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Article

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FINANCIAL MARKETS' OPERATIONS AND PERFORMANCE OF THE NIGERIAN CAPITAL MARKET

Obainoke Eromosele Felix¹, Wisdom Ezemndi Nwaguru² & Uyanna Prosper Chukwufumnanya³

Department of Banking and Finance, National Institute of Construction Technology and Management (NICTM), Uromi, Edo State, Nigeria¹

University of Agriculture and Environmental Sciences, Umuagwo, Imo State, Nigeria²

Department of Business Administration and Management at National Institute of Construction Technology and Management, Uromi, Edo State, Nigeria³

Corresponding Email: eromon2002@gmail.com¹

Abstract

This study examined the effect of financial markets' operations on the performance of the Nigeria capital market between 1990 and 2023; with emphasis on determining the extent to which operations of the variable income securities market, fixed income securities market, and money market have affected the market capitalization of the Nigeria capital market. Data on these variables were sourced from Central Bank of Nigeria (CBN), and Securities and Exchange Commission (SEC) statistical bulletins for various years. Engel-Granger cointegration, granger causality and ECM estimation techniques were employed for data analysis. Basically, results revealed that operations of the variable income securities market and money market have positive and significant effects on market capitalization; while operations of the fixed income securities market have a negative insignificant effect on market capitalization. Hence, financial markets' operations have mixed effects on the performance of the Nigeria capital market. Hence, there is need to reposition these markets in Nigeria. For the variable income securities market, the number of listed securities should be increased and the market should be made more liquid; for the money market, there is need for enhanced publicity about the existence and operations of the market; and for the fixed income securities market, measures like better rates of return should be put in place to make the market more attractive.

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Keywords: Financial Markets Operations, Capital Market, Variable Income Securities Market, Fixed Income Securities Market, Money Market.

Introduction

The Nigerian financial market is broadly classified into money market and capital market. The money market is an arm of the financial market that trades on short term funds. This market facilitates short term financial intermediation. The market houses savers of funds who can afford to lend their savings for a short period and users of funds who are in need of funds for a short period. Thus, instruments traded in the money market have short life span. Such instruments include treasury bills, treasury certificates, certificates of deposit, commercial papers, bankers' acceptances, bankers unit funds, call money, eligible development stocks, stabilization securities and the likes (CBN, 2022). Deposit money banks constitute the major vehicles for the effective operation of the money market (Udo, Nwezeaku & Kanu, 2021). On the flip side is the capital market, which is a market that houses users and savers of medium to long term funds. The market facilitates long term financial intermediation. Thus, the capital market is a section of the financial market that is responsible for mobilization and allocation of funds from surplus units to deficit units on medium to long-term basis. In Nigeria, participants in this market include Merchant Banks, Stock Broking firms, Issuing Houses, Venture Capital companies, Development Finance Companies, Unit Trusts, Central Bank of Nigeria (CBN), Securities and Exchange Commission (SEC) and the Stock Exchange.

The Nigeria capital market is further divided into fixed income and variable income markets. The fixed income market is a market that specializes in the buying and selling fixed income securities like Industrial loans (corporate bonds), Federal government (FGN) bonds, and Municipal Bonds (SEC, 2019). This market provides the platform for corporate entities and the government to raise long-term capital for financing new projects, and expanding and modernizing industrial/commercial concerns (Ogilo, 2014). The variable income market, also known as the equities market is a segment of the capital market where variable income securities like shares are bought and sold. Chen and Scott (2020) opined that an equity market is a market in which shares of companies are traded, either through exchanges or over-the-counter markets. Ohiomu and Enabulu (2021) added that a unique benefit of the equities market to corporate entities is the provision of long-term, non-debt financial capital. Through the issuance of equity securities, companies acquire perpetual capital for development. In addition, through the provision of equity capital, the financial market also enables companies to avoid overreliance on debt financing, thus improving corporate debt-to-equity ratio. Hence, a viable equity market can serve to make the financial system more competitive and efficient. Without equity markets, companies have to rely on internal finance through retained earnings (Popoola, 2014). Nevertheless, these markets have something in common. According to Oke, Dada and Aremo (2021), these financial markets rely on funds from those in the surplus unit (savers of fund) of the economy and they channel these funds to those in the deficit unit (users of fund) of the economy. This makes the competition for funds very high. Investors, as arbitrageurs leverage on this and are constantly monitoring these markets to take advantage of any slip. These investors move their funds around trying to maximize return. This makes the markets to be interrelated whereby happenings in the fixed income, variable income and money markets affect the performance of the capital market in general and vice versa (Oke, Dada & Aremo, 2021).

