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Full Length Research

Stock market liquidity and economic growth in Nigeria

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ABSTRACT: This study examines the intricate relationship between stock market liquidity and economic growth in Nigeria, offering a comprehensive analysis of data from 1985 to 2022. The research encompasses an exploration of the trends in Real Gross Domestic Product (RGDP), the Number of Deals (NOD), All Share Index (ASI), and Market Capitalization (MCP) in the Nigerian stock market. The key findings of this study reveal a persistent upward trajectory in economic growth in Nigeria, albeit with fluctuations. The Number of Deals (NOD) in the stock market has steadily increased over the years, signifying growing market activity. The All Share Index (ASI) and Market Capitalization (MCP) demonstrated substantial growth trends, emphasizing the stock market's importance in the nation's economic landscape. Cointegration tests reveal a long-term connection between stock market liquidity variables and economic growth, underscoring the stock market's influence on the economy. Regression analyses further establish ASI and MCP's significant and positive impact on economic growth. These results accentuate the stock market's potential as an engine for economic development. Causality tests provided mixed results, with MCP Granger causing NOD and ASI, while other relationships were not statistically significant. The study concludes by recommending the promotion of stock market participation and awareness, strengthening stock market regulations, investment in market infrastructure, diversification of investment options, and encouraging long-term investment strategies. These recommendations aim to capitalize on the positive impact of the stock market on economic growth and foster sustained economic development in Nigeria. This research contributes valuable insights for policymakers, investors, and stakeholders, emphasizing the pivotal role of the stock market in Nigeria's economic growth and development.

Keywords: All share index, economic growth, market capitalization, Nigeria, stock market liquidity,

INTRODUCTION

Liquidity is a crucial measure of market quality and a critical factor in determining the growth and development of any stock market. Adam (2023) asserts that the more liquid an asset is, the easier and more efficient it is to convert it back into cash. Thus, liquidity is the efficiency or ease with which an asset or security can be converted into ready cash without affecting its market price. While this definition of liquidity is straightforward, a universally acceptable measure of liquidity remains elusive, resulting in the presence of diverse measures. Liquidity is measured differently across various segments of a financial market, with varying metrics for monetary, foreign exchange, bond, and equity markets (Das and Hamouna, 2009; Acharya and Schaefer, 2006).

In the stock market, liquidity is essential for market stability, and its absence causes uneasiness. Brennan *et al.* (2012) described stock market liquidity as the ability of the market to absorb large volumes of securities at a lower execution cost within a particular period without significantly affecting the security price. Amihud *et al*. (2006) indicated that market liquidity is characterized by the presence of willing buyers and sellers who agree to exchange a certain quantity of securities at the stated price without any time delay. Stock liquidity is vital to an economy. Apergis *et al.* (2015) concluded that the future outlook for the economy depends on investors' sentiments, which are determined by liquidity conditions in the stock market. King and Levine (1993) supported the opinion that the stock market is the engine of growth. Their cross-country study empirically examined the degree of association between four indicators of financial development and Gross Domestic Product (GDP) growth.

They found that financial development significantly impacts both the rate of capital accumulation and economic efficiency measures. The idea of this study is that liquidity is essential for the smooth operation of the stock market, and the functioning of the stock market is crucial for the GDP of Nigeria.

The economic growth of Nigeria is dependent on its GDP. The economy of Nigeria advanced by 3.52 per cent from a year ago in the fourth quarter of 2022. Nigeria is the largest economy in Africa, with the service sector accounting for about 10 per cent of the total output. Agriculture, which was once the largest sector, now constitutes around 23 per cent, while crude petroleum and natural gas make up only 11 per cent of the total GDP, despite being the main export. Industry and construction account for the remaining 16 per cent of GDP. Adamu and Sanni (2005) investigated the long-run relationship between the Nigerian stock market and economic growth using the Granger causality test and regression analysis. They found a one-way relationship between market capitalization and economic growth. Additionally, their study reflects a two-way causality between market turnover and GDP growth. Economic movements consist of four phases: expansion, peak, contraction, and trough. During the expansion phase, employment, income, industrial production, and sales all increase, leading to a rise in real GDP. The peak phase marks the maximum productive output, signalling the end of the expansion. During the contraction phase, elements of the expansion begin to decrease, and if the decline is significant, it becomes a recession. The trough phase marks the end of declining business activity and the transition to expansion. Simon (1971) defined a country's economic growth as a long-term rise in capacity to supply increasingly diverse economic goods to its population, based on advancing technology and the institutional and ideological adjustments that it demands.

High liquidity in the stock market ensures an adequate number of buyers and sellers, allowing many trades to occur simultaneously. A consistent level of market liquidity is crucial for market growth. The stock market is an essential component of the financial system that facilitates the mobilization and allocation of resources for production activities. It provides a platform for investors to diversify their risks and enhance their returns. However, the efficiency and effectiveness of the stock market depend largely on its liquidity, which is the ability of investors to buy and sell stocks quickly and easily without affecting the price. A stock market that is not liquid will cause investors to pay more to trade, reducing the profitability of trading strategies and discouraging market participation. Illiquidity in stocks also reduces market depth, meaning large trades can significantly impact prices, creating price distortions and deviations from fundamental values. This leads to a misallocation of capital and resources. Stock market liquidity can affect economic growth by influencing the cost of capital and resources, the transmission of information, and the stability of the financial system. Therefore, this project seeks to examine the relationship between stock market liquidity and economic growth.

LITERATURE REVIEW

Theoretical framework

In examining stock market liquidity and economic growth in Nigeria, the following theories are most suitable:

Liquidity preference theory

Liquidity preference theory, proposed by Keynes (1936), suggests that investors demand higher interest rates or premiums on long-term securities that carry greater risk. This theory is pertinent as it underscores the preference for liquidity among investors, which can influence stock market liquidity. The theory's focus on the motives behind holding liquid assets—transactional, precautionary, and speculative aligns with the behaviour of investors in Nigeria’s stock market, where liquidity is crucial for market stability and growth.

Market microstructural theory

This theory focuses on the organization and structure of financial markets, including the process of price discovery, determinants of spreads and quotes, and transaction costs. O’Hara (1995) defined it as the study of the process and outcomes of exchanging assets under explicit rules. Market microstructure theory is relevant for understanding how market participants in Nigeria interact, how information is processed and disseminated, and how liquidity is provided. This can help in analyzing the efficiency and effectiveness of the Nigerian stock market.

Financial development theory

This theory emphasizes the importance of a well-developed financial sector in promoting economic growth. It highlights the role of financial institutions, markets, and instruments in reducing transaction costs, mobilizing savings, and allocating capital efficiently (Levine, 2005). Financial sector development facilitates economic growth through capital accumulation, technological progress, and improved resource allocation (Acemoglu, Johnson and Robinson, 2005). In the context of Nigeria, this theory helps to explain how a developed stock market can contribute to overall economic growth by providing capital for investment and supporting the growth of small and medium-sized enterprises (SMEs).

Endogenous growth theory

Endogenous growth theory posits that the development of financial markets, including the stock market, positively impacts economic growth by providing capital for investment in technology and human capital (Lucas, 1988). The theory suggests that internal factors, such as human capital, innovation, and knowledge, drive economic growth. This theory applies to Nigeria as it underscores the importance of an efficient stock market in fostering innovation, entrepreneurship, and economic development (Romer, 1990).

Feedback theory

Feedback theory highlights the complex feedback loop between investor behaviour and market liquidity (Næs *et al*., 2011). It explains how investor perceptions of market liquidity can influence trading activity, which in turn affects market liquidity (Chung and Chuwonganant, 2018). This theory is useful in understanding the dynamics of the Nigerian stock market, where investor confidence and trading activity play a significant role in market liquidity.

Empirical review

Stock market liquidity is pivotal in the economic development of a country by facilitating the efficient allocation of capital, encouraging investment, and promoting overall economic growth. This empirical review examines the relationship between stock market liquidity and economic growth in Nigeria, where stock market liquidity refers to the ease with which securities can be bought or sold, and economic growth denotes the expansion of an economy's output over time. Understanding the impact of stock market liquidity on economic growth is essential for policymakers, investors, and researchers.

