

Capital Market and Economic Growth in Nigeria: A Causal Analysis (1987 – 2021)

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ABSTRACT

The study investigated the effect of capital market on economic growth in Nigeria. It also determined the causal relationship between capital markets on economic growth. The study covered the liberalised economic era in Nigeria starting from 1987 to 2021. The study employed new issues, market size, market liquidity, market volatility and bond market size as proxies for capital market to determine the nexus with economic growth. Data were obtained from the Central Bank of Nigeria statistical bulletin and analysed using the ARDL regression and granger causality tests. The results showed that (1) New Issues has no significant long and short run effects on economic growth but economic growth granger causes new issues, (2) Stock Market Size has a negative long run significant effect; a mixed short run effect of positive in the initial period and negative in later years but no causal relationship with economic growth, (3) Stock Market liquidity has significant and positive long run and short run effects but no causal relationship with economic growth, (4) Stock Market Volatility has insignificant negative long run effect; a mixed positive and then negative effect in the short run but no causal relationship with economic growth, and (5) Bond Market Size has significant and negative long run and short run effects but no causal relationship with economic growth in Nigeria. The study concluded that capital market follows the demand following hypothesis as economic growth determines one of the capital market variables (new issues). The capital market size, liquidity and volatility have no causal relationship with economic growth which depicts the neutrality hypothesis that the financial market (nee capital market) and economic growth has no recourse to each other in development. The recommendations put forward by the study include that existing firms in Nigeria should be encouraged to assess the capital market for business financing; and the need for effective supervision of stock market activities. The outcome of the study contributed immensely to new knowledge in capital market and economic growth nexus by debunking the sought-after finance-led theory in support that the development of the capital market should drive economic growth.

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KEYWORDS: Capital market, stock market size, bond market, market liquidity, market volatility, Nigeria

1. INTRODUCTION

Capital market and growth nexus has remained a topical issue from the eighteenth century till date. The crux of the topic is that capital market is important for the overall development of an economy. This heralds from the fact that the capital market is a pool of framework and institutions that contributes to the socio-economic growth and development of emerging

economies (Basse, 2009). An economy thrives when there is development in areas of employment and poverty levels. One of the economic factors that drives such wellbeing is availability of fund for investment. The deposit money banks are institutions with huge and reliable capital base to provide the required investment funds for the economic agents,

but this can only suffice for short term capital needs. Investors thus deserves an institution capable of providing funds that meets the long periods of gestation inherent in real sector for which banks are incapable of undertaking.

The financial market comprises two broad segments being the money and the capital markets. Unlike the money market that serves short term needs, capital market, is a market for long term securities, including the equity and the bonds market. The capital market provides funds which enables government and firms to raise long-term capital for financing new projects, or expanding and modernizing industrial concern. It is therefore an economic institution which promotes efficiency in capital formation and allocation, since funds are taken from surplus economic units to deficit economic units for investment purposes, (Osaze, 2007). Suffice it to say that if capital is not provided to those productive economic units, the rate of expansion of the economy will lag behind, this is because it is the capital resource gap that leads to external borrowing (Ihezukwu & Uche, 2020).

The capital market in Nigeria is categorized into two aspects; the Primary and the Secondary markets. The primary market being a market for trading newly issued securities while the secondary markets trade on old or already existing securities. Major institutions involved in the capital market activities are; the Securities and Exchange Commission (SEC) as a regulatory body, the Nigerian Exchange Group, Brokerage Houses, Issuing Houses, Unit Trusts, and so on. The development of the Nigerian capital market dates back to the late 1950's when the Federal Government through its Ministry of Industries set up the Babcock Committee to advise her on ways and means of setting up a stock market. Prior to independence, financial operators in Nigeria comprised mainly of foreign owned company commercial banks that provided short-term commercial trade credits for the overseas companies with offices in Nigeria, (Nwankwo, 1991; Ibenta, 2000).