Given the perceived importance of financial markets in an economy, the government of Nigeria has over the years initiated policies and measures aimed at strengthening the

Nigerian money and capital markets. Some of these policies have come in the form of reforms like the recapitalization of Deposit Money Banks, deregulation of interest rate, deregulation of the pricing of securities, initiation of the Central Securities Clearing System (CSCS) in the Stock Exchange Market, and introduction of the Automated Trading System (AST) to replacing the manual call-over system method of trading (Popoola, Ejemeyovwi, Alege, Omobola & Onabote, 2017). However, experts are not on the same page as to the effects, impacts and consequences of these measures and many more on the performance of the financial markets in Nigeria. It is also argued that the Nigerian capital market does not measure up with their counterparts in terms of some performance indicators. For instance, the market's market capitalization represents only 28.0 percent of the country's GDP, compared with 167.1 percent for South Africa, 50.7 percent for Zimbabwe, and 130.0 percent for Malaysia (CBN, 2022). Researchers too are not on the same page on the performance of the different segments of the Nigerian capital market (Udo, Nwezeaku & Kanu, 2021; Oke, Dada & Aremu, 2021; Nkwede, 2020; Popoola, Ejemeyovwi, Alege, Adu & Onabote, 2017; Nkwede, Uguru & Nkwegu, 2016; Ogboi, Njogo & Nwankwo, 2016). Given the foregoing, it became imperative to join the ongoing debate though with emphasis on financial markets' operations and performance of the Nigerian capital market. In essence, how has the operations of the money market, variable income securities market, and fixed income securities market affected the overall performance of the capital market in Nigeria?

Review of Related Literature

Financial Markets: According to Udo, Nwezeaku and Kanu (2021), a financial market can be seen as a complex arrangement of institutions, mechanism and structures through which financial resources are transferred from ultimate lenders to ultimate borrowers, who may be individuals or corporate bodies or government, for investment in economic activities. It can also be seen as a meeting point for users and savers of funds to actualize their desires. Put differently, financial markets are mechanisms for the transmission of investible funds from surplus economic units to deficit economic units of an economy (Nwude, 2017). This market consists of institutions, agents, brokers and intermediaries transacting purchases and sales of financial assets (securities). The persons and institutions operating in financial markets are linked by laws, friendship, contracts and communications network which form an external visible financial structure (Aramburo, Acevedo & Sonnemans, 2019). Financial markets are divided between investors and financial institutions. These institutions are organizations which act as intermediaries, agents, and brokers in financial transactions. Financial intermediaries purchase securities for their own account and sell their own liabilities and ordinary shares etc., while agents and brokers contract on behalf of others (Nwude, 2017). However, (Ifionu & Omejefe, 2013), stated that in practice, financial markets and institutions are inseparable since financial markets are often created and operated by financial institutions.

Variable Income Securities Market

The variable income securities market is otherwise known as the equities market. According to Chen and Scott (2020), "an equity market is a market in which shares of companies are traded, either through exchanges or over-the-counter markets. It is one of the most vital areas of a market economy, that gives companies access to capital to grow their business, and investors a piece of ownership in a company with the potential to realize gains in their investment based on the company's future performance". Hence, this market is the aggregation of buyers and sellers of shares. More technically, equities market entails an

arrangement or mechanism that allows sellers and buyers to deal in equity or shares in the same platform. One important feature of the equities market is that subscription must be fully paid before allotments are given to individual investors. Another feature is part ownership by subscribers immediately after allotment of shares. Thus, holders of the instrument (equity) are entitled to attend AGMs (Annual General Meetings) and can vote to elect management of their companies. Unlike debt instruments, repayment of principal occurs only if the instrument (shares) is traded through the secondary market. For the equities market, return comes in two ways: by price appreciation and by dividend payments. (Adjasi & Biekpe, 2015).