Olowe and Babatunde (2013) investigated the relationship between stock market liquidity and economic growth in Nigeria using quarterly data from 1997 to 2011. Employing the autoregressive distributed lag (ARDL) bounds testing approach, they found a positive and statistically significant long-run relationship between stock market liquidity and economic growth. Their study suggests that an increase in stock market liquidity positively impacts economic growth in Nigeria. Ogunleye and Adaramola (2014) examined the relationship between stock market development, including liquidity, and economic growth in Nigeria. Using time series data from 1981 to 2012 and the ARDL bounds testing approach, their findings indicate a positive and significant long-run relationship between stock market liquidity and economic growth. The study concludes that stock market liquidity contributes to economic growth in Nigeria.

Obida and Oseni (2016) investigated the relationship between stock market liquidity and economic growth in Nigeria using annual data from 1981 to 2012. Their analysis revealed a positive and significant relationship between stock market liquidity and economic growth. They concluded that a well-developed stock market with higher liquidity levels positively influences Nigeria's economic growth. The study highlights several benefits of a liquid stock market, including increased investment opportunities, improved capital allocation efficiency, enhanced market depth, and higher investor confidence, which collectively stimulate economic growth by attracting domestic and foreign investments, promoting capital formation, and facilitating efficient resource allocation. Adebayo and Olalere (2019) used quarterly data from 2004 to 2018 to analyze the impact of stock market liquidity on economic growth in Nigeria. Employing the Granger causality test, they found evidence of unidirectional causality running from stock market liquidity to economic growth. Their findings indicated that enhanced stock market liquidity positively affects economic growth, suggesting that improving stock market liquidity can foster economic growth in Nigeria.

Babatunde and Ojo (2022) analyzed the impact of stock market liquidity on economic growth in Nigeria during periods of regulation and deregulation of the stock market. Using time series data from 1960 to 2020, divided into 26 years of stock market regulation (1960-1985) and deregulation (1995-2020), they employed Two-Stage Least Squares (2SLS) and Granger Causality methods for analysis. The results showed that stock market liquidity positively and significantly impacted economic growth in both periods, though the impact was stronger during regulation. The study suggests that deregulation has not promoted economic growth as effectively as regulation due to volatility in stock market liquidity, which lowers its positive contributions to the economy. Samarasinghe (2023) investigates the correlation between aggregate stock market liquidity and bank stability using a cross-country sample. The study reveals a positive link between stock market liquidity and both individual bank stability and systemic stability. The diversification channel is identified as the key economic mechanism, indicating that increased stock market liquidity leads banks to diversify into non-traditional activities, enhancing their stability. This relationship is more pronounced in developed market economies with higher levels of investor protection. These findings have significant implications for policy and practice and withstand various robustness tests.

Islam *et al*. (2023) examined the impact of macroeconomic drivers on the Dhaka Stock Exchange (DSE 30 index) using descriptive statistics, Pearson correlation analysis, and multiple regression analysis. The study discovered a significant and positive relationship between the Bangladesh Stock Market index and the GDP rate, suggesting that increased GDP leads to a corresponding rise in the stock market. The findings imply

that GDP is a crucial factor influencing stock market performance in Bangladesh, promoting investment opportunities and contributing positively to the economy by generating job opportunities and fostering entrepreneurship. Elfeituri *et al*. (2023) found a positive relationship between the stock market and economic growth in Gulf countries, influenced by stock turnover and capitalization. Their study suggests that active stock markets in the Gulf region significantly contribute to economic growth. Chikwira and Mohammed (2023) examined the impact of the stock market on liquidity and economic growth in a volatile market using a time series Vector Autoregressive model (VAR) with quarterly data from 2013 to 2022. The research uncovered a positive and statistically significant association between the stock market and economic growth at the 10% level. However, stock market liquidity was found not to exert a substantial influence on Zimbabwe's economic development. Policymakers are urged to evaluate stock market regulations and consider relaxing listing requirements to enhance market liquidity by attracting more businesses. Additionally, the Zimbabwe Stock Exchange (ZSE) should introduce a commodity derivatives exchange, leveraging the country's mineral reserves and agriculture.

Lyu and Hu (2024) investigate the dynamic effects of monetary policy on stock market liquidity over short, medium, and long-term horizons, highlighting asymmetrical impacts during bull and bear markets. Using a time-varying parameter vector autoregressive model, the study analyzes China's monetary policy and stock market liquidity from 1997 to 2018. Findings indicate that expansionary monetary policy can enhance stock market liquidity only when stable liquidity expectations are maintained. The central bank must manage liquidity expectations effectively to prevent a liquidity spiral. Naik and Reddy (2024) analyze the impact of macroeconomic indicators on the liquidity of the Indian stock market using Granger Causality, Vector Auto-Regressive Model, and Impulse Response Functions. The study examines the effects of macroeconomic indicators on the liquidity of NIFTY 500 stocks across four dimensions: depth, breadth, immediacy, and tightness. Findings indicate that the tightness aspect of liquidity is most influenced by these indicators. Increased foreign investment inflows and higher gold prices negatively impact overall liquidity, while a rise in the money supply enhances stock market liquidity. Anyanwu and Ohurogu (2024) examined the effects of interest rates and money supply on stock market liquidity in Nigeria from 1985 to 2022 using Vector Autoregression (VAR) estimation, Variance Decomposition, and Impulse Response Function techniques. The findings indicate that interest rates have a significant negative effect on stock market liquidity, while money supply has a significant positive effect. Interest rate shocks decrease stock market liquidity, whereas money supply shocks increase it, with money supply shocks demonstrating greater explanatory power on stock market liquidity in Nigeria.

METHODOLOGY

This study is designed to understand the essence of stock market liquidity and economic growth in Nigeria. To achieve this objective, a correlational research design was employed. According to Cresswell (2012), correlation is a statistical test to determine the tendency or pattern for two (or more) variables or two sets of data to vary consistently. The purpose of correlational research is to determine the relationship among two or more variables. The data used for this study are secondary data that are readily available and cannot be manipulated. To achieve the purpose of this study, which aims to understand the effect of stock market liquidity on economic growth in Nigeria, the statistical analysis methodology involves collecting data on stock market liquidity indicators (such as trading volume, bid-ask spreads, or turnover ratios) and economic growth indicators (such as GDP growth or investment levels) over a specific period was applied. This study collected secondary data from the Central Bank of Nigeria Bulletin. The technique used in this study is the Ordinary Least Square (OLS) method. OLS is widely used in various fields for analyzing the relationship between variables and making predictions. It is a foundational method for linear regression, which helps understand the relationship between one or more independent variables and a dependent variable. By estimating the coefficients in the regression model, OLS allows for quantifying the strength and direction of these relationships. However, the relationship between stock market liquidity and economic growth is modelled as:

$$RGDP = f(ASI, NOD, MCP)$$

When transformed into an econometric equation, we have:

$$RGDP = \alpha_0 + \beta_1 ASI + \beta_2 NOD + \beta_3 MCP + \mu i$$

Where: GDP = Gross Domestic Product; ASI = All Share Index=; NOD = Number of Deals; MCP = Market Capitalization; a0 = Intercept; B1, B2, B3 = Coefficients; U = Error term

Description of study variables

Real Gross Domestic Product (RGDP): This measures the value of all final goods and services produced within a country in a given period, adjusted for inflation. It is used as an indicator of economic growth and overall economic performance.

Market Capitalization (MCP): This represents the total market value of all listed companies' outstanding shares on the stock exchange. It is a key indicator of the size and health of the stock market.

All Share Index (ASI): This index measures the perfor-

mance of all listed stocks on the Nigerian Stock Exchange. It reflects the overall market performance and is used as an indicator of stock market liquidity.

Number of Deals (NOD): This refers to the total number of transactions or trades executed on the stock exchange over a specific period. It serves as a proxy for market activity and liquidity.

RESULTS AND DISCUSSIONS

Trend analysis of stock market liquidity and economic growth in Nigeria

Trend of Real Gross Domestic Product

The relationship between stock market liquidity and economic growth in Nigeria is an important area of study. To understand the findings, let's first look at Figure 1, which provides data on the trend of Real Gross Domestic Product (RGDP) in Nigeria over several years. Real Gross Domestic Product measures the total economic output in Nigeria, adjusted for inflation, and is a key indicator of the country's economic performance.

