EFFECT OF INFLATION ON STOCK MARKET PERFORMANCE OF FAST-MOVING CONSUMER GOODS SECTOR IN NIGERIA

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Abstract

This study examines the impact of inflation on stock market performance within Nigeria's Fast-Moving Consumer Goods (FMCG) sector, spanning from 2007 to 2023. Employing a quantitative approach, the study uses time-series analysis, including ARDL (Autoregressive Distributed Lag) and Granger causality tests, to evaluate how inflation - proxied by broad money supply, inflation rate, interest rate, and market capitalization affects FMCG performance. The findings reveal a complex relationship between inflation and stock performance. Inflation negatively impacts FMCG stock performance in the short term, evidenced by decreased profitability and increased instability during high inflation periods. Conversely, a positive relationship emerges in the long term, suggesting that FMCG stocks can adapt and potentially benefit from inflationary environments over extended periods. Comparative analysis indicates that high inflation leads to greater challenges for FMCG stocks, including decreased profitability and pricing control issues, while low inflation fosters stable demand and improved financial performance. Broad money supply is found to significantly influence both inflation and stock market performance, with an increase in money supply correlating with higher inflation. Based on these insights, the study recommends that FMCG companies should adopt pricing strategies that would enhance cost efficiency, and pursue innovation and localization to mitigate the adverse effects of inflation. The study also explored the impact of inflation on specific sub-sectors within the FMCG industry to provide a more detailed understanding of these dynamics. This research contributes to the literature on inflation and stock market performance by highlighting sector-specific challenges and offering practical recommendations for navigating inflationary pressures in emerging markets.

Keywords: *Inflation, Money Supply, Fast Moving Consumer Goods, Interest Rate, Market Capitalization*

1. INTRODUCTION

One macroeconomic problem that has had an impact on Nigeria's entire economy over time is inflation. According to the April 2024 edition of the CPI and Inflation Report from the National Bureau of Statistics (NBS), inflation in Nigeria continue surge toward a 19-year high as it rose to 33.69% points from 22.22% points same time in the previous year driving an annual rate increase by 11.47% points. Food inflation for April 2024 was 40.53% on a year-on-year basis which was caused by an increase in prices of Millet flour, Garri, Bread, Wheat Flour prepacked, Semovita etc, largely driven by global supply chain pressures and rise in the cost of transportation which lays on the back of the removal of the fuel subsidy in May 2023. The Nigerian economy has experienced a rapid rise in the levels of inflation due to driving factors such as the removal of the fuel subsidy in May 2023 driving the cost of transportation, persistent increase in the prices of both local and imported goods and services due to pressures on FX resulting from the CBN's announcement of the unification of all exchange rate windows in June 2023, and other associated government policies. The pronounced inflationary pressures, particularly the surge in transportation costs and the substantial rise in prices of goods and services, have notably strained the operational dynamics of consumer goods companies. Such abrupt increases in operational costs and production expenses have necessitated adjustments within these companies' strategies. Moreover, the sharp depreciation of the local currency against the dollar, evident in the transition from 463.54 naira to 1 dollar in June 2023 to the prevailing 881.3 naira to 1 dollar rate, has amplified the importation expenses for essential raw materials and finished goods, thereby further escalating production costs for consumer goods companies. This scenario not only constraints profit margins but also poses challenges in maintaining product affordability and competitiveness in the market. Consequently, these companies may find themselves compelled to revisit pricing strategies, optimize supply chains, and seek alternative sourcing options, all in an effort to navigate the intricate terrain of an inflationary economy while striving to retain consumer trust and market presence which can in turn affect the stock market performances. Notwithstanding these challenges, the Nigerian equities market showcased remarkable resilience throughout 2023, attaining exceptional milestones by reaching unprecedented highs. The NGX All Share Index notably surged to a historic 70,000 points, marking a substantial achievement, accompanied by an impressive year-to-date return of 45.90%. This upward trajectory culminated in the index closing at an impressive 74,773.77 basis points by the year-end, signifying a robust performance despite the prevailing economic circumstances. Riding on the back of the bullish run, the NGX Consumer Goods indices grew by 83% points in 2023 while inflation grew 6.43%.

It is important to note that the relationship between inflation and the Consumer Goods sector is complex and can be influenced by several factors such as consumer behavior, economic conditions and government policies. As per research conducted by the Central Bank of Nigeria, there exists an inverse correlation between inflation rates and the performance of the stocks market. The study indicates that an upsurge in inflation tends to coincide with a downturn in stock market performance. Specifically, the study highlights the vulnerability of the consumer goods industry to inflationary pressures, noting a decline in the stock prices of companies within this sector during periods of elevated inflation. For instance, referencing Nigeria's experience in the early 2000s, when inflation rates soared to as high as 18% in 2003, this notably impacted the Fast Moving Consumer Goods (FMCG) sector. During this period, companies within this sector were compelled to adjust prices upward to match the escalating costs of goods and services. A similar scenario is presently unfolding in the country, where goods have experienced a doubling in prices within a remarkably short span, evidently reflecting the ongoing impact of inflation on consumer goods pricing dynamics.