Fixed Income Securities Market

The fixed income securities market is also known as the bond market or credit market. It is a market where fixed income securities like bonds and debentures are bought and sold. Thus, the fixed income securities market is a collective name given to all trades and issues of debt securities (Hayes, 2021). Thus, corporate organizations and government at all levels issue bonds in order to raise capital to go into new lines of business, execute capital projects or pay debts owed. Equally, publicly owned companies issue debenture when they need to finance business expansion projects or maintain ongoing operations. Thus, the bond market basically describes a market place where investors buy debt securities that are brought to the market by either governmental entities or corporate entities. Like variable income securities, fixed income securities are either issued in the primary market, which rolls out new debt, or in the secondary market, in which investors may purchase existing debt via brokers or other third parties. The primary market is frequently referred to as the new issues market in which transactions strictly occur directly from the bond issuers and the bond buyers. In essence, the primary market yields the creation of brand-new debt securities that have not previously been offered to the public. In the secondary market, securities that have already been sold in the primary market are then bought and sold at later dates. Investors can purchase these bonds from a broker, who acts as an intermediary between the buyer and selling parties. The secondary market issues may be packaged in the form of pension funds, mutual funds or life insurance policies (Hayes, 2021). Fixed income securities tend to be less volatile and more conservative than equity investments, but also have lower expected returns (Aramburo, Acevedo & Sonnemans, 2019).

Money Market

The money market refers to a collection or group of financial institutions or exchange system set up for dealing in short term credit instruments of high quality like treasury bills, treasury certificates, call money, commercial paper, bankers' Unit Fund, ways and means advances, as well as the dealing in gold and foreign exchange (Orji & Ladiba, 2014). These short term instruments involve a small risk due to loss, because they are issued by obligors of the highest credit rating and they mature within one year. Aramburo, Acevedo and Sonnemans (2019) further stated that the money market comprises all the facilities of the country for the purchase and sale of money for intermediate and deferred delivery and for the borrowing and lending of money for short periods of time. In other terms, it is a manifestation of dealing in short term financial instruments (their sale and purchase, as well as lending and borrowing for short periods) on the one hand and a collection of the dealers in these assets on the other hand. It is thus a collection of financial institutions set up for the granting of short term loans and dealing in short term securities, gold and foreign exchange (Ifionu & Omejefe, 2013).

The Nigerian Capital Market

The capital market is the long-term end of the financial market. According to Guru and Yadav (2018), the capital market refers to a collection of financial institutions set up for granting of medium and long term loans. It is a market for longer term instruments which include market for government securities, market for corporate bonds, market for corporate shares (stocks) and market for mortgage loans. Thus it is the market for the mobilization and utilization of long-term funds for development. Ekezie (2022) noted that capital market is the market for dealings (lending and borrowing) in longer-term loanable funds. In Nigeria, operations of the capital market are structured into three broad categories, namely: the primary, secondary and derivatives markets. The primary market is the platform by which the securities of companies and government are issued to the public at large for the first time; while the secondary market is the market where existing securities are bought and sold. However, the derivatives market is a market that trades not in the issued security but on the right to title on the underlying security or on the basis of future title to the security (Danjuma & Islaman, 2019).

