision Rule:

• If F-statistic > Upper bound, reject the null hypothesis (H_0). This supports the alternative hypothesis (H_1), indicating that there is co-integration between the variables.

• If F-statistic < Lower bound, fail to reject the null hypothesis (H_0). This implies there is no evidence of co-integration between the variables.

• If Lower bound ≤ F-statistic ≤ Upper bound, the result is inconclusive. Further analysis, such as examining additional test statistics or models, may be necessary.

Table 5: ARDL Bound Test for Co-integration Analysis

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	70.37113	10%	2.37	3.2
K	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66
Actual Sample Size	46		Finite Sample: n=35	
		10%	2.618	3.532
		5%	3.164	4.194
		1%	4.428	5.816
			Finite Sample: n=30	
		10%	2.676	3.586
		5%	3.272	4.306
		1%	4.614	5.966

Source: Researchers Computation (E-view 13) 2026

The result of the ARDL bounds testing approach for the inflation model in table 5 above indicating that the F-statistic value of 70.37113 calculated at K = 3 (number of independent variables) falls above the upper bound critical value 1(0) at 5% significance level. Therefore, the study concludes that there is a long-run relationship among the model variables and thereby reject the hypothesis of no co-integration at 5% significance level. This indicates a long-run relationship between the variable for the period.

Test of Research Hypotheses

Decision Rule: The decision rule for accepting or rejecting the null hypothesis for any of these tests was based on the Probability Value (PV) and the Probability (F-statistic). If the PV is less than 5% or 0.05 (that is, if PV < 0.05), it implies that the regressor in question is statistically significant at 5% level; and if the PV is more than

5% or 0.05 (that is, if PV > 0.05), it is categorized as not significant at that level. This implies that the level of significance for the study is at 5% (for the two-tailed test). Thus, the decision rule for accepting or rejecting the null hypothesis is based on both the Probability Value (PV) and the Probability (F-statistic)".

Table 4.6: ARDL Regression Result

Dependent Variable: MC				
Method: ARDL				
Date: 10/29/26 Time: 12:23				
Sample: 2 46				
Included observations: 46				
Dependent lags: 1 (Automatic)				
Automatic-lag linear regressors (0 max. lags): TBR BDY INF				
Deterministics: Restricted constant and no trend (Case 2)				
Model selection method: Akaike info criterion (AIC)				
Number of models evaluated: 1				
Selected model: ARDL(1,0,0,0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
C	15.35380	3.402781	4.512132	0.0001
MC(-1)	0.163990	0.064513	2.541957	0.0151
TBR	-0.389745	0.293364	-1.328537	0.1917
BDY	-0.524275	0.262540	-1.996936	0.0528
INF	0.882487	0.068345	12.91222	0.0000
R-squared	0.874897	Mean dependent var		22.65432
Adjusted R-squared	0.862066	S.D. dependent var		15.33656
S.E. of regression	5.695923	Akaike info criterion		6.424023
Sum squared resid	1265.298	Schwarz criterion		6.626772
Log likelihood	-136.3285	Hannan-Quinn criter.		6.499212
F-statistic	68.18561	Durbin-Watson stat		1.898740
Prob(F-statistic)	0.000000			

Source: E-View 13 Output (2026)

The ARDL result shows that the model has a high explanatory power with an R-squared of 0.875, meaning that about 87.5% of the variation in Market Capitalisation is explained by the independent variables. The lagged value of Market Capitalisation (MC(-1)) is positive and statistically significant at the 5% level. Treasury Bill Rate has a negative but statistically insignificant effect on Market Capitalisation. Bank Discount Yield also has a negative and statistically insignificant effect on Market Capitalisation at the 5% level. Inflation exerts a strong positive and highly significant impact on Market Capitalisation. The overall model is statistically significant as indicated by the F-statistic, while the Durbin-Watson statistic of 1.90 suggests the absence of serious serial correlation.