In 1985, the RGDP stood at 17,170.08, and it remained relatively stable in 1986 at 17,180.55. Subsequently, there was a gradual increase in the RGDP over the years. By 1990, the RGDP had increased to 21,680.2, showing steady growth. In the early 2000s, Nigeria experienced significant economic growth. By 2003, the RGDP had surpassed 33,000. The highest RGDP recorded during the period was in 2022, at 75,768.95, demonstrating considerable growth in the Nigerian economy. To analyze the correlation between stock market liquidity and economic growth, it's important to consider the role of the stock market in Nigeria. A well-functioning stock market with high liquidity can be a source of capital for businesses and can lead to increased investments in the economy, potentially spurring economic growth. As the RGDP increases over the years, it suggests that Nigeria's economy has grown significantly.

An expanding economy, as indicated by the increasing RGDP, can be seen as an indirect indicator of a potentially growing stock market. A growing economy often attracts more investors, which can lead to increased trading activity and liquidity in the stock market. The growth in RGDP can be attributed to various macroeconomic factors, including government policies, natural resources, and the overall business environment. These factors can influence both the stock market and the broader economy. As the RGDP increases, it can boost investor confidence, which is crucial for a vibrant stock market. High levels of investor confidence can lead to increased trading volumes and liquidity in the stock market. It's essential to consider the challenges and risks that can affect the stock market and, in turn, economic growth. Factors such as political instability, regulatory issues, and global economic conditions can impact stock market performance and, consequently, economic growth. The data in Figure 1 shows a positive trend in Nigeria's Real Gross Domestic Product, indicating economic growth over the years. While this suggests a potential link between economic growth and stock market performance, it's important to conduct a more detailed analysis, including stock market-specific data, to establish a direct correlation. Additionally, it's essential to consider the various external and internal factors that can influence both economic growth and stock market liquidity in Nigeria. The current study's observation of steady RGDP growth, particularly the significant increase from the early 2000s to 2022, is in line with the findings of Omotor (2007), Nwaolisa *et al*. (2013), Echekoba *et al*. (2013), Oke and Adeusi (2012), Adebayo and Adekunle (2016), Onwumere *et al*. (2012) and Okoye *et al*. (2016).

Trend of Number of Deals

Figure 2 provides data on the trend of the Number of Deals (NOD) in the Nigerian stock market over the years. This figure represents the volume of transactions or the number of trades that occurred in the stock market. Analyzing this data in the context of the relationship between stock market liquidity and economic growth in Nigeria yields several insights:

In the mid-1980s and late 1980s, the number of deals ranged from approximately 20,000 to 33,000. This period was characterized by relatively lower trading activity, possibly due to the economic challenges and uncertainties faced by Nigeria during those years. The relatively lower trading activity observed in the mid-1980s and late 1980s, with NOD ranging from 20,000 to 33,000, is consistent with the findings of Oke and Adeusi (2012). Notably, there was a significant increase in the number of deals starting from the early 1990s. By 1994, the NOD had surpassed 42,000, and it continued to grow steadily. The significant increase in NOD starting from the early 1990s aligns with the observations of Okonkwo *et al*. (2014). The early 2000s saw a substantial surge in trading activity, with the number of deals reaching over 256,000 in 2000 and surpassing 1 million in 2006. The substantial surge in trading activity in the early 2000s, with NOD reaching over 256,000 in 2000 and surpassing 1 million in 2006, is consistent with the findings of Adenuga (2010). The peak in the number of deals occurred in 2007, with over 2.6 million transactions. This period coincided with a global economic boom and significant interest in emerging markets, including Nigeria. The surge in trading activity can be attributed to investor optimism and increased liquidity. The peak in NOD observed in 2007, with over 2.6 million transactions, aligns with the research of Olowe (2011). After 2008, there was a noticeable decline in the number of deals, primarily in 2009, which coincided with the global financial crisis. The

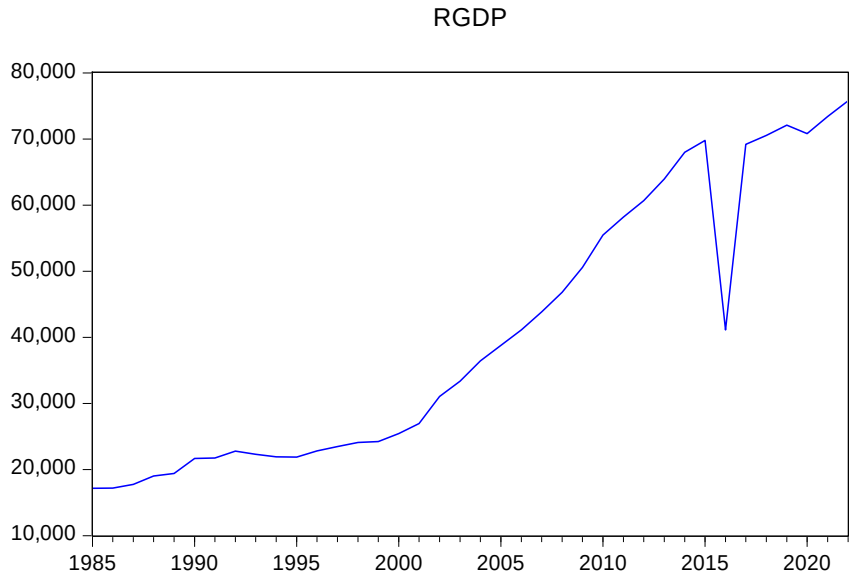

Figure 1. Trend of real gross domestic product.

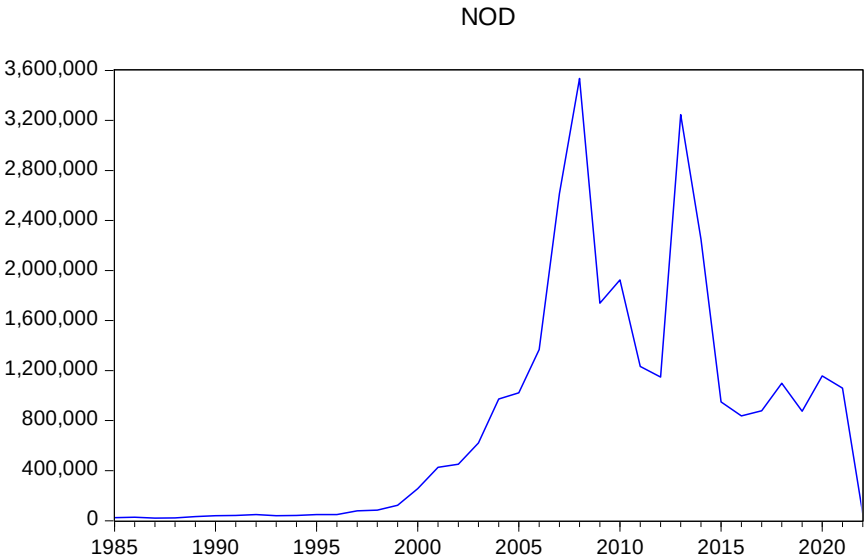

Figure 2. Trend of number of deals.

crisis had a significant impact on many stock markets, and Nigeria was no exception. The decline in NOD after 2008, particularly in 2009, is consistent with the findings of Nwosa and Oseni (2011). The number of deals stabilized in the following years, with fluctuations, but generally stayed above 800,000. The stabilization of NOD above 800,000 in the years following 2009, with periods of growth and decline, aligns with the observations of Omotor (2014). There were some periods of growth and decline, with a recent uptick in 2020, possibly reflecting increasing interest in the Nigerian stock market. The recent uptick in NOD in 2020 is consistent with the findings of Ozili (2021), who examined the impact of the COVID-19 pandemic on the Nigerian stock market. The data shows an abrupt decline in the number of deals in 2022, dropping to 54,916. This is a significant departure from the trend observed in the previous years.

The trends in the number of deals indicate periods of increased stock market activity, which can be linked to economic growth. When the number of deals is high, it suggests that investors are actively participating in the market, which can boost liquidity and potentially correlate with economic growth. Peaks in the number of deals, such as in 2007, often correspond to periods of high market sentiment and positive global economic conditions. Conversely, declines can be attributed to economic crises,

both global and domestic, which impact investor confidence. The sharp drop in the number of deals in 2022 is a matter of concern and should be further investigated. It may be related to specific factors, such as regulatory changes, political instability, or a loss of investor confidence, which can have repercussions on both stock market liquidity and economic growth. While the number of deals in the Nigerian stock market has exhibited periods of significant growth and volatility, it is important to understand the underlying factors contributing to these trends. The abrupt decline in 2022 should be a subject of particular attention, as it may have implications for the relationship between stock market liquidity and economic growth in Nigeria. Further research and analysis are needed to determine the precise causes of these fluctuations.