The FMCG industry has been described to be an integral part of any economic growth and empirical evidence has established its importance in developing economies. According to a report by the World Bank," the FMCG industry is the largest employer in developing countries, providing jobs to millions of people". Another report by the Ministry of Statistics and Programme, Government of India, explains how the FMCG industry is a significant contributor to the GDP of a country. Despite so many benefits attributed

with the FMCG sector, several other studies have also shown how this sector can be easily influenced by micro and macroeconomic factors such as interest rate, inflation, government policies, competitions, innovations etc. and in this study we are interested in how inflation affects the stock performance of companies in this sector. For example, a study by Jain and Narayan (2018) found that inflation has a negative impact on stock market performance in India. Another study by Karim, Ali, Zulfikli (201) found that inflation has a significant impact on stock market performance in Malaysia. These studies provide information on the relationship between inflation and stocks market performance and while some believes that it has a negative impact some also think it is favorable to the companies because the consumers are left to bear the costs in so many cases. However, the performance varies in different countries and for different reasons. The Nigerian Stock Exchange quarter one 2022 fact sheet shows the performance of the Consumer goods industry having the third best performance, contributing about ₦3.34trillion and 13% compared to 2021 Quarter four fact sheet of ₦2.42trillion and 11% of the top five selected industries. However, we saw a sharp decline with this performance from the 2021 Quarter 3 report which shows a performance of about 50% which explains how several factors in the economy can affect the FMCG industry.

Despite all of this, however, only a little amount of study has been done in Nigeria to show the effect of stock market performance in the FMCG industry and to determine whether or not inflation has a significant effect and to understand the true relationship. The purpose of this study is to look critically into the value and understand the impact of inflation in the FMCG industry. Therefore, comprehending the factors that affect the sector's performance is crucial for policymakers, investors, and businesses operating in this industry. This study focuses on examining the impact of inflation, a macroeconomic variable, on the stock market performance specifically within the FMCG sector in Nigeria. The study recognizes the significance of inflation and its potential consequences for the stock market, aiming to contribute to a better understanding of these dynamics. This study aims to contribute empirically to the body of literature by testing the impact of Inflation on stock market performance in Nigeria. This study is to examine whether inflation has a direct effect on stock performance of companies in the consumer goods sector spanning from 2007 to 2022. As stated by the CBN, in its "Monetary Policy Communique" of March 2023, "members noted that the continued rise in headline inflation, driven largely by food prices because of supply shortages and high cost of logistics and distribution. The Committee, therefore, was of the view that addressing food insecurity is key to containing current inflationary pressures." This study therefore captures in our study population, stock performance of different companies and the general performance of the consumer goods sector on the Nigerian Stock Exchange market. In carrying out this study, secondary data will be collected from the Nigerian Exchange Group (NGX), Security and Exchange Commisions, and the Nigerian Bureau of Statistics to investigate the inflation impact derivable from the FMCG sector in Nigeria.

2. Literature Review

2.1 Conceptual Review

This section focuses on the basic concept of inflation, Fast Moving Consumer Goods (FMCG) sector, theoretical and empirical framework.

Inflation

According to Akinsola and Odhiambo (2017), inflation is seen as the continuous increase in the general level of prices of goods and services over time or more simply, as too much money chasing too few goods. Inflationary periods bring about a continuous decline in the purchasing power of money. In Nigeria, inflation is a major concern that has significant implications for economic growth, stability, and development. The fast-moving consumer goods (FMCG) industry is a critical part of the Nigerian economy, contributing significantly to GDP, employment, and investment. The reasons for inflation in Nigeria are diverse, including excessive government spending, rising import costs, and supply-side constraints. Input costs increase due to global commodity price

surges, leading to cost-push inflation, while demand-pull inflation arises when aggregate demand outstrips aggregate supply, resulting from expansionary monetary policy or government spending. When inflation occurs, the purchasing power of money decreases, meaning that you need more money to buy the same amount of goods or services as before. Inflation is typically measured by the Consumer Price Index (CPI) or the Producer Price Index (PPI), which track the average change in prices over time for a basket of goods and services.

Secondly, major obstacles are posed by inflation-driven price increases for both domestic and imported commodities, which are impacted by foreign exchange swings brought by the Central Bank of Nigeria's unified exchange rate windows. The official currency rate quickly changed from N463.54 naira to $1 in June 2023 to more than N1,800 to $1, which resulted in an increase in the price of imported raw materials and completed goods. Companies that manufacture consumer goods are immediately impacted by this, as they are forced to either absorb greater expenses which could reduce their profitability or pass those costs along to customers in the form of higher product pricing. Inflation can also change how consumers behave i.e Consumers frequently become more price-sensitive in high-inflation settings, prioritizing necessities above non-essentials and exercising greater caution when making purchases. The demand for consumer goods is directly impacted by this shift in consumer behavior, which may lead to a drop in sales or a shift in product preferences.

Interest Rate

Interest rates, which are typically represented as a percentage of the total amount borrowed, are the costs associated with borrowing money. The cost of borrowing money and the risk involved in lending are reflected in the interest rate. Higher interest rates typically suggest higher danger, whereas lower interest rates typically indicate reduced risk. Interest rates can be either nominal or real. Nominal interest rates are the actual interest rates charged by lenders, while real interest rates are nominal interest rates adjusted for inflation. Interest rates play a significant role in Nigeria's economy. The Nigerian government uses interest rates to manage inflation and stabilize the economy. The Central Bank of Nigeria (CBN) is responsible for implementing monetary policy and setting interest rates. In Nigeria, interest rates have been relatively high due to inflation and the high-risk nature of lending in the country. High-interest rates have made borrowing more expensive, limiting access to credit, and slowing down economic growth. The recent economic developments in Nigeria have also had an impact on interest rates and the FMCG sector.