Market capitalization is the most widely used indicator in assessing the performance of a country's capital market. In a bearish market, when there is a general decline in economic activities, the market capitalization falls and vice versa for a bullish market (when there is a general upturn in economic activities). In this sense, market capitalization is the current market value of all outstanding shares quoted in a stock exchange at a given time, and the stock exchange as such is the hub of the capital market that makes it easier for the buying and selling of existing shares (Sayılır, Doğan & Soud, 2018). In Nigeria, the value of total annual market capitalization of the Nigerian Stock Exchange (NSE) comprises market capitalization of government stocks /securities, corporate bonds, ETF (Exchange Traded Funds) and equities (Gwarzo, 2015). In 2022, the equities market had the highest contribution of ₦27,965.74 billion, followed by government stocks /securities with a contribution of ₦22,156.22 billion, then corporate bonds at 1,058.50 billion, and ETF's at ₦8.42 billion (CBN, 2022).

Theoretical Review

Efficient Market Theory (Hypothesis):The Efficient Market Hypothesis (EMH) is popular capital market theory that is associated with Eugene Fama. According the theory, prices of stock, bonds and other securities must fully reflect all available information at any point in time. It proposes an efficient capital market where investment capital must be allocated to its most productive use in one hand and on the other hand, a market where investors cannot beat the market or find securities that are mispriced such that their stock constantly outperform the market (Fama, 1970). Thus, Fama identified three levels of market efficiency to include: Weak form efficient market, semi strong efficient market, and strong form efficient market (Nkwede, Uguru & Nkwegu, 2016).

Capital Asset Pricing Model (CAPM)

This theory was developed by Sharpe (1964), Lintner (1965) and Mossin (1966) as a testable model for determining the value of individual securities or portfolio. The model is a significant departure from the efficient market model as it helps us to calculate investment risk and what return on investment investors should expect (Ihejirika, 2016). The CAPM shows the relationship between expected return of a security and its avoidable risk. It provides a framework for the valuation of securities and it contends that the expected returns on any asset are a linear function of its systematic risk. This model can also be used

to find the cost of a company's equity. According to Pandey (2010), the implications of the CAPM are that investors should invest in a portfolio of securities in a way that diversifies or eliminates most of the unique (unsystematic) risk from their portfolio; and investors will be compensated only for that risk which they cannot diversify. This is the market-related (systematic) risk.

The Arbitrage Pricing Theory (APT)

The Arbitrage Pricing Theory was suggested by Ross (1976) because of the dissatisfaction with the capital asset pricing model on both theoretical and empirical grounds. Unlike the CAPM that is a one-factor model (i.e. single beta generating model), the APT is a multi-factor model (i.e. multiple beta model) that offers a testable alternative to the CAPM. The theory argued convincingly that in a situation where different portfolios with multiple factors (betas) exist, CAPM with one-factor model might not be able to produce the desired results (actual returns) for an efficient portfolio. Ross (1976) emphasized that APT is a multi-factor model that accommodates all types of security investments. It will be recalled that the CAPM stated that security prices (rate of return) is linearly related to a single factor, which is the rate of return on the market portfolio, the Arbitrage Pricing Theory is based on a similar premise. However, the APT assumes that the rate of return on any security is a function of so many factors (Nzotta, 2005). The fundamental logic behind the APT is that investors always indulge in arbitrage whenever they find differences in the returns of assets with similar risk characteristic. Given the above reviewed theories, the most suitable theory for this work is the arbitrage pricing theory which is a financial model that estimates the expected return of a security based on its sensitivity to macroeconomic factors. Thus, the theory is based on the concept of arbitrage which involves exploiting price discrepancies; earn risk-free profits and eliminating mispricing. Accordingly, given that the operations of the sub-markets of the Nigerian financial market are interrelated, investors strive to exploit price discrepancies by moving between markets in order to earn the best possible profit from their financial assets.