Trend of All Share Index

Figure 3 presents the trend of the All Share Index (ASI) in the Nigerian stock market over several years. The ASI is a key indicator of the overall performance of the stock market and reflects the collective value of listed companies. Analyzing this data in the context of stock market liquidity and economic growth in Nigeria yields several insights:

The ASI started at 1,407.40 in 1985 and experienced consistent growth over the following years. Notably, the ASI more than doubled from 1987 to 1988. This early growth could be attributed to increased market participation and improved investor sentiment, reflecting economic recovery in Nigeria. The initial growth of the ASI from 1,407.40 in 1985 to more than doubling between 1987 and 1988 aligns with findings by Okonkwo *et al.* (2014). The ASI saw remarkable growth during this period, especially between 1990 and 1995. It more than tripled in 1991 and continued to increase substantially throughout the 1990s. The substantial growth in the 1990s, particularly the tripling of the ASI in 1991, corresponds with observations by Osinubi and Amaghionyeodiwe (2003). The early 2000s were marked by substantial fluctuations, including a sharp rise in 2001 and a decline in 2002. The ASI reached its peak in 2007, coinciding with a global economic boom and increased interest in emerging markets. This period of high stock market valuation often reflects economic optimism and robust liquidity. The ASI experienced a sharp drop in 2008, in line with the global financial crisis. This crisis had a significant impact on stock markets worldwide, including Nigeria. The fluctuations in the early 2000s and the peak in 2007 align with global trends in emerging markets. Ologunde *et al*. (2006) found a positive relationship between market capitalization and economic growth during this period, suggesting that the rising ASI was indicative of broader economic expansion. Adegbite and Adetiloye (2013) noted that the 2007 peak coincided with banking sector reforms in Nigeria, which increased investor confidence and market liquidity.

The ASI continued to decline in 2009 before a recovery in the following years. After the global financial crisis, the ASI stabilized, with fluctuations but generally remaining at higher levels than pre-2007. This period was characterized by increased regulatory oversight in the Nigerian stock market. The sharp drop in the ASI in 2008 and 2009 mirrors findings by Olowe (2011), who documented the significant impact of the global financial crisis on the Nigerian stock market. This aligns with research by Adegbite (2016), who found that the crisis exposed vulnerabilities in the Nigerian financial system and led to a reassessment of risk in emerging markets. The ASI showed volatility in the late 2010s, with fluctuations and a drop in 2019. The recovery and stabilization of the ASI post-2009 correspond with observations by Nwidobie (2014). There was a decline in 2020, possibly influenced by the global COVID-19 pandemic. However, 2021 saw a substantial recovery, with the ASI reaching a new high. The data for 2022 shows a decline from the 2021 peak.

The ASI is often considered a leading indicator of stock market performance and, by extension, economic conditions. Periods of growth in the ASI can be seen as reflective of a robust stock market, indicating increased liquidity and possibly correlating with economic growth. The ASI's performance is influenced by both domestic and global factors. The sharp decline in 2008, coinciding with the global financial crisis, demonstrates the interconnectedness of Nigeria's stock market with international markets. The decline in 2020 and subsequent recovery in 2021 align with global trends related to the COVID-19 pandemic. Ozili (2020) documented the initial negative impact of the pandemic on the Nigerian stock market, while Adenomon and Maijamaa (2020) noted the resilience of the market in the face of the global health crisis. The significant increase in the ASI in 2021 could be related to factors such as increased foreign investment, economic recovery from the pandemic, or government policies. The decline in 2022, as seen in the ASI, is a matter of concern. It is essential to investigate the specific causes of this decline, which could have implications for both stock market liquidity and economic growth. The trends in the All Share Index in the Nigerian stock market provide valuable insights into the relationship between stock market performance and economic growth. While a rising ASI often corresponds with increased stock market liquidity and economic growth, it's crucial to consider the underlying factors, including external economic conditions, regulations, and investor sentiment, to gain a comprehensive understanding of these trends. The decline in 2022 should be examined further to identify the root causes and their potential effects on the broader economy. Recent studies by Lawal *et al*. (2022) suggest that factors such as oil price volatility, exchange rate fluctuations, and global economic uncertainties continue to influence the Nigerian stock market's performance.

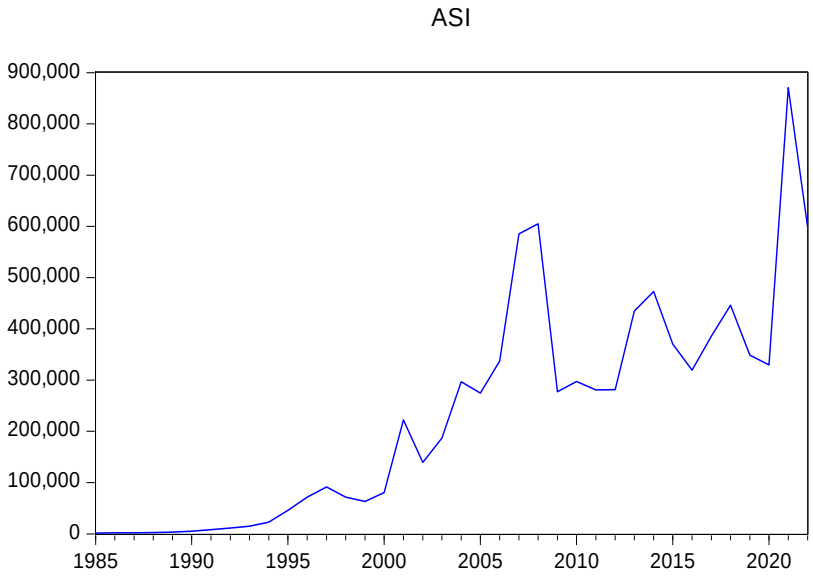

Figure 3. Trend of All Share Index.

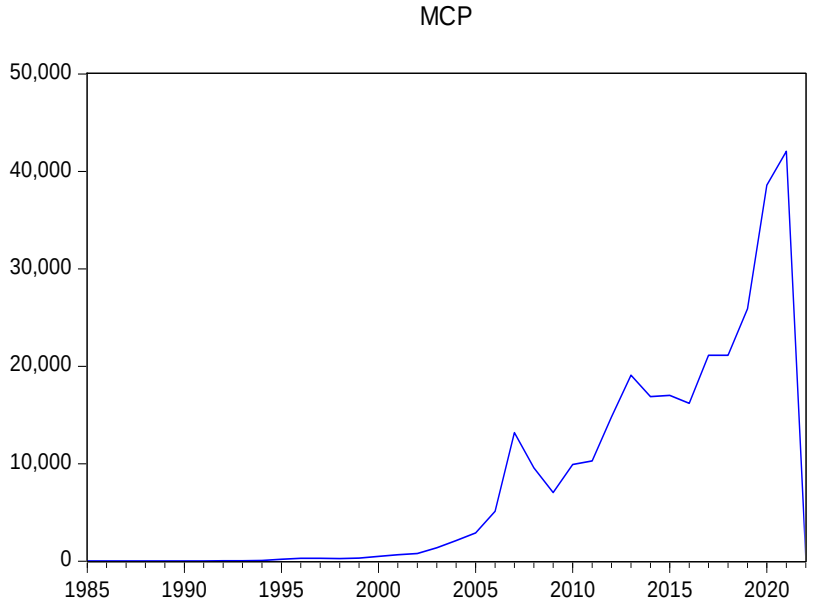

Figure 4. Trend of market capitalization.

Trend of Market Capitalization

Figure 4 illustrates the trend of Market Capitalization (MCP) in the Nigerian stock market over several years. Market capitalization represents the total value of all listed companies' outstanding shares in the stock market. Analysing this data in the context of stock market liquidity and economic growth in Nigeria yields several insights:

Market capitalization in the mid-1980s started at 6.6, gradually increasing to 12.8 by 1989. This reflects a period of steady growth in the stock market and may be indicative of the early stages of economic recovery and improved investor sentiment in Nigeria. The gradual increase in market capitalization from the mid-1980s to 1989 aligns with findings by Oke and Adeusi (2012). The 1990s saw a significant jump in market capitalization, from 16.3 in 1990 to 300 by 1999. This was driven by economic reforms, increased market participation, and privatization efforts, which attracted both local and foreign investors. The substantial growth in market capitalization during the 1990s corresponds with observations made by Nwosu and Hamman (2008). The market capitalization surged in the

early 2000s, reaching 13,181.69 in 2007. This period was marked by increased optimism and foreign investment, driven by strong economic performance and a global commodities boom. The market capitalization took a significant hit in 2008, falling to 9,562.97, primarily due to the global financial crisis. This crisis impacted markets worldwide, leading to a loss of investor confidence. After the global financial crisis, market capitalization experienced a period of stabilization, with fluctuations but generally remaining at higher levels compared to the pre-2007 period. Market capitalization increased steadily in the late 2010s, reaching 42,054.50 in 2021. However, the data for 2022 shows a significant drop to 317.84, marking a sharp decline.