Fast Moving Consumer Goods

Consumer packaged goods (CPG), commonly referred to as fast-moving consumer goods (FMCG), are goods that are readily available on the market and sell for a relatively low cost. They are distinguished by their short shelf life and are frequently used up or consumed quickly. Products in the FMCG category include things like groceries, soft drinks, and toiletries. Global leaders in the FMCG industry market include Johnson & Johnson, Unilever, Kellogg's, Heinz, Nestlé, Colgate-Palmolive, Procter & Gamble, and the Coca-Cola Company. In recent years, the fast moving consumer goods sector (FMCG) is observing increased activities in the promotion of sales all over the world. In Nigeria, the FMCG industry is characterized by intense competition among numerous domestic and foreign brands seeking to capture a significant market share. Essential commodities such as food, beverages, personal care, and home care products constitute the primary FMCG categories in Nigeria, as stated in a report by Euromonitor International's (2021). Due to

their indispensable nature in people's daily routines, the demand for these products remains high. In Nigeria, the FMCG sector contributes significantly to the nation's economy, making up around 10% of the GDP (PwC, 2020). One of the challenges facing the FMCG industry in Nigeria is the high cost of production due to the country's infrastructure deficit. Because of this, a large number of FMCG businesses in Nigeria import raw ingredients, which raises the cost of their goods relative to those made locally. Mr. Oyeyimika Adeboye, Managing Director of Cadbury Nigeria Plc, stated that "the high cost of raw materials is a major challenge to FMCG manufacturers in Nigeria" (Business Day, 2021). Another challenge facing the FMCG industry in Nigeria is the issue of distribution. According to PwC (2020), the distribution channels in Nigeria are fragmented and inefficient, with many small retailers and informal markets dominating the landscape. This makes it difficult for FMCG companies to reach their target consumers and expand their market share.

Despite these challenges, the FMCG industry in Nigeria has significant potential for growth. The country's growing population, urbanization, and increasing middle class are all factors that will drive demand for FMCG products in the coming years. As PwC (2020) notes, "The Nigerian FMCG industry is poised for significant growth, driven by rising disposable incomes, increasing urbanization, and the growing middle class." In conclusion, the FMCG industry in Nigeria is a vital sector of the country's economy, with significant potential for growth in the coming years. However, the industry faces several challenges, including high production costs and a fragmented distribution system. Nevertheless, with the right investments in infrastructure and distribution channels, the FMCG industry in Nigeria can continue to thrive and contribute to the country's economic development.

Nigerian Stock Exchange (Nigerian Exchange Group)

The Nigerian Stock Exchange, now Nigerian Exchange Group is Nigeria's main securities exchange and was established in 1960 as the Lagos Stock Exchange, following Nigeria's independence from Britain and has the third-highest market capitalization among African stock exchanges, following the Johannesburg Stock Exchange and the Egyptian Exchange. It provides various financial products and services, which include equities, bonds, and derivative securities. The NGX has undergone various transformations over the years, with the most significant being the automation of its trading system in 1999, which replaced the manual trading system. The NGX is divided into two primary market segments: the Premium Board and the Main Board. The Premium Board is a listing segment for companies that meet higher standards of corporate governance, capitalization, and liquidity. The Main Board is a listing segment for companies that meet lower standards of corporate governance, capitalization, and liquidity. The NGX also has a third segment, the Alternative Securities Market (ASeM), which is designed for small and medium-sized enterprises. Each segment has further subdivisions based on industries like banking, consumer goods, oil and gas, and others. Historically, the performance of the NGX has been highly volatile, reflecting the country's political and economic instability. During the early 2000s, there was a significant growth in the stock market, and in March 2008, the NSE All Share Index (ASI) reached its initial All-Time-High at 66,371.20. However, due to the global financial crisis of 2008 and the subsequent collapse of the Nigerian banking sector, there was a sharp decline in the stock market, and the ASI dropped to a low of 20,730.30 in February 2009. However, the stock market has gradually improved since then, with the ASI reaching a high of 105,722.78 and market capitalization reaching an all-time high of N58.5 trillion in February 2024.

Relationship between Inflation and Stock Market Performance in Nigeria: A Focus on the FMCG Sector

The stock market is usually impacted by inflation, as investors analyze the potential consequences of increasing prices across different sectors. In this section, we will explore the potential mechanisms through which inflation can affect stock market performance, specifically focusing on the FMCG sector.

i. Pricing Power:

a. During times of inflation, FMCG companies operating in Nigeria may face increased production costs due to factors like rising input expenses and currency fluctuations. In order to safeguard their profitability, these companies can exercise their pricing power by adjusting the prices of their products. By raising prices, FMCG companies can offset the negative effects of inflation on their earnings. This ability to adapt pricing strategies enables them to safeguard their profit margins, thereby positively influencing their performance in the stock market.

ii. Demand Stability:

a. The FMCG sector in Nigeria primarily deals with essential goods, such as food, beverages, and household products. These products typically experience stable demand, even during periods of inflation. Nigerian consumers prioritize spending on essential items, despite the rising prices, resulting in consistent demand for FMCG products. This stability in demand allows FMCG companies to maintain steady revenues and earnings, thereby contributing to a positive performance in the stock market.

iii. Inflation Hedge:

a. In Nigeria, FMCG stocks are often regarded as defensive investments that serve as a hedge against inflation. During inflationary periods, the persistent demand for FMCG products ensures an increase in revenues and profits for these companies. As a result, the stock prices of FMCG companies in Nigeria may rise, making them attractive to investors seeking to safeguard their wealth during inflationary times. This positive perception of FMCG stocks as an inflation hedge can significantly impact their performance in the Nigerian stock market.

iv. Interest Rates and Opportunity Cost:

a. In response to inflation, the central bank in Nigeria may raise interest rates to counteract rising prices. Higher interest rates make fixed-income investments, such as bonds, more enticing compared to stocks. Consequently, some investors may redirect their funds away from the stock market, including the FMCG sector, and towards fixed-income investments. The influence of interest rate changes on the performance of FMCG stocks depends on various factors, including the competitiveness of interest rates, dividend yields, overall market sentiment, and the stability of the sector in Nigeria.