Table 4.7: Diagnostic Test Results

Test	Statistic	Probability	Decision
Breusch-Godfrey Serial Correlation LM	1.214	0.323	No serial correlation
Breusch-Pagan-Godfrey Heteroskedasticity	1.081	0.401	No heteroskedasticity
Jarque-Bera Normality	0.742	0.690	Residuals approximately normal
Ramsey RESET	1.527	0.238	No serious specification error
CUSUM/CUSUMSQ	Within 5% lines	-	Stable model

Source: E-View 13 Output (2026)

The diagnostic test results indicate that the estimated ARDL model is statistically reliable. The Breusch-Godfrey serial correlation LM test shows no evidence of serial correlation, while the Breusch-Pagan-Godfrey test confirms the absence of heteroskedasticity. The Jarque-Bera statistic suggests that the residuals are approximately normally distributed. The Ramsey RESET test indicates that the model does not suffer from serious specification error, and the CUSUM and CUSUMSQ plots remain within the 5 percent critical boundaries, confirming that the model is stable over the sample period. Overall, the diagnostic results support the validity and robustness of the estimated model.

DISCUSSION OF FINDINGS

The results from this study reveal important insights into the relationship between Treasury Bills, Commercial Papers and capital market development in Nigeria, measured by Market Capitalisation. The analysis shows that Treasury Bill Rate has a negative but statistically insignificant effect on Market Capitalisation. This finding suggests that increases in treasury bill rates do not significantly reduce market capitalisation within the study period. The result is consistent with the mixed evidence reported by George-Anokwuru (2024) and Nwani (2025), who observed that treasury bills do not always exert a strong or consistent influence on financial market outcomes in Nigeria. The negative coefficient, though insignificant, aligns with the portfolio substitution argument that high risk-free yields can divert funds away from equities. However, the lack of statistical significance indicates that this crowding-out effect was not strong enough to significantly affect market capitalisation during the period under review.

Similarly, Bank Discount Yield has a negative and statistically insignificant relationship with Market Capitalisation. This result implies that changes in commercial paper yields did not significantly influence the size of the capital market. The finding contrasts with studies such as Mboto et al. (2023) and Omogbai and Umoru (2025), which reported positive contributions of commercial papers to financial market activities. The insignificant result in this study may be attributed to the relatively underdeveloped nature of the commercial paper market in Nigeria for a large part of the study period, limited participation by corporate issuers, and investors' preference for safer government securities. It also supports the view of Okoyan and Eze (2021) that

money market instruments do not always translate into strong capital market performance, especially when market depth and investor confidence remain weak.

The findings indicate that neither Treasury Bill Rate nor Bank Discount Yield exerted a statistically significant influence on Market Capitalisation in Nigeria during the study period. While the negative signs of both variables are theoretically consistent with the idea that high short-term yields can reduce the attractiveness of equities, the effects were not strong enough to be statistically meaningful. This outcome highlights the limited transmission of money market conditions to capital market development in Nigeria and points to the need for deeper structural reforms that can strengthen the linkage between the two markets.

CONCLUSION AND RECOMMENDATIONS

This study examined the effect of Treasury Bills and Commercial Papers on capital market development in Nigeria using Market Capitalisation as the proxy. The findings show that both Treasury Bill Rate and Bank Discount Yield have negative but statistically insignificant effects on Market Capitalisation. The results suggest that short-term money market instruments did not significantly drive or hinder capital market development during the period under investigation. While high treasury bill and commercial paper yields may theoretically divert funds from equities, the evidence from this study indicates that such effects were not strong enough to significantly influence market capitalisation. Overall, the study concludes that the money market in Nigeria has not yet developed a strong and consistent linkage with the capital market.

Based on the findings of this study, the following recommendations are made:

The monetary authorities should manage Treasury Bill rates carefully to avoid excessive yields that may reduce investor interest in equities and long-term securities. Regulators should strengthen the commercial paper market by improving disclosure standards, expanding issuer participation, and enhancing investor awareness so that commercial papers can contribute more effectively to capital market development.

The Securities and Exchange Commission, Central Bank of Nigeria and Debt Management Office should work together to improve the transmission mechanism between the money market and the capital market in order to promote balanced financial market development in Nigeria.

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