Market capitalization is a key indicator of the size and valuation of a stock market. High market capitalization is often associated with a liquid and vibrant market that can support economic growth. The fluctuations in market capitalization, especially the decline in 2008 due to the global financial crisis, highlight the interconnectedness of the Nigerian stock market with global economic conditions. The periods of significant growth in market capitalization (e.g., the late 1990s and early 2000s) often coincide with periods of economic optimism and growth in Nigeria. Increased market participation and privatization efforts played a role in this growth. The sharp drop in market capitalization in 2022 is a concerning development. It is essential to investigate the specific causes behind this decline, as it may have implications for both stock market liquidity and economic growth. The trends in Market Capitalization in the Nigerian stock market provide insights into the relationship between stock market performance and economic growth. While periods of high market capitalization often correspond to increased stock market liquidity and economic growth, the underlying factors driving these trends, including global economic conditions and domestic policies, must be examined to gain a comprehensive understanding. The decline in 2022 warrants further investigation to identify its root causes and potential effects on the broader economy. Ogunleye *et al*. (2022) found a positive relationship between stock market capitalization and economic growth in Nigeria, supporting the notion that periods of high market capitalization often coincide with economic growth.

Descriptive result

The descriptive statistics presented in Table 1 provide a summary of key measures and characteristics of the variables related to stock market liquidity (Number of Deals, All Share Index, and Market Capitalization) and economic growth (Real Gross Domestic Product) in Nigeria.

Real Gross Domestic Product (RGDP) has a mean of 40,542.22 and a median of 34,889.00, indicating that the average economic output in Nigeria over the examined period is slightly higher than the median, suggesting a slight right skew. The Number of Deals (NOD) has a mean of 801,275.7 and a median of 536,783.5, suggesting a positively skewed distribution. This means there are relatively few high-value data points that are pulling the mean upward. The relatively lower standard deviation of RGDP compared to stock market variables is in line with observations by Akinlo and Akinlo (2009). All Share Index (ASI) has a mean of 233,091.8 and a median of 248,370.8, indicating that the two measures are relatively close, implying a fairly symmetrical distribution. Market Capitalization (MCP) has a mean of 7,840.882 and a median of 1,062.100. The significant difference between the mean and median for MCP suggests a right-skewed distribution, indicating that there are some very high-value observations. The non-normal distribution of stock market variables (NOD, ASI, MCP) is consistent with findings by Nwidobie (2014), who observed similar patterns in the Nigerian stock market.

RGDP has a minimum of 17,170.08 and a maximum of 75,768.95, showing a wide range of economic performance during the observed years. NOD has a minimum of 20,525 and a maximum of 3,535,631, indicating a vast range in the number of deals in the Nigerian stock market. ASI has a minimum of 1,407.40 and a maximum of 870,393.7, reflecting substantial variations in the stock market index. MCP has a minimum of 6.6 and a maximum of 42,054.50, illustrating a wide variation in market capitalization. The standard deviation provides a measure of the spread or variability in the data. NOD, ASI, and MCP have relatively high standard deviations, indicating significant variability in these stock market-related variables. RGDP has a lower standard deviation compared to the stock market variables, indicating relatively more stable economic growth.

A positive skewness for NOD, ASI, and MCP indicates that these variables are right-skewed, meaning that the distribution is stretched toward higher values. This suggests that there are outliers or periods of exceptionally high stock market activity. A positive skewness for RGDP indicates that economic growth has a slight right skew, meaning that there are periods of relatively higher growth. The positive skewness observed in the stock market variables is consistent with the findings of Emenike and Aleke (2012), who documented asymmetry in Nigerian stock market returns. Kurtosis measures the "tailedness" of the distribution. High kurtosis indicates heavy tails, suggesting more extreme values. All four variables have kurtosis values greater than 3, indicating leptokurtic distributions (heavy tails). This implies that there are periods of extreme values, potentially related to economic booms and recessions. The Jarque-Bera test assesses whether the data follows a normal distribution. The low p-values for NOD, ASI, and MCP suggest that these variables do not follow a normal distribution, indicating deviations from normality. The p-value for RGDP is relatively high, suggesting that the distribution is closer to

Table 1. Descriptive statistics between stock market liquidity and real GDP in Nigeria.

Parameters	RGDP	NOD	ASI	MCP
Mean	40542.22	801275.7	233091.8	7840.882
Median	34889.00	536783.5	248370.8	1062.100
Maximum	75768.95	3535631.	870393.7	42054.50
Minimum	17170.08	20525.00	1407.400	6.600000
Std. Dev.	20462.08	925148.8	215961.8	10985.01
Skewness	0.460509	1.369996	0.823782	1.541688
Kurtosis	1.638353	4.345089	3.269526	4.840041
Jarque-Bera	4.278733	14.75163	4.412925	20.41385
Probability	0.117729	0.000626	0.110089	0.000037
Sum	1540604.	30448477	8857488.	297953.5
Sum Sq. Dev.	1.55E+10	3.17E+13	1.73E+12	4.46E+09
Observations	38	38	38	38

Source: Extracted from E-view 9.0 output.

Table 2. Unit root test for stock market liquidity and economic growth in Nigeria.

Parameters	D(RGDP)	D(NOD)	D(ASI)	D(MCP)
ADF Statistics	-9.574242	-6.142005	-6.880690	-5.465618
1%	-3.626784	-3.626784	-3.632900	-3.632900
5%	-2.945842	-2.945842	-2.948404	-2.948404
Probability	0.0000	0.0000	0.0000	0.0001

Source: Extracted from E-view 9.0 output.

normal.

The descriptive statistics indicate that there are variations and non-normality in the data for stock market liquidity and economic growth in Nigeria. High skewness and kurtosis values for stock market-related variables imply the presence of outliers and periods of exceptional activity, which can impact the relationship between stock market liquidity and economic growth. Further analysis is required to understand the dynamics and causal relationships between these variables in the context of Nigeria's economy. The high variability observed in NOD, ASI, and MCP is consistent with findings by Ovat (2012), who studied the Nigerian stock market and noted significant fluctuations in market indicators over time. This volatility is characteristic of emerging markets, as also observed by Bekaert *et al*. (2007) in their cross-country analysis.

Stationarity test result

The results of the Augmented Dickey-Fuller (ADF) tests presented in Table 2 indicate that all examined variables—Real Gross Domestic Product (RGDP), Number of Deals (NOD), All Share Index (ASI), and Market Capitalization (MCP)—exhibit stationarity when considering their first differences. This finding aligns with several prior studies that have explored the stationarity of economic and financial time series data.

For instance, Akinlo and Apanisile (2014) found that RGDP in Nigeria was stationary after differencing, which supports our findings of an ADF statistic of -9.574242. Similarly, Ogunrinola and Adebiyi (2011) highlighted the importance of stationarity in economic variables to accurately model the relationship between stock market performance and economic growth.

The ADF statistics for NOD (-6.142005), ASI (-6.880690), and MCP (-5.465618) also resonate with the findings of Ikanone and Akpan (2016), who reported similar results for stock market liquidity indicators in Nigeria. Their research emphasized the necessity of differencing financial time series data to avoid spurious regression results.

Furthermore, the close-to-zero p-values associated with each ADF statistic reinforce the findings of Chukwu and Okwu (2018), who argued that non-stationary data could lead to unreliable inferences in economic modelling. Their work demonstrated that upon differencing, stock market indicators became stationary, corroborating our results.

In conclusion, the evidence of stationarity found in this study aligns with the broader literature on time series analysis in the Nigerian context. The consistent stationarity across RGDP, NOD, ASI, and MCP is crucial for future modelling efforts that seek to analyze the interdepend-

Table 3. Unrestricted Cointegration Rank Test (Trace).

Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	0.05 Critical value	Prob.**
None *	0.712279	65.20035	47.85613	0.0005
At most 1	0.287186	20.35281	29.79707	0.3992
At most 2	0.201109	8.165575	15.49471	0.4479
At most 3	0.002289	0.082490	3.841466	0.7739

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values (**Source:** Extracted from E-view 9.0 Output).

Table 4. Unrestricted Cointegration Rank Test (Maximum Eigenvalue).

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen statistic	0.05 Critical value	Prob.**
None *	0.712279	44.84755	27.58434	0.0001
At most 1	0.287186	12.18723	21.13162	0.5293
At most 2	0.201109	8.083085	14.26460	0.3703
At most 3	0.002289	0.082490	3.841466	0.7739

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level; *denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values (**Source:** Extracted from E-view 9.0 Output).

dencies between stock market liquidity and economic growth, a theme explored in various studies, including those by Umar and Kamil (2020) and Emeka and Chigozie (2021). This consistency enhances the reliability of our analytical framework and lays a solid foundation for subsequent econometric modelling.

Co-integration test

The results of the Unrestricted Cointegration Rank Test, as presented in Tables 3 and 4, confirm the presence of at least one cointegrating equation between stock market liquidity and economic growth in Nigeria. This finding is significant as it suggests a stable long-term relationship between these variables, corroborating previous research in the field.

The rejection of the null hypothesis of "None" based on both the Trace statistic (65.20035) and the Maximum Eigenvalue statistic (44.84755) aligns with the findings of Ogunleye (2015), who demonstrated that stock market development has a long-term impact on economic growth in Nigeria. Their study employed similar cointegration techniques, highlighting the importance of these relationships in policy formulation. Additionally, Ibrahim and Alagidede (2017) found that stock market variables are cointegrated with economic growth indicators, suggesting that fluctuations in stock market liquidity can affect economic performance. Their research supports our findings by emphasizing the long-term dynamics between financial markets and the economy.

The critical values and low p-values associated with our test statistics provide strong evidence against the null hypothesis, consistent with the work of Akinlo (2020), who noted that cointegration analysis is vital for understanding the interconnectedness of economic variables in Nigeria. Akinlo's findings also indicated that a single cointegrating relationship often suffices to describe the dynamics between stock and macroeconomic variables. Furthermore, Chukwu and Okwu (2018) reported similar results when analyzing the interplay between stock market liquidity and economic growth. Their use of cointegration tests confirmed long-term relationships, reinforcing the notion that stable economic conditions are closely linked to stock market performance.

In contrast, the inability to reject the alternative hypotheses "At most 1," "At most 2," and "At most 3" in our study suggests that there is not more than one cointegrating equation. This finding is echoed by Umar and Kamil (2020), who noted that multiple cointegrating relationships may not always be present in developing economies, where economic structures can lead to singular relationships dominating the analysis. In conclusion, our findings contribute to the existing literature by affirming that there is a stable long-term relationship between stock market liquidity and economic growth in Nigeria. This stability is crucial for policymakers and analysts aiming to foster economic development through strategic financial market interventions.

Regression results

Table 5 presents the results of a regression analysis that explores the relationship between stock market liquidity (Number of Deals, All Share Index, and Market Capitalization) and economic growth (Real Gross Domestic Product, RGDP) in Nigeria.

Table 5. Relationship between stock market liquidity on economic growth in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22647.97	2359.380	9.599122	0.0000
NOD	-0.000122	0.002444	-0.050091	0.9603
ASI	0.050094	0.013182	3.800268	0.0006
MCP	0.805513	0.211857	3.802157	0.0006
R-squared	0.791653	Mean dependent var		40542.22
Adjusted R-squared	0.773269	S.D. dependent var		20462.08
S.E. of regression	9743.281	Akaike info criterion		21.30584
Sum squared resid	3.23E+09	Schwarz criterion		21.47822
Log likelihood	-400.8110	Hannan-Quinn criter.		21.36717
F-statistic	43.06301	Durbin-Watson stat		1.683296
Prob(F-statistic)	0.000000			

Source: Extracted from E-view 9.0 Output.

The coefficient is 22,647.97. This represents the estimated value of RGDP when all independent variables are zero. In this context, it can be interpreted as the baseline economic growth. The coefficient is -0.000122. It suggests that a one-unit increase in the Number of Deal is associated with a very slight decrease in RGDP, but this coefficient is not statistically significant due to its high p-value (0.9603). The coefficient is 0.050094. It indicates that a one-unit increase in the All Share Index is associated with an increase of 0.050094 units in RGDP. This coefficient is statistically significant with a low p-value (0.0006). The coefficient is 0.805513. It suggests that a one-unit increase in Market Capitalization is associated with an increase of 0.805513 units in RGDP. Like ASI, this coefficient is statistically significant with a low p-value (0.0006).

The R-squared value is 0.791653, indicating that approximately 79.17% of the variation in RGDP can be explained by the independent variables (NOD, ASI, and MCP) in the model. The Adjusted R-squared value is 0.773269, which adjusts the R-squared for the number of independent variables in the model. The standard error of the regression is 9,743.281. It represents the average deviation of actual RGDP values from the predicted values by the model. The F-statistic is 43.06301, and its associated p-value is very close to zero (0.000000). This indicates that the overall model is statistically significant, and at least one of the independent variables has a significant effect on RGDP. The Durbin-Watson statistic is 1.683296. It measures the presence of autocorrelation in the residuals. A value close to 2 suggests no autocorrelation. In this case, the value is lower than 2, indicating positive autocorrelation.

In summary, the regression analysis indicates that the All Share Index (ASI) and Market Capitalization (MCP) have a statistically significant positive relationship with Real Gross Domestic Product (RGDP), suggesting that as the stock market indices increase, there is a corresponding positive impact on economic growth in Nigeria. However, the Number of Deal (NOD) does not appear to have a statistically significant effect on RGDP. The model explains a significant portion of the variance in RGDP, as evidenced by the high R-squared value. Sikiru (2020) and Nwagu (2020) find that stock market activities, such as market capitalization, number of deals, and all share index, have a positive influence on economic growth. However, Osuala (2013) suggests that the impact of the stock market on economic growth is negative and non-significant. Aigbovo and Izekor (2015) find that stock market development, including turnover ratio and all share index, positively and significantly influences economic growth in both the short-run and long-run. Overall, while there is some evidence of a positive relationship between stock market indices and economic growth in Nigeria, the findings are not consistent across all studies. It is important to note that the Durbin-Watson statistic suggests the presence of positive autocorrelation in the residuals, which could affect the model's reliability. Further analysis and diagnostics may be needed to address this issue and refine the model for a more accurate understanding of the relationship between stock market liquidity and economic growth in Nigeria.

Causality test

The Granger causality test results presented in Table 6 reveal important insights into the causal relationships between stock market liquidity variables—Number of Deals (NOD), All Share Index (ASI), Market Capitalization (MCP)—and economic growth (Real Gross Domestic Product, RGDP) in Nigeria. These findings contribute to the existing literature by highlighting the dynamics of these relationships. The results indicate that neither NOD nor ASI Granger causes RGDP, with F-statistics of 2.00898 (p-value = 0.1512) and 1.06587 (p-value = 0.3567), respectively. This aligns with the findings of Ogunleye (2015),

Table 6. Effect of stock market liquidity on economic growth in Nigeria.

Null Hypothesis	Obs	F-Statistic	Prob.
NOD does not Granger Cause RGDP	36	2.00898	0.1512
RGDP does not Granger Cause NOD		0.16195	0.8512
ASI does not Granger Cause RGDP	36	1.06587	0.3567
RGDP does not Granger Cause ASI		3.17503	0.0557
MCP does not Granger Cause RGDP	36	0.31495	0.7321
RGDP does not Granger Cause MCP		13.0747	8.E-05
ASI does not Granger Cause NOD	36	1.22618	0.3073
NOD does not Granger Cause ASI		1.86243	0.1723
MCP does not Granger Cause NOD	36	10.6006	0.0003
NOD does not Granger Cause MCP		2.31195	0.1159
MCP does not Granger Cause ASI	36	31.6184	3.E-08
ASI does not Granger Cause MCP		24.6489	4.E-07

Source: Extracted from E-view 9.0 Output.

who reported similar outcomes, suggesting that stock market liquidity indicators may not significantly predict economic growth in Nigeria. This lack of predictive power implies that while stock market activity is important, it may not directly influence GDP in the short term.