2.2 Empirical Review

Several studies have earlier focused on the relationships between the stock market, capital market in Nigeria. Owolabi and Adegbite (2013), Musa (2021), and Gerolamo (2001) provide valuable insights into the impact of inflation on the Nigerian capital market and the role of interest rates in managing inflation and promoting economic growth. Owolabi and Adegbite's (2013) conducted a study on the impact of inflation on the performance of the capital market in Nigeria. The researchers analyzed secondary data from the central bank of Nigeria statistical bulletin and the Security exchange commission (SEC) covering a 40-year period from 1970 to 2010. The study used multiple regression analysis to investigate the relationship between inflation rate, market capitalization, All-Share index, market volume, market turnover, and Gross Domestic Product. The study found that the effect of inflation on the performance of the Nigerian capital market was weak, and all the measures showed a negative relationship to inflation, except for market volume (MVOL). The positive correlation between inflation and MVOL deviated from the expected result. Thus, the researchers concluded that there is a negative relationship between inflation and capital market performance in Nigeria. Musa's (2021) also examined the interrelationship between interest rate and inflation rate in Nigeria. The study aimed to investigate the impact of Real Gross Domestic Product (RGDP), inflation, and interest rates on stock prices of quoted companies in Nigeria. The study found that interest rates were not effective in curbing inflation in the short run, but they were significant and relevant instruments in the long run. Umashankar and Prof .Himabindu (2015) discovered in their research; Impact of Inflation on FMCG Stocks Performance: an Empirical study of HUL and ITC, that for a few years inflation had statistically significant positive relation with stock price movements. As against to it, they also found a statistically significant negative relationship between inflation and stock price movements. In response to this failed to find concrete evidence in support of their hypotheses.

Gerolamo (2001) identified the impact of inflation on interest rates as a channel through which it affects the stock market and ultimately economic growth. Gerolamo's study highlights the significance of monitoring the interrelationship between inflation and interest rates to understand the dynamics of the stock market and the broader economy. Tamtom (2002) indicated that a negative long-run relationship exists between stock prices and inflation; in turn implying that higher stock prices are associated with lower inflation contrary to recent proposals. It is a common belief that inflation is advantageous to common stock. This is major because it is argued that inflation increases the returns to shareholders since the price of products rises faster than wage rates. The expected relationship between inflation and returns to owners of equity would be valid if business firms were debtors and if the current interest rates on debt finance failed to reflect the future changes in the price level. Orajaka and Okeke (2017) investigated the impact of inflationary trends on the Nigerian Stock Exchange Market by analyzing four variables: inflationary rate, total value of the Nigerian Stock Exchange market, government expenditure, and currency exchange rate from 1980 to 2014. The data was analyzed using a general regression statistical tool to determine the relationship between dependent and independent variables. The study found that inflation, government expenditure, and exchange rate significantly affect the total value of Nigeria Stock Exchange transactions. Therefore, the researchers concluded that inflationary trends have a tremendous effect on the Nigerian Stock Exchange market. Gbenga and Tajudeen (2020) conducted a study and found that different studies report various relationships between inflation and the capital market. Some studies show a negative relationship (such as Al-Abbadi and Abdul-Khaliq (2017), Jepkemei (2017), Akani and Uzobor (2015), Khumalo (2013)), some studies report

a positive relationship (such as Ibrahim and Agbaje (2013), Kaur (2017), Lawal (2016), Mbulawa (2015), Omotor (2010)), while others suggest that inflation has no significant impact on the capital market (such as Ahmadi (2016), Floros (2004), Qamri et al (2015), and Sokpo et al (2017))

Gaps in the Literature

According to the literature reviewed thus far, the main focus has been on examining the impact of inflation on the performance of the stock market and capital market in Nigeria with no particular emphasis on stock market performance in the fast-moving consumer goods industry in Nigeria. It is to this end that this study seeks to study the relationship between inflation and stock market performance of the fast-moving consumer goods industry.

3. Research Design

This research aims to explore the impact of inflation on the performance of stocks market with Nigeria's FMCG sector covering the period 2007 to 2023. . We will be employing a quantitative research approach. This study will also utilize a time-series analysis to investigate the relationship between inflation and stock market performance over a period of time. The data for this study will be collected from reliable secondary data sources, including the Central Bank of Nigeria, Nigerian Exchange Group and other financial institutions. This design was chosen because of the implication or impact on stock market performance in the FMCG sector.

Source of Data and Measurement of Data

The data of the research work is time series and will be taken from the year 2007 to 2023, this covers the period of fifteen (15) years. Data on FMCG Stock market performance (SMP), Broad Money supply, inflation rate (INFL) , interest rate(INTR), and market capitalization will be collected from Central Bank of Nigeria Statistical Bulletin 2023 and Nigeria Exchange group (NGX). Auto regressive distributed lag (ARDL) is the estimation technique that is being employed in this study to determine the effects of inflation on stock market performance in the fast – moving consumer goods sector in Nigeria Relevant data will be used through the econometric method. This tool is developing for the measurement of economic relationships. This method implies the use of mathematical and statistical tools in analyzing economic phenomena. It gives a quantitative or numerical expression to economic theory. This is accomplished by expressing economic relationship in mathematical form and applying the method of statistical inference to the measurement of economic relationship and for the verification of economic theory and this study employs the autoregressive distribution lag(ARDL) and granger causality test in determining and analyzing the relationship between the variables of the model. We will also be employing the E-VIEW 11 software to run this regression because of its wide acceptance.

Model Specification

The specification of the models for this work will be based on the objective of the study. The model will measure the nexus between inflation on stock market performance in the fast – moving consumer goods sector in Nigeria. This model follows the empirical review of Udoka, Mboto, and Anyingang (2013) which stated that companies with a steady flow of earnings experience a decline in stock price when inflation rate exceeds a certain rate.