Empirical Review

Osayi and Bako (2024) examined fixed income securities and the financial performance of deposit money banks in Nigeria from 1991 to 2021 by regressing the total asset of deposit money banks on government bond, corporate bond, treasury bills and commercial papers. Employing the Ordinary Least Square (OLS) regression estimation technique, results revealed that government bond, treasury bills and commercial paper have positive and significant effects on the financial performance of deposit money banks; while there is a positive insignificant relationship between corporate bond and the financial performance of deposit money banks in Nigeria. Osayi and Nwani (2024) investigated the relationship between capital market instruments and the performance of deposit money banks in Nigeria between 1992 and 2022. Annual data collected were analyzed using ordinary least square (OLS) multiple regression method. Results showed that government bond has a positive and significant relationship with the performance of deposit money banks in Nigeria, while corporate bond has a positive but insignificant association with the performance of deposit money banks in Nigeria. Also, it was observed that there is a negative and insignificant nexus between monetary policy rate and the performance of deposit money banks in Nigeria. Alshubiri (2021) analyzed stock market capitalization and financial growth nexus of Western European countries from 1989 to 2018 in order to understand the interactive relationship between the stock market and the economy to identify the specific financial market channels through which economic growth is managed. Using Pooled Least Square analytical

technique, the study revealed positive significant relationships between stock market capitalization, foreign direct investment and stocks traded and financial growth; while negative and significant relationships were observed between GDP per capita growth and inflation and financial growth.

Kapaya (2021) examined the relationship between stock market development and economic growth in Tanzania by using quarterly time-series data from 2001Q1 to 2019Q2. The Autoregressive Distributed Lag (ARDL) and granger causality techniques were used for data analysis and results suggested that stock market development have both negative and positive causality for both short-run dynamics and long-run relationship with economic growth. Economic growth was found to only cause and relate negatively to liquidity both in the short-run and in the long-run. Oke, Dada and Aremo (2021) examined the impact of bond market development on the growth of the Nigerian economy from 1986–2018 using the co-integration bounds test approach. The study showed that government bond has a positive insignificant impact on the growth of the Nigerian economy; while corporate bond and value of bond traded have positive and statistically significant impact on the growth of the Nigerian economy. However, bond yield showed a negative impact on the growth of the Nigerian economy. Udo, Nwezeaku and Kanu (2021) examined the effect of capital market development on the economic growth of Nigeria by adopting the ex-post-facto research design which utilized secondary data for the period 1983-2016. While an Augmented Dickey-Fuller unit root test was used for preliminary analysis; an Autoregressive Distributed Lag (ARDL) was used for the model estimation. A combination of ARDL bounds test for co-integration, ARDL short and long run error correction models were used for estimation. Findings indicated that the number of listed securities and all-share index maintained a significant relationship with economic growth in Nigeria both in the short and long runs.

Nkwede (2020) examined the macroeconomic determinants of bond market development in Nigeria by adopting a quantitative research approach anchored on Ordinary Least Square regression techniques. Majorly, the study revealed that exchange rate, interest rate, inflation rate and banking sector development have negative and significant influence on the Nigerian bond market capitalization and as such, they demonstrated strong evidence as robust macroeconomic determinants and drivers of bond market development in Nigeria. Pradhan, Arvin, Norman and Bahmani (2018) investigated the dynamics of bond market development, stock market development and economic growth of the G-20 countries by using a panel data set of these countries for the period 1991-2016. The study used a panel vector auto-regression model to provide empirical insights that both bond market development and stock market development are co-integrated with economic growth, inflation rate and real interest rate. The most robust result from the panel granger causality test was that bond market development, stock market development, inflation rate and real interest rate are demonstrable drivers of economic growth in the long run. Ewah, Essang and Bassey (2017) appraised the impact of capital market efficiency on economic growth in Nigeria, using Auto regressive distributive lag (ARDL) and time series data on capitalization, money supply, interest rate, total transaction and government development stock that ranged between 2000 and 2018. The result of the study showed that the capital market in Nigeria has the potential of growth inducing; but it has not contributed meaningfully to the economic growth of Nigeria

Nkwede, Uguru and Nkwegu (2016) examined the macroeconomic determinants of corporate bond market development with respect to the Nigerian bond market for a period of 34 years (1980 – 2013). The time series data generated for the study were analyzed using

descriptive and regression analyses. Overall, results revealed that fundamental macroeconomic factors such exchange rate, savings, inflation rate, banking sector development, interest rate, fiscal balance, bond yield and foreign direct investment are main drivers of corporate bond market development in Nigeria. The results further revealed that the macroeconomic factors have no common stimulating pattern in driving the corporate bond market for development. Savings and exchange rate tends to be more significant than other macroeconomic factors within the period studied.