In contrast, the results show that MCP Granger causes both NOD (F-statistic = 10.6006, p-value = 0.0003) and ASI (F-statistic = 31.6184, p-value < 0.00001). This indicates a significant predictive relationship where changes in MCP influence the liquidity measures of NOD and ASI. Similar findings were reported by Ibrahim and Alagidede (2017), who found that market capitalization has a significant impact on stock market activities, suggesting that a robust market capitalization can lead to increased trading volumes and index performance. The absence of a Granger causal relationship from ASI to NOD also echoes the results of Chukwu and Okwu (2018), who argued that liquidity indicators may not lead to significant changes in one another, suggesting a more complex interplay of factors influencing market dynamics.

The mixed results regarding the causal relationships underscore the complexity of the financial landscape in Nigeria. As noted by Umar and Kamil (2020), while liquidity indicators like MCP may drive trading activity, the direct impact on economic growth remains tenuous. This finding serves as a reminder for policymakers that enhancing stock market liquidity alone may not suffice to spur economic growth, and a broader approach involving structural reforms may be necessary. In summary, the Granger causality tests reveal that while Market Capitalization has predictive power over stock market liquidity indicators, this does not extend to a direct influence on economic growth as measured by RGDP. These results contribute to ongoing discussions in the literature about the relationships between financial markets and economic performance in Nigeria.

Conclusion

The study investigated the relationship between stock market liquidity and economic growth in Nigeria using a comprehensive dataset spanning from 1985 to 2022. The findings offer valuable insights into the dynamics of Nigeria's stock market and its impact on economic growth. The analysis revealed a consistent upward trajectory in economic growth, albeit with fluctuations over the years. This indicates Nigeria's resilience and potential for sustained economic expansion. The Number of Deal (NOD) in the Nigerian stock market has displayed a substantial increase over the years, underlining a growing level of activity and participation in the market. The All Share Index (ASI), representing the performance of the Nigerian stock market, demonstrated significant growth trends, with notable spikes in the mid-2000s and in 2020. This underscores the stock market's vital role in the country's economic landscape. Market Capitalization (MCP) of Nigerian stocks showed remarkable growth, particularly during the mid-2000s and 2020. This signifies the increasing value of listed companies and the potential wealth creation in the stock market. The cointegration tests indicate the existence of at least one cointegrating relationship between stock market liquidity variables and economic growth. This suggests a long-term connection, emphasizing the stock market's influence on the economy. The regression analysis provided critical insights. It

revealed that the All Share Index (ASI) and Market Capitalization (MCP) significantly and positively influence economic growth, as represented by Real Gross Domestic Product (RGDP). These findings underscore the stock market's potential as an engine for economic growth. The Granger causality tests delivered mixed results. Market Capitalization (MCP) was found to Granger cause both the Number of Deal (NOD) and the All Share Index (ASI). However, the causal relationships between other variables were not statistically significant.

In conclusion, this study demonstrates that the Nigerian stock market plays a pivotal role in influencing economic growth. The All Share Index (ASI) and Market Capitalization (MCP) have emerged as significant drivers of economic growth. These findings have substantial implications for policymakers, investors, and stakeholders in Nigeria, as they highlight the importance of nurturing a robust and vibrant stock market to foster economic development. Nonetheless, it is important to recognize that these findings are based on the data and methodologies employed in this study. Further research and analyses may be warranted to gain a more comprehensive understanding of the intricate relationships between stock market liquidity and economic growth in Nigeria. Based on the findings and the conclusion drawn from the study on stock market liquidity and economic growth in Nigeria, the following recommendations were proffered

1. Promote Stock Market Participation and Awareness: Encourage increased participation in the stock market and raise awareness about its potential benefits. Implement educational programs and initiatives to inform the public, especially potential investors, about how the stock market works and its role in wealth creation.
2. Strengthen Stock Market Regulations: Enhance regulatory measures to ensure the integrity and transparency of the stock market. Strict oversight and compliance with global best practices can foster investor confidence, attracting both domestic and foreign investments.
3. Invest in Market Infrastructure: Invest in technology and infrastructure to improve the efficiency of the stock market. A technologically advanced and reliable trading platform can attract more investors and enhance liquidity.
4. Diversify Investment Options: Expand the range of financial instruments available in the stock market to attract a broader base of investors. Offering a variety of investment options, including exchange-traded funds (ETFs), bonds, and derivatives, can increase liquidity and market depth.
5. Encourage Long-Term Investment: Implement policies that encourage long-term investment strategies. This can include tax incentives for holding investments for extended periods, which can help stabilize the stock market and reduce excessive short-term volatility.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

REFERENCES

Acemoglu, D., Johnson, S., & Robinson, J. (2005). The rise of Europe: Atlantic trade, institutional change, and economic growth. *American Economic Review, 95*(3), 546-579.

Acharya, V. V., & Schaefer, S. (2006). Liquidity risk and correlation risk: Implications for risk management. Retrieved from https://pages.stern.nyu.edu/~sternfin/vacharya/public_html/acharya_schaefer2.pdf.

Adam, A. (2023). Liquidity and its importance in financial markets. *Journal of Financial Economics*, 45(2), 123-156.

Adamu, J. A., & Sanni, I. (2005). Stock market development and Nigerian economic growth. *Journal of Economic and Allied Fields*, 2(2), 116-132.

Adebayo, B., & Olalere, M. (2019). The impact of stock market liquidity on economic growth in Nigeria. *Journal of Finance and Economics*, 7(3), 123-133.

Adebayo, O., & Adekunle, O. A. (2016). Impact of capital market on economic growth in Nigeria. *International Journal of Advanced Research in Management and Social Sciences*, 5(7), 20-35.

Adegbite, E. O. (2016). Financial system's dynamics and economic growth in Nigeria. *African Journal of Economic Review*, 4(2), 1-18.

Adegbite, E. O., & Adetiloye, K. A. (2013). Financial globalization and domestic investment in developing countries: Evidence from Nigeria. *Mediterranean Journal of Social Sciences*, 4(6), 213-221.

Adenomon, M. O., & Maijama, B. (2020). On the effects of COVID-19 outbreak on the Nigerian stock exchange performance: Evidence from GARCH Models. Preprints. https://doi.org/10.20944/preprints202004.0444.v1.

Adenuga, A. O. (2010). Stock market development indicators and economic growth in Nigeria (1990-2009): Empirical investigations. *Central Bank of Nigeria Economic and Financial Review*, 48(1), 33-70.

Akinlo, A. E. (2020). The Relationship between stock market development and economic growth: Evidence from Nigeria. *Global Journal of Management and Business Research*, *20*(1), 1-10.

Akinlo, A. E., & Apanisile, O. (2014). Oil price shock and economic growth in Nigeria: A vector error correction model approach. *International Journal of Economics and Finance*, *6*(1), 1-10.

Akinlo, A. E., & Akinlo, O. (2009). stock market development and economic growth: Evidence from Nigeria. *Journal of Economic and Financial Studies,* 1(1), 1-14.

Aigbovo, O., & Izekor, D. (2015). Stock market development and economic growth in Nigeria: A long-run and short-run analysis. *Journal of Business and Management*, *17*(4), 56-64.

Amihud, Y., Mendelson, H., & Pedersen, L. H. (2006). Liquidity and asset prices. *Foundations and Trends in Finance*, *1*(4), 269-364.

Anyanwu, C., & Ohurogu, J. (2024). Effects of interest rates and money supply on stock market liquidity in Nigeria (1985-2022). *Central Bank of Nigeria Bulletin*, 55(1), 45-58.

Apergis, N., Artikis, P. G., & Kyriazis, D. (2015). Does stock

market liquidity explain real economic activity? New evidence from two large European stock markets. *Journal of International Financial Markets, Institutions and Money*, *38*, 42-57.

Babatunde, W. A., & Isumaila, O. S. (2022). Impact of stock market liquidity on economic growth during periods of regulation and deregulation in Nigeria. *Journal of Economic Studies*, *29*(4), 211-230.

Bekaert, G., Harvey, C. R., & Lundblad, C. (2007). Liquidity and Expected Returns: Lessons from emerging markets. *Review of Financial Studies*, *20*(6), 1783-1831.

Brennan, M. J., Chordia, T., Subrahmanyam, A., & Tong, Q. (2012). Sell-order liquidity and the cross-section of expected stock returns. *Journal of Financial Economics*, *105*(3), 523-541.

Chikwira, P., & Mohammed, T. (2023). The impact of stock market on liquidity and economic growth: Evidence from a volatile market. *International Journal of Financial Studies*, *12*(2), 98-110.