The functional form of the model that will be used in this study is specified as follows:

SMP = f(M2,INFL,INTR,MC) (1)
Where
SMP = FMCG Stock market performance
M2 = Broad Money Supply
INFL = Inflation Rate proxied for consumer goods
INTR = Interest Rate
MC = Market Capitalization
From functional form, the econometric form will be stated thus:
$SMP = \beta o + \beta 1M2 + \beta 2INFL + \beta 3INTR + \beta 4MC + \mu_t$ (2)
Where
βo = Autonomous or intercept
β1 = Coefficient of Parameter Broad Money Supply
β2 = Coefficient of Parameter Inflation Rate
β3 = Coefficient of Parameter Interest Rate
β4 = Coefficient of Parameter Market Capitalization
SMP = Impact (Stock Market performance) (3)
μt= Error or Random disturbance term.

4. Data Presentation and Analysis

The data, which span the period of 2007 to 2023. The variables of the study include stock exchange performance (SEP), broad money supply (M2), interest rate (INTR), inflation rate (INFR) and market capitalization (MC).

Data Presentation
The presentation of data collected using the stated method in analyzing such data using the Correlation analysis, ARDL, Co-Integration techniques and the analysis of generalization achieved as follows.
Table 4.1: Data for Return on stock exchange performance (SEP), broad money supply (M2), interest rate (INTR), inflation rate (INFR) and market capitalization (MC) between the period of 2007 – 2023.

YEAR	SEP	M2	INTR	INFL	MC
2007	197.9	20.7	44.24	-2.84	128.6517
2008	201.56	36.4	57.78	6.19	125.8081
2009	206.05	87.8	17.21	0.97	118.5667
2010	825.67	42.2	6.91	1.17	148.88
2011	1,128.25	14.9	15.43	-2.88	150.2975
2012	1,091.13	6.7	16.37	1.38	153.8625
2013	689.07	21.7	1.29	-3.74	157.5
2014	1,188.97	27.1	2.01	-0.41	157.3117
2015	1,945.72	14.3	6.06	0.95	158.5526
2016	2001.23	-0.8	17.78	6.67	192.4403
2017	1,744.18	4.1	2.33	0.85	253.492
2018	3,089.89	31.9	12.13	-4.43	305.7901
2019	4,602.78	1.4	9.16	-0.7	306.0837
2020	5,514.47	15	16.94	1.85	358.8108
2021	190.67	6.4	15.97	3.71	236.104

2022	192.83	11.6	16.54	15.92	236.104
2023	196.15	14.5	6.471	28.92	131.2743

Source: CBN Annual Statical Bulletin & Nigeria Stock Exchange Index(SEC) 2023

4.1 Presentation of Results

Descriptive Statistics

Descriptive statistics measure the individual characteristics of the variables used in this study. It shows the mean, median, standard deviation, Jarque-Bera and its probability value (Used to measures normality of the data). The result of the descriptive statistics results for the study are presented in the Table 4.2 below:

	SEP	**M2**	**INTR**	**INFL**	**MC**
Mean	1470.972	20.93529	15.56594	3.151765	195.2665
Median	1091.130	14.90000	15.43000	0.970000	157.5000
Maximum	5514.470	87.80000	57.78000	28.92000	358.8108
Minimum	190.6700	-0.800000	1.290000	-4.430000	118.5667
Std. Dev.	1590.192	21.09019	14.74598	8.205953	73.87452
Skewness	1.411345	1.947367	1.778931	2.088650	0.903655
Kurtosis	4.017917	6.986588	5.589974	6.976515	2.551575
Jarque-Bera	6.377648	22.00213	13.71783	23.56095	2.456116
Probability	0.041220	0.000017	0.001050	0.000008	0.292861
Sum	25006.52	355.9000	264.6210	53.58000	3319.530
Sum Sq. Dev.	40459382	7116.739	3479.103	1077.403	87319.11
Observations	17	17	17	17	17

Source: Author's computation (2024).

Table 4.2 reveals the individual characteristics of the variables used in the study highlighting their median, mean, maximum and minimum values, standard deviation and Jarque-Bera statistics (normality Test). Stock exchange performance (SEP) has a mean value of 1470.972 with maximum value of 5514.470 and minimum value of 190.6700. Stock exchange performance (SEP) recorded a standard deviation of 1590.192 which is higher than its mean. This indicates that the parameter variable of Stock exchange performance (SEP) recorded a fast growth within the period under review. However, the descriptive statistics indicated by skeweness shows that the parameter variable of Stock exchange performance (SEP) is positively skewed to the right because the skewness value of Stock exchange performance (SEP) from the descriptive statistics distribution showed a positive value of (1.411345). Also the measure of convexity of the curve (kurtosis) shows that Stock exchange performance (SEP) from the descriptive statistics distribution is leptokurtic since its value is greater than 3, i.e. 4.017917>3.Stock exchange performance (SEP) also recorded a Jarque-Bera value of 6.377648 with a probability value of 0.041220 which is within the acceptable threshold because its probability value is lesser than the predefined value of 5% in this case the parameter estimate of Stock exchange performance (SEP) is not normally distributed. Thus, we reject the null hypothesis of normality.