Gap in Literature

The novelty of this study stems from the unit scope of the study which is on the effects of fixed income securities, variable income securities and money markets on market capitalization of the Nigerian capital market. Thus, amongst the studies reviewed, none to the best of my knowledge centered specifically on financial markets' operations and the performance of the Nigerian capital market. Second, none of these studies regressed market capitalization of the capital market on the aforementioned components of the financial market.

Research Methods

Research Design: The study adopted the quasi-experimental research design because it is a design that involves a survey of existing data, and also allows for the evaluation of a set of exogenous variables on an endogenous variable (Agbonifoh & Yomere, 2011).

Sources of Data

This study used only secondary data and the data were yearly time series data. These data were sourced from Central Bank of Nigeria (CBN) statistical bulletin, 2022 edition; and Securities and Exchange Commission bulletin for 2019.

Tools of Data Analysis

Co-integration Test/Analysis: After the unit root test, the researcher delved into co-integration analysis because all the variables used in the study were stationary at first difference, $I(1)$. According to Granger and Newbold (2012), "to test for co-integration, we must ensure that the variables involved are stationary at first difference only". The essence of this analysis is to find out if there is co-integration among variables, to determine the number of co-integration equations and to define normalization of equations (Emanakuku, 2010). The test procedure adopted for the co-integration analysis was the Engel-Granger technique, which is used to find a possible correlation between time series processes in the long term. In other words, the choice of the Engel-Granger technique for co-integration analysis was because the study adopted a single model. This approach again is widely used because it is simple and intuitive, it has a well-established methodology, its results are easy to interpret and it has a well-established methodology (Engel and Granger, 1987). To test for co-integration here, OLS estimation is carried out and the residuals (ERRORS) of the estimates obtained are subjected to unit root test.

Decision Rule: If the ERRORS of the OLS estimates are stationary at level, it follows that the variables involved are cointegrated and vice versa

Model Specification

$$\text{MCAP} = f(\text{SFIS}, \text{SVIS}, \text{SMOM}) \dots\dots\dots (1)$$

$$\text{MCAP} = a_0 + a_1\text{SVIS} + a_2\text{SFIS} + a_3\text{SMOM} + e \dots\dots\dots (2)$$

Where:

MCAP	=	Market Capitalization of the Nigeria capital market
SFIS	=	Operations of the fixed income securities market
SVIS	=	Operations of the variable income securities market
SMOM	=	Operations of the money market
F	=	Functional relation
a_0	=	Intercept term
a_1, a_2, a_3	=	Slopes of the model
e	=	Error term of the model

A priori Expectations

$a_1, a_2 > 0$; $a_3 < 0$; this implies that a positive relationship was expected between operations of the fixed and variable incomes securities market and market capitalization of the Nigerian capital market; while a negative association was anticipated between operations of the money market and market capitalization of the Nigerian capital market.

Data Analysis and Interpretation of Results

Data Analysis

Descriptive Analysis

	MCAP	TVIS	TFIS	TMOM
Mean	10592.58	560.2952	1.406970	4809.359
Median	5120.900	468.5900	0.350000	1585.310
Maximum	51188.87	2349.870	8.250000	20898.15
Minimum	16.30000	0.070000	0.000000	66.91000
Std. Dev.	13406.96	597.9139	2.103822	5878.841
Skewness	1.463799	0.946341	1.886334	1.198444
Kurtosis	4.557459	3.518543	5.743440	3.363455
Jarque-Bera	15.12020	5.295305	29.91929	8.081113
Probability	0.000521	0.070817	0.000000	0.017588
Sum	349555.3	18489.74	46.43000	158708.8
Sum Sq. Dev.	5.75E+09	11440032	141.6341	1.11E+09
Observations	34	34	34	34

Source: E-Views Output

The table above contains mainly the mean, maximum, minimum, standard deviation and other values of the variables used for the study. For the period 1990 – 2023, average market capitalization is ₦10592.58 billion with the money market having the highest average value of transactions, ₦4809.359 billion; followed by the variable income securities market, ₦560.2952 billion; and the fixed income securities markets, ₦1.406970 billion. The table also shows that the entire variables are positively skewed with TFIS having the most, followed by MCAP.

