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Stock Market Performance, Bank Credits and Economic Growth in Nigeria: A Granger Causality Perspective

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ABSTRACT
Given growing interest in the functioning of the broad segments of the financial market and their interrelationships with the economy, this study consequently, evaluates the extent and directions in which the key variables of stock market capitalization, bank credits and economic growth do promote and/or support themselves in Nigeria. The augmented Dickey Fuller (ADF) and standard Granger Causality tests were executed on employment of secondary data sourced from the Central Bank of Nigeria and the Nigerian Stock Exchange over the period 1971-2012 (42 yrs). The results confirm evidence of one significant unidirectional causality which runs from stock market capitalization to bank credits among all the paired variables. Consequently, the study recommends intensified efforts in the development of financial market products, further relaxation of stock market requirements for corporate quotation and securities listing, as well as enhanced enforcement of legal contracts to strengthen the operations of Nigerian financial market institutions and practice in Nigeria.
Key words: Market Capitalization, Bank credits, Economic growth

1. INTRODUCTION:

Finance theory provides for significant influence of financial markets on economic growth of nations. Schumpeter (1934) demonstrates the demand – following role of financial markets and concludes that where enterprise leads, finance follows. Later studies including Shaw (1973) and Mckinnon (1973) elaborate the supply leading functions of the financial markets. However, Patrick (1976) explores further, the dual – capacity function of financial markets (demand – following and supply – leading roles) thus, evidencing the ultimate roles of financial markets at advanced stages of both financial and economic development of nations.

Despite theoretical constructs on expected harmonious functional interrelationships between financial sector operations and economic growth of nations, some empirical studies have however, identified instances of conflicting interrelationships between financial sectors' operations. In this direction, Stiglitz (1985) as well as Bhide (1993) find that;(i)The banking sector could relatively be more efficient than the stock market in improving resource allocation as well as corporate governance,(ii)Competitive stock markets reduce substantially, the tendency for banks to exercise monopoly power in project financing. However, the studies confirm that in some instances, the banking sector and stock markets do significantly combine to contribute towards economic growth by enhancing information flows and minimizing transaction costs.

Further, Churchill et al. (2013) find that banking sector's operations are negatively related to stock market performance in Ghana. The study attributes this finding to the intensive competition between stock market and the banking industry for business/project financing in Ghana. On the contrary, Central Bank of Nigeria (2007) observes that capital market funds in Nigeria are relatively 4.3 times cheaper than money market based funds. This disparity the study claims, adversely affects the efficiency of financial intermediation as well as choice of project funding sources within the Nigerian setting.

Adeniyi (2006) argues that efficiency of the financial system determines the growth rate of any economy. Consequently, the study concludes that economies with more efficient financial systems tend to grow relatively faster than those with less efficient financial systems. Empirical evidences could however, contradict theoretical expectations. At the level of regional economic organization, the results of Naceur and Ghazouani (2007) suggest that no significant relationship prevails between the simultaneous operations of stock markets and banking sector on economic growth. The study finds further, a prevalence of significant negative association between banking sector development and economic growth after controlling for stock market performance.

Given the growing interest of recent studies on the simultaneous effects of stock market and banking sector performances on economic progress of nations, it becomes expedient to observe that relevant literature on the subject is still sparse within the Nigerian setting. Further, the extent and directions in which the stock market, bank credits and the economy simultaneously lead, promote and/or mutually support each other need to be further explored in Nigeria.

The results of this study are hoped to be of significant benefit to financial market operators, investors, regulators and economic policy formulators in Nigeria. In this direction, it is anticipated that the results will shed more light on the implications of existing policies as they relate to the financial markets. Also, they are hoped to provide avenue for policy changes and/or modifications where necessary. Having provided an overview, the rest of this paper is divided into four major sections. Section two deals with the theoretical framework and review of related literature. Section three offers the materials and methodology. The fourth section presents the results and analyses of same, while the fifth and last section offers the discussions, conclusions and policy recommendations.