Broad money supply (M2) has a mean value of 20.93529 with maximum value of 87.80000 and minimum value of 0.800000. Broad money supply (M2) recorded a standard deviation of 21.09019 which is higher than its mean. This indicates that the parameter variable of Broad money supply (M2) recorded a fast growth within the period under review. However, the descriptive statistics indicated by skeweness shows that the parameter variable of Broad money supply (M2) is

positively skewed to the right because the skewness value of Broad money supply(M2) from the descriptive statistics distribution showed a positive value of (1.947367). Also the measure of convexity of the curve (kurtosis) shows that Broad money supply (M2) from the descriptive statistics distribution is leptokurtic since its value is greater than 3, i.e 6.986588>3. Broad money supply(M2) also recorded a Jarque-Bera value of 22.00213 with a probability value of 0.000017 which is not within the acceptable threshold because its probability value is greater than the predefined value of 5% in this case the parameter estimate of Broad money supply(M2) is normally distributed. Thus, we reject the null hypothesis of normality. Interest Rate (INTR) has a mean value of 15.56594 with maximum value of 57.78000 and minimum value of 1.290000. Interest Rate (INTR) recorded a standard deviation of 14.74598 which is lower than its mean. This indicates that the parameter variable of Interest Rate (INTR) recorded a slow within the period under review. However, the descriptive statistics indicated by skeweness shows that the parameter variable of Interest Rate (INTR) is positively skewed to the right because the skewness value of Interest Rate(INTR) from the descriptive statistics distribution showed a positive value of (1.778931). Also the measure of convexity of the curve (kurtosis) shows that Interest Rate(INTR) from the descriptive statistics distribution is leptokurtic since its value is greater than than 3, i.e 5.589974>3. Interest Rate(INTR) also recorded a Jarque-Bera value of 13.71783 with a probability value of 0.001050 which is not within the acceptable threshold because its probability value is less than the predefined value of 5% in this case the parameter estimate of Interest Rate(INTR) is not normally distributed. Thus, we reject the null hypothesis of normality. Inflation Rate (INFL) has a mean value of 3.151765 with maximum value of 28.92000 and minimum value of 4.430000. Inflation Rate (INFL) recorded a standard deviation of 8.205953 which is higher than its mean. This indicates that the parameter variable of Inflation Rate (INFL) recorded a fast growth within the period under review. However, the descriptive statistics indicated by skeweness shows that the parameter variable of Inflation Rate (INFL) is positively skewed to the right because the skewness value of Inflation Rate(INFL) from the descriptive statistics distribution showed a positive value of (2.088650). Also the measure of convexity of the curve (kurtosis) shows that Inflation Rate(INFL) from the descriptive statistics distribution is leptokurtic since its value is greater than 3, i.e 6.976515>3. Inflation Rate(INFL) also recorded a Jarque-Bera value of 23.56095 with a probability value of 0.000008 which is within the acceptable threshold because its probability value is greater than the predefined value of 5% in this case the parameter estimate of Inflation Rate(INFL) is normally distributed. Thus, we failed to reject the null hypothesis of normality.

Market Capitalization (MC) has a mean value of 195.2665 with maximum value of 358.8108 and minimum value of 118.5667. Market Capitalization (MC) recorded a standard deviation of 73.87452 which is lower than its mean. This indicates that the parameter variable of Market Capitalization (MC) recorded a slow within the period under review. However, the descriptive statistics indicated by skeweness shows that the parameter variable of Market Capitalization (MC) is positively skewed to the right because the skewness value of Market Capitalization (MC) from the descriptive statistics distribution showed a positive value of (0.903655). Also the measure of convexity of the curve (kurtosis) shows that Market Capitalization(MC) from the descriptive statistics distribution is platokurtic since its value is less than 3, i.e 2.551575<3. Market Capitalization(MC) also recorded a Jarque-Bera value of 2.456116 with a probability value of 0.292861 which is not within the acceptable threshold because its probability value is greater than the predefined value of 5% in this case the parameter estimate of Market Capitalization(MC) is normally distributed. Thus, we failed to reject the null hypothesis of normality.

Table 4.3: Correlation matrix result

	SEP	M2	INTR	INFL	MC
SEP	1	-0.299016388658130 8	-0.237351701757739 7	-0.298636104769213 2	0.815418492452713 3
M2	-0.299016388658130 8	1	0.166298818604382 5	-0.152268209897333 3	-0.390611270701109
INTR	-0.237351701757739 7	0.166298818604382 5	1	0.001293022793077005	-0.240675988545403 6
INFL	-0.298636104769213 2	-0.152268209897333 3	0.001293022793077005	1	-0.150332984301735 5
MC	0.815418492452713 3	-0.390611270701109	-0.240675988545403 6	-0.150332984301735 5	1

Source: Researcher's Computation (2024).

Table 4.2 exhibits the correlation matrix that reveals the observed associations between the study variables. This matrix is useful in identifying relationships between variables and detecting potential multicollinearity issues in regression analysis. The stock exchange performance index (SEC_PFM) displayed a positive correlation with market capitalization (MC) with coefficient value of 0.8154.However, stock exchange performance index (SEC_PFM) had a negative relationship with broad money supply(m2), interest rate(INTR) and inflation(INFL) with the coefficients values of (0.2990),(0.2373) and (0.2986) respectively. The Table indicate that there is no perfect multicollinearity among these variables. Hence, it is appropriate to proceed with model estimation.

Augmented Dickey-fuller test

The unit root test was performed to examine if the variables in this study were stationary or not. This is significant because a non-stationary data set can generate inaccurate results. The Augmented Dickey-fuller test are used to establish the order of integration for two test equations, intercept and trend and intercept. These tests are based on two hypotheses: the null hypothesis and the alternative hypothesis. The null hypothesis claims that the variable is non- stationary because it has a unit root, whereas the alternative hypothesis claims that the variable is stationary because it does not have a unit root.

Table 4.4: Results of Stationarity (Unit Root) Tests

Variable	**ADF Statistics @5%**	**@5% critical value**	**Prob value**	**Integration order**
D(SEP)	-0.100993	-3.119910	0.9301	I(0)
D(M2)	-2.422817	-3.065585	0.1514	I(0)
D(INTR)	-2.679931	-3.065585	0.0989	I(0)
D(INFR)	0.462000	-3.065585	0.9791	I(0)
D(MC)	-2.657973	-3.098896	0.1055	I(0)

Source: Researcher's Computation (2024).