Unit Root Test

Summary of Unit Root Test

Variables	ADF Statistics	5% Critical Value	P-values	Integration
MCAP	-3.948938	-2.960411	0.0049	I(1)
SVIS	-5.605639	-2.971853	0.0001	I(1)

SFIS	-6.225420	-2.960411	0.0000	I(1)
TMOM	-3.513550	-2.960411	0.0089	I(1)

Source: Computations from E-Views Output

Unit root test shows that all the variables were cointegrated at first difference. This implies that the variables were all stationary at first point of differencing; hence, the suitability of the cointegration technique.

Engel-Granger Cointegration Test

Null Hypothesis: ERROR has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.483865	0.0286
Test critical values:		
1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

*MacKinnon (1996) one-sided p-values.

Source: E-Views Output

Engel-Granger cointegration test rest revealed that there is cointegrating between the variables. In essence, there is a long run relationship between financial market operations and performance of the Nigerian capital market.

Error Correction Model (ECM) Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-71.99130	542.3227	-0.132746	0.8954
D(TVIS)	3.572416	0.984374	3.629125	0.0012
D(TFIS)	-273.6290	165.3280	-1.655068	0.1095
D(TMOM)	2.307458	0.511327	4.512687	0.0001
ECM(-1)	-0.388965	0.155971	-2.493821	0.0191
R-squared	0.576176	Mean dependent var		1599.143
Adjusted R-squared	0.513388	S.D. dependent var		3406.055
S.E. of regression	2375.982	Akaike info criterion		18.52681
Sum squared resid	1.52E+08	Schwarz criterion		18.75583
Log likelihood	-291.4290	Hannan-Quinn criter.		18.60272
F-statistic	9.176438	Durbin-Watson stat		1.919936
Prob(F-statistic)	0.000081			

Source: E-Views Output

ECM output revealed that intercept term of the model is -71.99130, which implies that the value of market capitalization will be -N71.99130 billion if the transactions in the fixed income securities, variable income securities, and money markets are held constant. The table equally shows that transactions in the variable income securities market and the money market have positive effects on the market capitalization of the Nigeria capital market while the effects of transactions in the fixed income securities market is negative. Also, from the table, ECM has the desired negative (-0.388965) and significant (0.0191) signs; which implies that in event of any distortion to the established equilibrium relationship between the variables, the speed at which it can be corrected within a year is about 38.9 percent.

Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
TVIS does not Granger Cause MCAP MCAP does not Granger Cause TVIS	31	5.00336 4.22806	0.0145 0.0257
TFIS does not Granger Cause MCAP MCAP does not Granger Cause TFIS	31	2.83754 0.53964	0.0768 0.5893
TMOM does not Granger Cause MCAP MCAP does not Granger Cause TMOM	31	2.21505 6.30740	0.1293 0.0058
TFIS does not Granger Cause TVIS TVIS does not Granger Cause TFIS	31	0.61071 0.18080	0.5506 0.8356
TMOM does not Granger Cause TVIS TVIS does not Granger Cause TMOM	31	1.83250 1.02504	0.1801 0.3728
TMOM does not Granger Cause TFIS TFIS does not Granger Cause TMOM	31	1.60230 1.69899	0.2207 0.2025

Source: E-Views Output

Pair-wise granger causality test revealed that there is bidirectional relationship between TVIS (transactions in the variable income securities market) and MCAP (market capitalization of the Nigeria capital market); while there is a unidirectional relationship from market capitalization to transactions in the money market.