2. THEORETICAL FRAMEWORK AND REVIEW OF RELATED LITERATURE:

For clarity of purpose, this section is sub-divided as follows;

2.1 The Role of Financial Markets in the Economy

Several studies including Adenuga (2010), Ikoku (2010), Garcia and Liu (1999) and Ighodaro and Oriakhi (2011) argue that efficient financial markets guarantee efficient resource mobilization and allocation. Other benefits include efficient information and minimal transaction costs, enhanced productivity of capital resources, improved liquidity of long term investments in financial securities and minimization of investment risks through optimal diversification of investments. All these measures according to the studies function to improve the prospects of accelerated economic growth. The contrary situation would logically, provide for information asymmetry, high intermediation and transaction costs, inefficient resource allocation, minimal productivity of deployed capital resources and moral hazard with attendant reduction in economic growth rates.

2.1 Banking and Economic Growth:

Ajie et al. (2006) argue that deposit money banks basically intermediate to effect significant allocation of resources for productive purposes in the economy at market determined rates. Schumpeter (1934) and Robinson (1952) tend to view the financial institutions as typical handmaids to domestic enterprise and consequently, largely function in a demand – following manner. Later studies including Goldsmith (1969), Shaw (1976) and Patrick (1976) advocate that effective management of real interest rates constitutes sufficient basis for stimulation of enhanced savings from the public thereby, boosting investible financial and capital resources. The direction of interest rate regime (financial liberalization or repression) would consequently, advance or stagnate economic growth respectively. Basically driven by supply – leading and growth – inducing potentials of financial institutions, these theories advocate that differences in the levels and rates of economic growth of nations would overtly depend on the extent to which the financial system and markets are liberalized or repressed based on prevailing interest rate regimes.

The concrete basis for lending decisions constitutes further, a significant characteristic of the operations of deposit money banking system. Generally governed by three major principles – safety, liquidity and profitability, Bhole (2006) articulates two dominant approaches to securitization within deposit money banking lending framework. Broadly classified as liquidation and going concern approaches, the liquidation approach, alternatively known as real bills doctrine or commercial loan theory, emphasizes lending to short term profitable and self-liquidating ventures. The approach prefers to look at the marketable assets of the borrower as security for the exposure and consequently, prefers to take a charge/lien on same. On the other hand, the going concern approach lays greater emphasis on the debtor's ability to regularize a credit facility out of anticipated (future) cash flows rather than any associated or tied basket of securities. Deposit money banks largely adopt the liquidation approach. In some instances however, especially in evaluation of commercial papers issued by large and reputable corporate organizations, deposit money banks often rely on negative pledges issued by such corporate organizations as sufficient and final security for such exposures. In some cases however, a combined approach is adopted for purposes of securitization of bank credits.

2.2 Stock Market Operations and Economic Growth:

Garcia and Lin (1999) as well as Naceur and Ghazouani (2007) observe that most of the early literature on the effect of financial market operations on economic growth of nations have largely employed bank – based measures of financial development. Some of the associated bank – based measures include ratio of bank private sector credit to the GDP, ratio of liquid liabilities to the GDP, the ratio of money to national income, the extent to which private sector banking prevails in the economy as well as the effectiveness of banking supervision among others.

However, in recent times, stock market operations and their attendant influences on economic activities have continued to receive increasing attention. Ogun and Iyoha (2005) as well as Ikoku (2010) largely demonstrate

that the theoretical basis for stock market's influence on the economy is routed in the wide acceptance of stock market prices as leading indicators of the economy. Basic tenets of finance theory provide that the value of common stock approximates the present value of all future dividend streams. Consequently, present prices of stock are fully indicative of future economic activities. Since firms largely pay current dividends out of the earnings that arise from real economic ventures, stock prices should for all purposes reflect both current and expected (future) real economic activities.

In this direction, while Atjie and Jovanovic (1993) observe a positive and significant long rum relationship between stock market operations and economic growth, Levine and Zervos (1998) find compelling evidence to conclude that stock market liquidity is significantly related to present and future economic activities. In Nigeria, Ogun and Iyoha (2005), Okpara (2007), Nurudeen (2009) as well as Ikoku (2010) all find significant evidence of long run relationship between stock market performance in Nigeria and economic growth. They also, find that stock market activities constitute sufficient basis for predicting future economic activities in Nigeria.

Further, stock market operations have currently become increasingly internationalized. Consequently, the extent to which a country's stock market operations are domestically and internationally integrated is not only critical, but determines substantially, investors' expectations on their investments. Accordingly Bhole (2006) asserts that integration of domestic and international operations of stock markets have obvious implications for homogeneity in investors' expectations. It basically, requires the harmonization of required returns by investors as capital becomes internationally mobile within an efficient stock market framework in accordance with the dictates of capital Asset Pricing Model that:

$$R_i = R_{f+(}R_m - R_{f)}\,\beta_i \qquad \ldots(1)$$

Where;
R_i = Required return on an asset i.
R_f = Risk – free return.
R_m = Return on market portfolio.
β_i = Beta coefficient or systematic risk coefficient of the target asset for investment i.