The Nigerian government in a bid to accelerate economic growth embarked on the development of the Nigeria Capital market. This is to provide local opportunities for borrowing and lending of long-term capital by the public and private sectors as well as opportunity for foreign-based companies to offer their shares to the local investors and provide avenues for the expatriate companies to invest surplus funds (Bassey, Ewah & Essang, 2009). Based on the report of the Babcock Committee, the Lagos Stock Exchange was set up in 1959 with the enactment of the Lagos Stock Exchange Act of 1961. It

commenced business in June 1961 and assumed the major activities of the stock market by providing facilities for the public to trade in shares and stocks, maintaining fair prices through stock-jobbing and restricting the business to its members (Ihezukwu & Uche, 2020).

In 1977, the Lagos Stock Exchange was renamed the Nigerian Stock Exchange charged with the objectives of providing facilities to the Nigerian public for the purchase and sale of funds, stocks and shares of any kind and for investment of money among others. According to the Memorandum and Articles of Association, the Exchange is incorporated as a private non-profit organisation limited by guarantee to undertake the functions of providing trading facilities for dealing in securities listed on it among others. Initially, trading activities commenced with two federal government development stocks, one preference share and three domestic equities. The market grew slowly during the period with only six equities at the end of 1966 compared with three in 1961. Government stocks comprised the bulk of the listing with 19 of such securities quoted on the Exchange in 1966 compared with six at the end of 1961.

Prior to 1972, when the indigenization policy took off, activities on the Nigerian Stock Exchange were low, that was true both in terms of the value and volume of transactions. For instance, the value of transactions grew from ₦1.49 million in 1961 to ₦16.6 million in 1971. Similarly, the volume of transaction grew from 33 to 634 over the same period. Although the bulk of the transactions were in government securities, which were mainly development loan stock through which government raised money for the execution of its development plans (NSE Fact Book, 2002). Accordingly, with the promulgation and implementation of the Nigerian Enterprises Promotion Decree of 1972, the principal objectives of the capital market becomes promoting capital formation, savings and investment in the industrial/commercial activities of the country, the low level of activities in the stock market increased as Nigerians gained the commanding heights of the economy.

However, following criticisms that the Nigerian Stock Exchange was not responsive to the needs of local investors, especially indigenous business men who wished to raise capital for their businesses, the NSE, introduced the Second-tier Securities Market (SSM) in 1985 to provide the framework for the listing of small and medium-sized Nigerian companies on the exchange. Six companies were listed on the segment of the stock market by 1988 and by 2002, over

twenty-three companies had availed themselves of the opportunities offered by this market (Odoko, 2004). A fundamental question concerning stock markets is their efficiencies, the three forms of market efficiency described in the financial markets are; allocational, operational and informational efficiencies. However, Ibenta, Adigwe, Obialor and Alajekwu (2017) noted that a stock market with higher informational efficiency is more likely to retain operational and allocation efficiencies.

A market is efficient with respect to a set of information, if it is impossible to make economic profits by trading on the basis of this information set. The term efficiency refers to a wide availability of information on past stock prices to the general public and in turn stock, how price movements respond to the information in a timely and accurate manner. Capital market efficiency therefore suggests that stock prices incorporate all relevant information on past stock prices when that information is readily available and widely disseminated such that there is no systematic way to exploit trading opportunities and acquire excess profit. In other words, no arbitrage opportunities can be tapped using ex-ante information as all the available information has been discounted in the current prices (Ihezukwu & Uche, 2020).

The financial intermediation paradigm posits that, in an efficient market, the capital market will transmit economic resources in a manner that enhances economic growth (Bagehot 1873, Schumpeter, 1911). The neoclassical growth model makes three important predictions that defines the condition for the financial intermediation paradigm as follows: (1) increasing capital relative to labour creates economic growth; (2) poor countries with less capital per person will grow faster because each person investment in capital will produce higher return than rich countries with ample capital; and that (3) as a result of diminishing return to capital, an economy will eventually reach a point at which any increase in capital will no longer create economic growth. However, it can overcome this steady state and grow by investing in new technology.