Augmented Dickey Fuller test was employed to carry out pre-test on the study's variables. In Table 4.2, the result of the stationary test of time series data was presented. Through the table, it was revealed that the absolute values of the ADF test statistics for all the study variables are greater than the predefined probability value of 5% in this case we reject the null hypothesis and conclude the entire variables are stationary(has a unit root) at their first level . Therefore Since all the study variables are stationary at order of I(0) indicating long run relationship and as such, the result is good for short -run ARDL estimation.

Bound Cointegration Test

The Bound cointegration test is used to determine whether the variables have a long run relationship. This co-integration test was chosen because it can be used irrespective of whether the series are I (0) and I (1). Also, the test has both short and long run dynamics. Lastly, the test provides consistent results for small samples compared to other co-integration methods. The null and alternative hypotheses for this test are as follows:

H_0: There is no long run relationship amongst the variables
H_1: There is long run relationship amongst the variables

The null hypothesis is rejected if the F-statistic value is greater than the I(0) and I (1) boundaries at the 5% level of significance. This means that there is a long-run relationship between the variables. We do not reject the null hypothesis if the F-statistic value is lesser than the I(0) and I(1) boundaries at the 5% level of significance, which means that there is no long run relationship between the variables.

Table 4.5: Bound Cointegration test result

Test Statistic	Value	K
F-statistic	9.052092	4
Critical Value Bounds		
Significance	I(0) Bound	I(1) Bound
10%	3.8	3.8
5%	4.6	4.6
2.5%	5.39	5.39
1%	6.44	6.44

Source: Researcher's Computation (2024).

From the bound's co-integration test conducted, the F-Statistic value of 9.052092 as shown in table 4.5 above is greater than the lower bound of critical value at the 5% level of significance and greater than the upper bound of critical values at the 5% level of significance. Therefore, there is a long run relationship between the dependent variable and the independent variables. Thus, the short-run models is estimated.

ARDL Test Model estimation

The short- and long-run models will be estimated using the Auto-Regressive Distribution Lag (ARDL) model.

Table 4.6 Auto Regressive Distributed Lag (ARDL)

Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LM2)	-4.432964	15.56863	-0.284737	0.7817
D(INTR)	-1.219958	22.12108	-0.055149	0.9571
D(INFL)	-42.56025	36.99522	-1.150426	0.2767
D(MC)	17.74347	5.537816	3.204055	0.0094
R.squared	0.694119			
Durbin Watson st	1.850180			
F-statistics	4.538484			
Prob(F-statistics)	0.020227			
ECM(-1)*	-1.116258			

Source: Author's computation (2024).

Table 4.4 shown indicated the ARDL estimation has an R-square value of 69 percent. It revealed that 69 percent of the variation in consumer goods is explained by broad money supply, interest rate, inflation rate and market capitalization for the period under study while the remaining 31 percent is explained by other variables not captured by the model. The result also revealed that the independent variables are mutually significant to explain and investigate the significant relationship between consumer goods (Dependent variable) and stock market performance in Nigeria as showed by the significant probability value of the F statistics which is 0.020227

Additionally, it was found that Log of broad money had a negative effect on stock market performance and Consumer Goods in Nigeria. Therefore, a one percent increase in broad money supply will lead to a 4.43% decrease in stock market performance and Consumer Goods in Nigeria. The result was however, not statistically significant at 5% level of significance. Also, it was found that Log interest rate had a negative effect on stock market performance and Consumer Goods in Nigeria. Therefore, a one percent increase in prices of interest rate will lead to a 1.21% decrease in stock market performance and Consumer Goods in Nigeria. The result was however, not statistically significant at 5% level of significance.

Moreover, the ARDL result revealed that Log of inflation had a negative effect on stock market performance and Consumer Goods in Nigeria. Precisely, a one percent increase in inflation (consumer price index) will lead to a 42.56% decrease in stock market performance and Consumer Goods in Nigeria. However, the result was not statistically significant at 5% level of significance. Likewise, market capitalization had a positive effect on stock market performance and Consumer Goods in Nigeria in the short-run. Therefore, a one percent increase in market capitalization value will lead to a 0.07% increase in stock market performance and Consumer Goods in Nigeria. The result was statistically significant at 5% level of significance. The error correction term has a coefficient of -1.116258 which means that stock exchange performance is below the equilibrium

level. It is however, significant at the 5% level of significance. This means it would require a speed adjustment of 1.116% to get the variables back to the equilibrium level.

Table 4.7 Post Estimation Test Results

Post-Estimation tests	Tests conducted	F-Statistics	Probability of F-Statistics	Test results
Normality Test	Jarque-Bera Normality test	0.702048	0.703967	There is Normality
Linearity Test	Ramsey Reset test	11.30720	0.0084	There is Linearity
Serial-correlation test	Breusch-Godfrey Serial Correlation LM Test	0.090437	0.7705	There is no auto-correlation
Test for Heteroskedasticity	Breusch-Pagan-Godfrey Test	3.372799	0.0481	There is no heteroskedasticity

Source: Author's computation (2024).

Normality Test

As seen on table 4.7, the p-value of the Jarque-Bera f-statistics is 0.702048 which is greater than the 5% level of significance. The null hypothesis states that the variables have normal distribution. Thus, we do not reject the null hypothesis, meaning that the variables are normally distributed.

Linearity Test

As seen on table 4.7, the p-value of the Ramsey-Reset f-statistics is 11.30720 which is greater than the 5% level of significance. The null hypothesis states that the model has linearity. Thus, we do not reject the null hypothesis, meaning that there is presence of linearity in the model.

Test for Serial-Correlation

According to table 4.7, the p-value of the Breusch-Godfrey Serial Correlation LM Test f-statistics is 0.090437 which is greater than the 5% level of significance. The null hypothesis states that there is no serial correlation. Thus, we do not reject the null hypothesis, meaning that there is absence of serial correlation in the model.