Internationalization of stock market operations under efficient market conditions requires that investors' expectations become homogeneous as capital flows freely. In such an efficient market, all market participants are assumed to be price takers according to Okafor (1985) and Osaze (2007). Since there is free flow of information as well as freedom of entry and exit even within the internationalized capital market environment, the process of arbitrage would substantially prevail to correct anomalies arising from periodic asset price distortions. The arbitrage process would consequently, prevent any market participant from consistently earning supernormal returns.

2.3 **Review of Related Literature:**

For clarity, this sub section is further subdivided as follows:

2.3.1: **Studies on the Influence of Banking Operations on Economic Growth:**

Eatzaz and Malik (2009) evaluate the empirical relationship between financial development and economic growth in a sample of developing economies and conclude that bank credits to the private sector significantly enhance productivity of workers and consequently economic growth. Ahmed (2008) evaluates relationship between economic growth and financial development through employment of data on private sector bank credits and gross domestic products in sub-Sahara African countries. Through the application of OLS regression technique, the results indicate a significant relationship between financial development and economic growth. In the same direction, while Prakash (2009) finds a bi-directional causality between financial development and economic growth in India, Kiran et al. (2009) employ the ratio of bank credit to the GDP to confirm a positive and statistically significant relationship between financial development and economic growth.

While evaluating the specific effects of bank credits and economic growth on Nigeria's manufacturing sector, Obamuyi et al. (2012) find that over the 36-year study period, capacity utilization and bank lending rates specifically impact on Nigeria's manufacturing output. However, the study finds as inconclusive, the empirical effect of manufacturing output on Nigeria's economic growth, given the significant level of infrastructural deficiencies in the Nigerian manufacturing sector. Okpara (2010a), examines the relative potencies of financial

repression and liberalization policies on Nigeria's economic growth within the periodic policy regimes. The results indicate that financial development impacted significantly on Nigeria's economic growth during financial liberalization policy regimes compared to the repressive financial policy periods.

Murty, et al. (2012) finds a significant long run relationship between bank credits to the private sector and economic growth in Ethiopia. The study consequently calls for establishment of more banking institutions in Ethiopia. While Akpansung and Babalola (2011) find significant long run relationship between bank credits to the private sector and Nigeria's economic growth, the Granger Causality results show strong evidence of uni-directional causalities that run from GDP to private sector bank credits and also, from industrial production to GDP. At the same time, bank lending rates are found to significantly impede economic growth. In a recent and related study, Acrad et al. (2012) however, find significant evidence to suggest that given recent global financial crises, countries with oversized financial systems relative to the size of their domestic economies tend to experience retardation in their economic growth rates. This raises the question of whether there exists a threshold beyond which, financial development begins to retard economic growth. The study provides evidence that countries with significant financial deepening (whose ratios of bank credits to the private sector relative to the GDP have attained 80-100% range), tend to experience retarded economic growth. The study attributes this result to the overall tendency for the observed and excessive growth rates of private sector bank credits to induce economic volatility. Consequently, it creates a high probability of financial crisis as well as the tendency for resource misallocation to prevail within the economy.

Nwakanma, Nnamdi and Omojefe (2014a) evaluate the potency and relevance of bank credits disbursed to the private sector of the economy with respect to Nigeria's economic growth. The study employs the- Augmented, Dickey – Fuller, Auto regressive Distributed Lag Bound (ARDL), as well as standard Granger Causality tests. The results provide evidence of significant long run relationship between bank credits to the private sector of Nigeria's economy and the nation's economic growth. However, no significant causality is found in any direction. It concludes the prevalence of Schumpeterian independent hypothesis state between bank credits to the private sector and Nigeria's economic growth. Consequently, the study calls for greater efforts in the development of banking products as well as more effective policy measures to enhance banking sector's contributions to economic growth in Nigeria.