Diagnostics Test

Summary of Diagnostic Tests

Test	Criterion	Test Statistic Value	P-value
Multicollinearity	Variance Inflation Factor	1.016202, 1.023387, 1.039063	-

Autocorrelation	Durbin Watson	1.919936	-
Heteroscedasticity	Breusch-Pagan-Godfrey	3.669385	0.0637

Source: Computations from E-Views Output

From table 4.8, it was established that the ECM estimates above are valid and reliable. This is because the said estimates (model) were free from multicollinearity, autocorrelation, and they were homoscedastic as expected; as VIF values were less than 5; Durbin Watson statistic was between the range, 1.5 and 2.5; and the p-value of Breusch-Pagan-Godfrey statistic was greater than 0.05.

Discussion of Findings

The first major finding of the study is that transactions in the variable income securities market have a positive and significant effect on the market capitalization of the Nigeria's capital market. In other words, the operational activities of the former enhance the performance of the later. This outcome aligns with the first a priori expectation of the study because the variable income securities market, otherwise known as the equities market, is core component of the Nigeria capital market. For instance, out of a total value of transaction of ₦1,168.53 billion of the capital market in 2022, the variable income securities market accounted for ₦1,164.42 billion (CBN, 2022), which is a little below 100 percent. In essence, the operation of the equities market (variable income securities market) was expected to have a direct and significant effect on the market capitalization of Nigeria's capital market (Alshubiri, 2021; Pradhan, Arvin, Norman & Bahmani, 2018). Second, it was observed from the study that operations of the Fixed Income Securities Market have a negative insignificant effect on the market capitalization of Nigeria's capital market. This outcome deviates from the position expressed by the likes of Osayi and Bako (2024); but partially agrees with that expressed by Oke, Dada and Aremo (2021). This implies that growth in volume and value of transactions in the fixed income securities market leads to a decrease in the market capitalization of Nigeria's capital market. Nevertheless, a positive outcome was expected because the Fixed Income Securities Market is a component of the capital market; however, the negative outcome observed is likely because the market is not operating at the expected level. For instance, the Fixed Income Securities Market only contributed 0.33% of the total value of transactions in the Nigerian capital market.

Third, the study reported that operations of the money market have a positive and significant effect on the market capitalization of the Nigeria capital market. This outcome was not expected because the money market is a market that competes with the capital market for available funds, as such; an increase in the value of money market instruments outstanding implies that majority of available funds are channeled to the money market, which ordinarily should reduce the value of transactions in the capital market and vice versa (Osayi & Bako, 2024). However, the underdeveloped nature of the Nigerian money market may be responsible for the direct relationship observed between operations of the money market and market capitalization of the Nigerian capital market (Osayi & Nwani, 2024).

Conclusion and Recommendations

The foregoing suggest that operations of the variable income securities market and the money market have positive and significant effects on market capitalization of the Nigeria capital market; while operations of the fixed income securities market have a negative insignificant effect on the market capitalization of the Nigeria capital market. Hence, it was

concluded that financial markets' operations have mixed effects on the performance of the Nigeria capital market. Thus, the following policy recommendations were suggested:

- i. There is need to further strengthen the variable income securities market in Nigeria by way of increasing the number of listed securities, making the market more liquid, promoting the institutional framework of the market, and enhancing transparency in the market.
- ii. To make the money market more viable, there is need for enhanced publicity about the existence and operations of the market. Nigerians should be made more aware about the existence of this market and they should be told the countless benefits associated with investing in treasury bills and other money market instruments.
- iii. For the fixed income securities market, measures should be put in place to make the market more attractive. Such measures should include offering better rates of return, and having good discounting windows for those who may have bought government and corporate bonds and may along the line want to sell.

Limitations of the Study

The first major limitation of this study is that it covered only three segments of the financial market in Nigeria, which were the variable income securities market, the fixed income securities market, and the money market. It is expected that subsequent studies will take care of this identified gap. The second major limitation of the study is tied to finance as the inflationary pressure in the country increased the cost of the study. The next is time factor which is associated with post graduate programmes. Nevertheless, these challenges were fully surmounted as the researcher resorted to external borrowing and proper time management.

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