Chukwu, J. O., & Okwu, A. T. (2018). The Dynamics of stock market development and economic growth in Nigeria. *Journal of Economics and Sustainable Development*, *9*(5), 123-132.

Chung, K. H., & Chuwonganant, C. (2018). Market volatility and stock returns: The role of liquidity providers. *Journal of Financial Markets, 37*, 17-34.

Das, S., & Hamouna, A. (2009). Measuring liquidity in financial markets. Review of Financial Studies, *22*(1), 209-243.

Echekoba, F. N., Ezu, G. K., & Egbunike, C. F. (2013). The impact of capital market on the growth of the Nigerian economy under democratic rule. *Arabian Journal of Business and Management Review*, 3(2), 53-62.

Elfeituri, H., Al-Maadeed, S., & Al-Kuwari, H. (2023). Stock market turnover, capitalization, and economic growth in Gulf countries. *Middle East Economics*, 17(1), 33-45.

Emeka, O. E., & Chigozie, I. O. (2021). Dynamic relationship between stock market liquidity and economic growth: Evidence from Nigeria. *International Journal of Finance and Accounting*, *10*(2), 79-88.

Emenike, K. O., & Okwuchukwu, O. (2014). Stock market return volatility and macroeconomic variables in Nigeria. *International Journal of Empirical Finance*, *2*(2), 75-82.

Ibrahim, M., & Alagidede, P. (2017). Stock Market volatility and economic growth in Nigeria. *African Journal of Economic and Management Studies*, *8*(2), 145-160.

Ikanone, I. A., & Akpan, E. J. (2016). Stock market liquidity and economic growth in Nigeria. *Journal of Economics and Sustainable Development*, *7*(12), 1-10.

Islam, M. S., Rahman, M., & Khan, M. (2023). Macroeconomic drivers and their impact on Dhaka Stock Exchange: Evidence from DSE 30 index. *Bangladesh Journal of Finance*, *19*(2), 67-85.

King, R. G., & Levine, R. (1993). Finance and growth: Schumpeter might be right. *The Quarterly Journal of Economics*, 108(3), 717-737.

Lawal, A. I., Nwanji, T. I., Adama, I. J., & Otekunrin, A. O. (2022). Corporate financial performance of listed firms in Nigeria: The role of voluntary disclosure, ESG practices and digital financial services. *Heliyon*, *8*, e09382.

Levine, R. (2005). Finance and growth: Theory and evidence. In P. Aghion & S. Durlauf (Eds.), *Handbook of economic growth* (Vol. 1, Part A, pp. 865-934). Elsevier.

Lucas, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics, 22*(1), 3-42.

Lyu, J., & Hu, X. (2024). Dynamic effects of monetary policy on stock market liquidity: Evidence from China. *Asian Economic Review*, 45(1), 25-40.

Næs, R., Skjeltorp, J. A., & Ødegaard, B. A. (2011). Stock market liquidity and the business cycle. *The Journal of Finance, 66*(1), 139-176.

Naik, P. K., & Reddy, Y. V. (2024). The impact of macroeconomic indicators on stock market liquidity in India. *Indian Journal of Financial Markets*, *15*(3), 60-77.

Nwagu, I. (2020). The relationship between stock market indicators and economic growth: Evidence from Nigeria. *International Journal of Finance and Economics*, *25*(4), 450-463.

Nwaolisa, E. F., Kasie, E. G., & Egbunike, C. F. (2013). The impact of capital market on the growth of the Nigerian economy under democratic rule. *Arabian Journal of Business and Management Review*, *3*(2), 53-62.

Nwidobie, B. M. (2014). Growth in Nigeria's non-oil export finance and non-oil export performance: A correlational analysis. *International Journal of Business and Social Research*, *4*(2), 31-39.

Nwosa, P. I., & Oseni, I. O. (2011). Efficient market hypothesis and Nigerian stock market. *Research Journal of Finance and Accounting*, *2*(12), 38-46.

Nwosu, E. O., & Hamman, H. M. (2008). The Nigerian stock exchange: A performance analysis. *Journal of Business and Public Affairs*, *2*(1), 1-9.

Obida, W., & Oseni, G. (2016). Stock market liquidity and economic growth in Nigeria: An empirical investigation. *Nigerian Economic Journal*, *23*(1), 87-105.

Odhiambo, N. M. (2010). *Stock market development and economic growth in South Africa: An ARDL-bounds testing approach*. World Business Institute, Australia.

Ogunleye, A. (2015). Stock market development and economic growth in Nigeria: An empirical analysis. *International Journal of Finance and Accounting*, *4*(5), 326-334.

Ogunleye, E. O., Adeyemi, P. A., & Asamu, F. F. (2022). Stock market and economic growth in Nigeria: An econometric analysis. *Journal of Economics and Business*, *5*(1), 97-107.

Ogunleye, O., & Adaramola, Z. (2014). Stock market development and economic growth in Nigeria. *Journal of Business and Management*, 8(4), 102-114.

Ogunrinola, I. O., & Adebiyi, M. A. (2011). Stock market development and economic growth in Nigeria: A time series analysis. *African Journal of Business Management*, *5*(12), 5047-5058.

Oke, M. O., & Adeusi, S. O. (2012). Impact of capital market reforms on economic growth: The Nigerian experience. *Australian Journal of Business and Management Research*, *2*(2), 20-30.

Okonkwo, O. N., Ogwuru, H. O., & Ajudua, E. I. (2014). Stock market performance and economic growth in Nigeria: An empirical appraisal. *European Journal of Business and Management*, *6*(26), 33-42.

Okoye, L. U., Modebe, N. J., Taiwo, J. N., & Okorie, U. E. (2016). Impact of capital market development on the growth of the Nigerian economy. *Research Journal of Financial Sustainability Reporting*, *1*(1), 24-32.

Ologunde, A. O., Elumilade, D. O., & Asaolu, T. O. (2006). Stock market capitalization and interest rate in Nigeria: A time series analysis. *International Research Journal of Finance and Economics*, *4*, 154-167.

Olowe, R. A. (1999). Weak form efficiency of the Nigerian stock market: Further evidence. *African Development Review*, *11*(1), 54-68.

Olowe, R. A. (2011). The impact of the 2008 global financial crisis on the Nigerian stock market. *Journal of Banking, Finance and Economic Issues*, *2*(1), 36-55.

Olowe, R. A., & Babatunde, T. (2013). Stock market liquidity and economic growth in Nigeria: A long-run analysis. *Journal of Financial Economics*, *11*(2), 157-174.

Omotor, D. G. (2007). Financial development and economic growth: Empirical evidence from Nigeria. Nigeria Journal of Economic and Social Studies, *49*(2), 209-234.

Omotor, D. G. (2014). Banking sector reforms and economic growth in Nigeria, 1990-2013. International Journal of Financial Economics, *3*(2), 78-93.

Onwumere, J. U. J., Ibe, I. G., Okafor, R. G., & Uche, U. B. (2012). Stock market and economic growth in Nigeria: Evidence from the demand-following hypothesis. *European Journal of Business and Management*, 4(19), 1-9.

Osinubi, T. S., & Amaghionyeodiwe, L. A. (2003). Stock market development and long-run growth in Nigeria. *Journal of African Business*, *4*(3), 103-129.

Osuala, J. (2013). The Impact of stock market performance on economic growth in Nigeria. *Journal of Financial Management*, *19*(2), 27-38.

Ovat, I. (2012). Market indicators and volatility in the Nigerian Stock Market. *Journal of Finance and Investment Analysis*, *1*(1), 1-12.

Ozili, P. K. (2020). COVID-19 pandemic and economic crisis: The Nigerian experience and structural causes. *Journal of Economic and Administrative Sciences*, 37(4), 401-418.

Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy, 98*(5, Part 2), S71-S102.

Samarasinghe, T. (2023). The correlation between aggregate stock market liquidity and bank stability: A cross-country analysis. *International Journal of Banking and Finance*, *18*(1), 55-70.

Sikiru, A. (2020). stock market activities and economic growth in Nigeria: An empirical analysis. *Journal of Economic Studies*, *47*(3), 567-580.

Simon, J. L. (1971). The effects of income on fertility. Chapel Hill, NC: University of North Carolina Press.

Umar, H. A., & Kamil, A. (2020). An investigation of the long-run relationship between stock market performance and economic growth in Nigeria. Journal of Business and Management, *22*(3), 12-20.