At microcredit and associated programmes' level, Nwakanma, Nnamdi and Omojefe (2014b), further evaluate the contributions of micro credits disbursed in the operations of Nigeria's Rural Banking, Community Banking and Micro finance Banking Programmes to the economy over the period of 1982 to 2011. The Augmented Dickey-Fuller, ARDL and Granger Causality tests are employed. The results indicate a significant long run relationship between the disbursed micro credits and Nigeria's economic growth. The study confirms the existence of unidirectional causality which runs from economic growth to micro credits. It concludes that Nigerian microcredit institutions play demand – following roles and depend on the economy for survival. Consequently, the study recommends development of diversified microcredit products, effective marketing of the products and enforcement of credit contracts to enhance the operational efficiency of microcredit institutions.

2.2.2 **Studies on Influence of Stock Market Performance on Economic Growth:**

Ikoku (2010) remarks that African studies on stock market performance generally tend to evaluate the subject from the view point of prevailing interrelationships between stock market capitalization as a proxy for economic growth. Largely, the study concludes in the same direction with Ogun and Iyoha (2005), Okpara (2007) and Adenuga (2010) that stock market operations in Nigeria could significantly provide basis for predicting future economic activities. Contrary to the above assertions, Yartey and Adjasi (2007) as well as Osamwonyi and Kasimu (2013) provide evidence of inconclusive empirical relationship between stock market performance and economic growth in sub-Sahara African region. In another study, Nwezeaku and Okpara (2010), examine the impact of financial deepening on stock market returns volatility in Nigeria. The study employs the GARCH technique and finds that a high level of financial deepening reduces stock market volatility (risk) and consequently improves economic growth. Ezirim et al. (2009) evaluate the relationship between stock prices and inflation in Nigeria and the extent to which stock returns could be used as basis to cushion possible erosion of investors' wealth (fisher effect). The results indicate that for majority of the classified sectors, stock returns could significantly cushion inflationary effects.

In the same direction, Omotor (2010) employs co-integration, error correction models and Granger Causality techniques to test inflationary effects on stock prices in Nigeria as well as fisher hypothesis. The results suggest that stock returns could significantly provide a valuable hedge against inflation within the Nigerian economy. Riman et al. (2008) examine the empirical link between stock market performance and Nigeria's economic

growth. The results provide evidence of significant long run relationship between economic growth and stock market performance with a unidirectional causality that runs from stock market performance to the GDP. The study concludes that stock market in Nigeria significantly promotes economic growth. Further, Okpara (2010b) examines the effects of stock market performance on the growth of investment opportunities in Nigeria through the employment of co-integration and Granger Causality techniques. The results indicate that stock price changes do significantly relate to investment expansion in Nigeria. Based on the results, the study concludes that changes in stock prices are significantly reflective of changes in investment fundamentals hence, economic growth. At the regional economic level again, Naceur et al. (2008) investigate whether stock market liberalization spurs economic growth in the South and Eastern Mediterranean Region. The results provide evidence that stock market liberalization has no significant effect on investment opportunities and economic growth within the region.

2.2.2 Studies on the Simultaneous Effects of Stock Market Performance and Banking Sector Operations on Economic Growth:

Studies of this dimension are currently gaining increasing attention. In this direction, Naceur et al. (2007) evaluate the interrelationships prevailing between stock markets, bank operations and economic growth within the Mediterranean and North African (MENA) Region. The study employs the dynamic GMM panel estimator technique and the results indicate that no significant long run relationship exists between stock market performance, banks' operations and economic growth in the MENA region. The study consequently, calls for policy measures to reinforce the operations of existing financial institutions and markets to enhance their contributions to economic growth.

Ayadi et al. (2013) examine financial development, bank efficiency and economic growth across the Mediterranean Region over the period 1985-2009. Employing several variables including bank credits to the private sector, bank deposits, stock market capitalization, real GDP, financial openness index among others, the results indicate that bank credit to the private sector is negatively related to economic growth. The study attributes this development to weak financial regulation and supervision within the MENA region. On the other hand, the employed stock market performance indicators-market capitalization, size and liquidity, positively relate with, and significantly promote economic growth.

Employing interest rate as a measure of cost of bank lending activities, Olagunde et al. (2006) investigate the prevailing relationships between stock market performance and interest rate regimes in Nigeria. The results indicate that interest rate policies significantly influence stock market capitalization while exerting a negative influence on government development stock rate. Further, Hondroyiannis et al. (2005) examine empirically, the relationship between stock market development and banking system's operational performance in Greece over the period, 1986-1999. The results indicate that both stock market and the banking sector can promote long run economic growth in Greece, although the contribution of the stock market relative to that of the banking sector appears lower in magnitude.