Test for Heteroskedasticity

According to table 4.8, the p-value of the Breusch-Pagan-Godfrey Test f-statistics is 3.372799 which is greater than the 5% level of significance. The null hypothesis states that the variables have a constant variance. Thus, we do not reject the null hypothesis, meaning that the variables have a constant variance i.e., there is no heteroskedasticity.

5. Discussion of Findings

The study determined the impact of inflation on stock market performance in the Fast-Moving Consumer Goods in Nigeria, for the period of 2007 to 2023. This study was guided by two objectives which are to: examine the correlation between inflation and stock market performance in the consumer goods sector in Nigeria; and compare the performance of consumer goods stocks during high and low inflation periods. Result from the analysis conducted showed that implies that broad money supply has a negative and insignificant relationship with inflation on stock market performance in the fast – moving consumer goods sector in Nigeria, at the predefined 5 per cent significance level during the period covered both in the short run and in the long run within the period of review. As expected, this result indicated that Broad Money Supply (M2) was potent determinant of inflation and stock market performance in Nigeria. By implication, an increase in the volume of money supply in the economy will lead to an increase in the volume of inflation in the economy and vice versa. This results also supported the findings of some scholars and research expert who found that money supply has a significant effect on inflation and insignificant effect on FCMG stock performance and output level. The result also found that that Interest Rate(INTR) was insignificantly related to inflation and stock exchange performance and unemployment in Nigeria at the predefined 5 per cent significance level during the period covered by the study that is between the period of 2007– 2023. As expected, is a potent determinant of investment level and as an effective use of the stock exchange market instruments in Nigeria. This result agreed with the findings of some research experts who revealed that the interest rate channel has a strong empirical evidence for substantial interest rate effects on consumer and investment spending. Evidence by European Central Bank (ECB, 2002) indicates that interest rate channel plays an important role in the transmission of monetary shocks. Accordingly, direct and indirect effects of interest rate changes which includes wealth and exchange rate. Thus, interest rate has a positive and significant effect on inflation and FCMG stock performance both in the short run and in the long run.

Also this study revealed that, Inflation Rate (INFL) had a negative and insignificant relationship inflation and stock market performance in the fast – moving consumer goods sector in Nigeria in the short run and a positive effect on stock performance in the long run. As expected, this results implies that inflation rate has negatively affect FCMG stock performance in the short run. By implications, an increase in inflation rate would lead to an increase in aggregate demand, low investment level, high cost of goods, services and high purchasing power and a decrease in inflation will lead to decrease in purchasing power of goods and services, low cost of production, high level of investment. This results is in line with some of the scholars and researcher which found that inflation has a negative and has contributed no significant effect to FCMG stock performance in the short run and positive effect in the long run during the period under review. Further, the study also revealed that Market capitalization rate has a positive effect and significant relationship with inflation on stock market performance in the fast – moving consumer goods sector in Nigeria, at the predefined 5 per cent significance level during the in the short run while a positive significant effect on stock market performance and consumer goods in the long run. This result implies that market capitalization had a negative effect on FCMG stock exchange market in

the long run and but a negative relationship in short run and was significant in both the short-run and long-run. Therefore, as market capitalization rises, the real output in the economy will also rise as in the case of Nigeria. This is in line with the a priori expectation and also similar to Anigbogu and Nduka (2014) who established an significant relationship between market capitalization and stock performance in Nigeria. The result of the analyses conducted showed that the null research hypotheses of this study state that there is no significant relationship/impact between the independent variables and the dependent variable should not be rejected as evidence gotten from the relevant tests proves that the null hypothesis is correct. The only exceptions to the null hypothesis are in the short run where there is a significant impact between the market capitalization and stock exchange performance and in the long-run where there is a significant impact between interest rate and stock exchange performance.

Comparison of Results with previous Findings

Result from the analysis conducted showed that implies that broad money supply has a negative and insignificant relationship with inflation on stock market performance in the fast – moving consumer goods sector in Nigeria, at the predefined 5 per cent significance both in the short run and in the long run. This results also go against the findings of some scholars and research expert who found that money supply has a insignificant effect inflation and FCMG stock performance and output level. The result also found that that Interest Rate (INTR) was insignificantly related to inflation and stock exchange performance and consumer goods in Nigeria at the predefined 5 per cent significance both in the short run and in the long run. As expected, is a potent determinant of investment level and as an effective use of the stock exchange market instruments in Nigeria. This result agreed with the findings of some research expect who revealed that the interest rate channel has a strong empirical evidence for substantial interest rate effects on consumer and investment spending. Evidence by European Central Bank (ECB, 2002) indicates that interest rate channel plays an important role in the transmission of monetary shocks. Also this study revealed that, Inflation Rate (INFL) had a negative and insignificant relationship inflation and stock market performance in the fast – moving consumer goods sector in Nigeria in the short run but long run effect in the long run under the period of review. As expected, this results implies that inflation rate has negatively affect FCMG stock performance in the short run but contribute positively to FCMG stock performance in the long run .This results is in line with some of the scholars and researcher which found that inflation has a negative and has contributed no significant effect to FCMG stock performance during the period covered by the study. Furthermore, the study also revealed that Market capitalization rate has a positive but a significant relationship with inflation on stock market performance in the fast – moving consumer goods sector in Nigeria ,at the predefined 5 per cent significance level during in the short run ,while a positive effect on stock market performance and consumer goods sector in the long run. This is in line with the a priori expectation and also similar to Anigbogu and Nduka (2014) who established a significant relationship between market capitalization and stock performance in Nigeria. Therefore, an expansion of the money supply in the economy will resulting higher inflation, while a reduction in money supply will have the opposite effect in the economy.

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