In a related study, Levine and Zervos (1998), Beck and Levine (2004) evaluate the effects of stock markets and banks on economic growth and find that both banking and stock market operations can significantly explain economic growth.

3. MATERIALS AND METHODOLOGY:

For convenience, this section is further divided into subsections which are discussed as follows;

3.1 Data and Variable Description:

The data for this study consist of end of year positions of stock market capitalization, bank credits to the private sector of the Nigerian economy and the gross domestic product at current market prices. Secondary data were sourced from Central Bank of Nigeria's Statistical Bulletin covering the period 1971 to 2012 (42 years). The data set is presented in table 1 below:

Table 1: **Gross Domestic Product, Stock Market Capitalization and Bank Credits to the Private Sector, 1971-2012, (N'b).**

Year	(GDP) at Current Market Prices	Stock Market Capitalization	Bank Credits to the Private Sector	Year	(GDP) at Current Market Prices	Stock Market Capitalization	Bank Credits to the Private Sector
1971	4219.00	0.0201	0.383	1992	265379.00	23.10	40.954
1972	4715.50	0.041	0.551	1993	271336.00	31.20	54.07
1973	4892.80	0.1693	0.675	1994	274833.00	47.50	106.96
1974	5310.00	0.195	0.804	1995	275451.00	66.30	128.70
1975	15919.70	0.273	1.031	1996	281407.00	180.40	146.63
1976	27172.00	0.314	1.688	1997	293745.00	285.80	211.98
1977	29146.50	0.458	2.423	1998	302023.00	281.90	444.37
1978	31520.30	0.619	3.351	1999	310890.00	262.60	326.50
1979	29212.40	1.072	4.480	2000	312184.00	300.00	394.03
1980	29948.00	2.632	5.034	2001	329197.00	472.30	580.30
1981	31546.80	4.464	6.953	2002	356994.00	662.50	797.50
1982	205222.00	5.00	9.295	2003	433204.00	764.90	958.94
1983	1999685.00	5.01	11.302	2004	477533.00	1359.30	1219.99
1984	185598.00	5.70	12.280	2005	527576.00	2112.50	1530.60
1985	183563.00	5.50	13.190	2006	561931.00	2900.00	2005.22
1986	201036.00	6.60	13.973	2007	595822.00	5120.90	2540.75
1987	205971.00	6.80	18.473	2008	634251.00	13181.70	4836.34
1988	204807.00	6.20	21.698	2009	674889.00	9563.00	7842.15
1989	219876.00	10.00	23.851	2010	718977.33	7030.80	8970.40
1990	236730.00	12.80	27.676	2011	775525.70	9918.20	7759.30
1991	267550.00	16.30	33.367	2012	834161.83	9672.70	9101.30

Sources:

(a) Central Bank of Nigeria, Statistical Bulletin (Various issues)

(b) Nigerian Stock Exchange, FACT BOOK (Various issues)

Stock market capitalization is employed as an indicator of stock market performance in this study. It reflects the wealth effects of stock market functions from the speculative perspective. In this sense, Bhole (2006) argues that the stock market through stock market capitalization, functions to assist both the investors and market operators maximize earnings. Other studies including Churchill et al. (2013), Ogun and Iyoha (2005) as well as Shahbaz et al. (2013) employ this measure and find it valuable statistically.

Bank credit to the private sector is employed as an indicator of banking sector's credit to the economy. Demetriades and Hussien (1996) assert that bank credits to the private sector of the economy reflect both the quality and quantity of financing role of deposit money banks in the economy. It excludes all credits extended to the public (government) sector. In this direction, Levine and Zervous (1998) observe that bank credits to the private sector are provided under more stringent and objective credit conditions. Under this circumstance, they have higher potential of generating more qualitative investment results because they are not significantly associated with moral hazard problems.

At the same time, the gross domestic product which serves as a reliable measure of economic growth is carried at current market prices. Central Bank of Nigeria (2005) defines GDP at market prices as that value of GDP which reflects the prices that purchasers pay for the goods and services they acquire or use over the period. This consequently, approximates the historical prices of goods and services. In this manner, since the values of both market capitalization and bank credits to the private sector as recorded in the source documents are all historical, it becomes invariably consistent to adopt at the same time, the current market prices of the GDP for this study.

3.2 Specification of Analytical Techniques and Tests:

The core objectives of this study are to ascertain the extent and directions, in which the key variables of our study (stock market capitalization, bank credits and economic growth) simultaneously promote, support and/or reinforce themselves in Nigeria. For clarity of purpose this subsection is further subdivided as follows;

3.2.1 **Stationarity Tests:**

Time series data often need to be de-trended in order to avert spurious estimates. This is achieved by ascertaining the stationarity properties of the time series variables. Evidence of stationarity or otherwise is validated by confirmation of the unit root properties of each of the time series variables employed in the estimation. Maddala (2007), Gujarah and Porter (2009) express the unit root modeling procedure generally for a specified time series variable of choice Y_t as follows;

$$\Delta Y_t = \propto_o + \propto_i \ Y_{t-1} + \sum_{i=1}^{p} \delta_i \ \Delta Y_{t-1} + \epsilon_i \qquad - - - - - - - - - (2)$$

Where;

Y = Variable of choice

α_o = Intercept

Δ = First difference operator

α_i = (for i=1 and 2) and δ_i (for i = 1, 2 ---ρ) are constant parameters

Σ_i = Stationary stochastic process

ρ = Number of lagged terms chosen by Akaike information Criterion (AIC) to ensure that Σ_i is white noise.

In accordance with equation (2) above, the hypotheses to be tested will consist of the following;

H_o: $\alpha_i = 0$; i.e. there exists a unit root, - time is non- stationary.

H_1: $\alpha_i \neq 0$; i.e. there is no unit root, - time series is stationary.

For decision purposes, if the calculated Augmented Dickey-Fuller (ADF) test statistic is absolutely higher those of the Mckinnon's critical values, then the null hypothesis H_o, will be rejected. The converse would also, hold for the acceptance of the null hypothesis H_o. Non existence of a unit root qualifies the time series data for employment in econometric estimates. However, failure to reject the null hypothesis methodologically provides for further conduct of stationarity test on further differenced variants of each of the employed time series data. To achieve this, equation (2) above is modified to include the second differences on lagged first as well as K lags of the second differences as follows;

$$\Delta^2 Y_t = \ \Psi \Delta \ Y_{t-1} + \sum_{i=1}^{\rho} \emptyset \ \Delta^2 \ Y_{t-1} + \ \Sigma_i \qquad - - - - - - - - - (3)$$

In the circumstance of this further differenced expression, the hypotheses for testing would constitute the following;

H_o: $\psi = O$, i.e. there exists a unit root, which implies that the time series is non-stationary.

H_A: $\psi \neq O$, there exists no unit root, which implies that the time series is stationary.

3.2.2 **The Granger Causality Tests**

The standard Granger Causality test between two time series variables Y and X seeks to ascertain how much of the value present Y that could be attributed to previous values of X and also, to verify if by adding the lagged values of X can further improve the explanation. In other words, the time series variable Y is said to be Granger caused by X if X assists in predicting Y, or if the coefficient of the lagged Xs are confirmed statistically significant in the regression equation. On the whole, the Granger Causality test is predicted on the following regression equations;

$$Y_t = \beta_o + \sum_{i=1}^{n} \beta_i Y_{t-i} + \sum_{i=1}^{n} \beta_u X_{t-i} + \mu_t \qquad -------(4)$$

$$X_t = \propto_o + \sum_{i=1}^{n} \propto_i X_{t-i} + \sum_{i=1}^{n} \propto_i Y_{t-i} + V_t \qquad -------(5)$$

Where;
Y_t and X_t represent the time series to be tested. μ_t and V_t represent the idiosyncratic terms (white noise errors) that capture all the variations in the time series variables Y_t and X_t not included in the lagged values. On the whole, a maximum lag length of 2 was specified.

4. PRESENTATION OF RESULTS:

4.1 Presentation of Stationarity Tests (Unit Root) Results:

The results of stationarity tests are presented in table 2 below;

Table 2: **Results of Stationarity (Unit Root) Tests:**

Differenced Variables	ADF - Statistic	Mickinnon's Critical Values			Order of Integration	Prob.
		1%	5%	10%		
D (GDP)	- 5.204856	- 3.605593	- 2.936942	- 2.606857	1 (1)	0.0001
D (MKC)	- 6.343528	- 3.610453	- 2.938987	- 2.607932	1 (1)	0.0000
D (CPS)	- 3.834354	- 3.653730	- 2.957110	- 2.617434	1 (1)	0.0001

Notes: D(GDP) = First Differenced Values of Gross Domestic Product, D(MKC) = First Differenced Values of Market Capitalization, D(CPS) = First Differenced Values of Bank Credits to the Private Sector.

Source: Authors' Computations Using E-views 7.1.

The results of the stationarity (unit root) tests shown in table 2 above indicate that the absolute values of the augmented Dickey-Fuller (ADF) test statistics for all the study variables are correspondingly higher than those of their Mckinnon critical values at 1%, 5% and 10% respectively. Consequently, all the study variables are confirmed to be stationary, without unit root properties and consequently, quite suitable for employment in econometric estimates. Further, the results indicate that the variables are stationary at first difference (i.e. integrated of order 1, 1(1). Having ascertained the suitability of the time series data for employment in the analysis as well as the order of integration, the study proceeds to ascertain the nature and directions of causality among the variables of study.

4.3 Presentation of Granger Causality Results:

Table 3 below provides the results of the standard Granger Causality tests;

Table 3: **Results of Pair-Wise Granger Causality Tests:**

Null Hypothesis	Lags	Obs	F-statistic	P-Values
D(MKC) does not Granger Cause D(GDP)	2	39	0.10324	0.9022
D(GDP) does not Granger Cause D(MKC)	2	39	0.58467	0.5628
Null Hypothesis	**Lags**	**Obs**	**F-statistic**	**P-Values**
D(CPS) does not Granger Cause D(GDP)	2	39	1.53312	0.2304
D(GDP) does not Granger Cause D(CPS)	2	39	1.31646	0.2814

Null Hypothesis	Lags	Obs	F-statistic	P-Values
D(CPS) does not Granger Cause D(MKC)	2	39	0.27389	0.7621
D(MKC) does not Granger Cause D(CPS)	2	39	143.766	3.E-17

Source: Author's Computations Using E-views 7.1

The results of Granger causality tests indicate that no bi-directional causality exists between any pair of the study variables. However, unidirectional causality is only observed between stock market capitalization and bank credits to the private sector. The causality flows from stock market capitalization to bank credits as the probability value is 3.E-17, which is significant at 0.05 level

5. DISCUSSIONS, CONCLUSIONS AND POLICY RECOMMENDATIONS:

The results of this study evidence the prevalence of Schumpeterian independent hypothesis state between the economy and all of the financial sector operations (stock market capitalization and bank credits to the private sector of the economy. However, the causality results largely evidence the prevalence of Schumpeterian independent hypothesis state between the economy and all of the financial sector operations (stock market capitalization and bank credits to the private sector. The obvious implication of the above trend is that both the Nigerian economy and the domestic financial sector (capital market and money market) are still, largely operating independently and have not significantly supported or promoted themselves.

However, the existence of unidirectional causality between stock market capitalization and bank credits to the private sector with causality flowing from stock market performance to private sector bank credits tends to provide evidence of a certain level of support within the Nigerian financial markets. This result might probably be attributed to the fact that improved corporate performance indicated by stock market's rising capitalization might stimulate growth in corporate demand for bank credits in order to meet their working capital requirements as well as importation of raw materials. Largely, the results provide overwhelming evidence that Nigerian deposit money banks have not significantly departed from their traditional preference for profitable short-term self liquidating investments.

Given the above results and the urgent need for mutually supportive relationships between the financial sector and the Nigerian economy, it is recommended that;

i. Nigeria's capital and money market institutions should engage in extensive development, marketing and cross-marketing of financial sector/service products. Of great emphasis should be those products that address the varied needs of the growing number of micro, small and medium scale enterprises in order to accelerate the growth of the economy.

ii. Capital market regulators should relax further, the conditions for quotation of companies on the Nigerian stock exchange as well as the conditions for listing of corporate securities. This will obviously, provide Nigerian quoted companies with greater access greater investible funds held by investing public in Nigeria as idle cash balances.

iii. The state should also, take further measures to strengthen enforcement of contracts to enhance credit recovery capacities of bank. It should also, ensure improved monitoring of capital market operations in order to boost public confidence in the operations of capital market in Nigeria.

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