The role of the capital market to economic growth has spread across four opinion quarters forming the bases for the theory behind the financial development and economic growth. These are the supply-leading hypothesis, demand-following hypothesis, bidirectional-causality feedback view and the fourth view of neutrality stipulating that financial development and economic growth have no causal relationship (Nyasha & Odhiambo, 2015). The supply leading hypothesis claims that the development of financial sector as the precondition for economic

growth (Bayar, Kaya, & Yildirim, 2014). The demand following hypothesis claims that growth instigates the demand for financial commodities (Maharjan, 2020). The bi-directional causality hypothesis stipulates that financial progression and economic growth are bi-directionally causal while the fourth view states that financial progression has no relationship with economic growth (Nyasha & Odhiambo, 2015). This study seeks to contribute to the literature on the relationship between capital market and growth in Nigeria on five levels: capacity to inject new funds through the new issues market, the market size, market liquidity, market volatility and bond market. Moreover, the incidence of poverty, unemployment, and income inequality are still evident and rampant in the Nigeria Stock Exchange. This needs investigation as to causal influence of capital market development indicators on growth of Nigeria economy.

2. Statement of the Problem

The most dominant notion in literature is that establishing and strengthening the capital market institutions boosts economic growth for the welfare of the economy. However, theorists are dichotomous on the role and importance of the financial market; from finance-led, through the opposite demand following argument to the no-effect neutrality paradigm of the role of capital market on the financial system. Despite that arguments supports that stage of economic development as developing, emerging or developed, determines which theoretical proposition prevails in an economy, Nigeria in a developing stage still records diverse empirical findings from finance-led to demand following paradigms.

The spate of growth in the Nigerian capital market was distracted by series of crises including the 2008 world economic crunch, economic downturn of the 2015s and the recent COVID 19 pandemic. Observations reveal that both the economy and the capital market seems to respond in similar flow to these eras suggesting serious relationship between capital market and growth. However, the trends does not suggest whether it was the growth issues that affect the capital market. This would constitute a dilemma for the policy makers in directing growth policies for Nigeria.

The empirical studies from Nigeria so far seems unanimous to finance-led proposition (Uruakpa, 2019; Adebayo, Awosusi & Eminer, 2020; Oluyemi & Adewale, 2020; Migap, Ngutsav & Andohol, 2020; Maharjan, 2020), except the work of Eneisik, Ogbonnaya and Onuoha (2021) that shows feedback relationship. Moreover, these studies did not account for causal relationship with bond market, and stock market volatility. There is need to understand in a

holistic manner the capital market – growth nexus in Nigeria.

3. Theoretical Framework

The theoretical framework of this study is anchored on financial intermediation theory that was propagated by the early economists as Bagehort (1873), Schumpeter (1911) and Hicks (1969). The theory posit that the financial system enables the transmission of economic resources from the less productive idle unit to the more productive active unit of the economy. This process is performed by the

financial system by receiving deposits and granting loans. It is the financial institutions as agents of financial intermediation that carry out these functions. The theory of financial intermediation supports that the financial market development enhances the raising of savings and increased investment which ultimately boosts economic growth. Thus the McKinnon (1973) and Shaw (1973) finance-led or supply leading hypothesis supports that the financial market is the driver of the economy.

4. Empirical Review

Table 1: Webometric analysis of capital market and growth nexus

SN	Author and Date	Topic	Scope	Variables Employed	Methods	Major Findings
1	Alajekwu and Ezeabasili (2012)	Relationship Between Stock Market Liquidity and Economic Growth	Nigeria: 1986 to 2010	Dependent: Gross Domestic Product (GDP) Independent: Value Trade Ratio (VTR), Number of Shares Trade Ratio (NTR) and Turnover Ratio (TOR)	Johansson integration approach	No effect, no causal relationship
2	Alajekwu and Achugbu (2012)	Stock Market Development on Economic Growth	Nigeria: 1994 - 2008	Dependent: GDP Independent: market capitalization ratio (MCR), VTR and TOR	Ordinary Least Square (OLS) techniques	MCR and VTR have negative effect. TOR has positive effect
3	Oluwatosin, Adekanye and Yusuf (2013)	Impact of Capital Market on Economic Growth and Development	Nigeria: 1999 and 2012	Dependent: GDP Independent: MCR, VTR and TOR	ordinary least square regression	No effects
4	Aduda, Chogii and Murayi (2014)	Capital Market Deepening and Economic Growth	Kenya, Nairobi Securities Exchange, 1992 to 2011	Dependent: GDP Independent: TOR, Bond Market Turnover Ratio (BTOR), VTR and MCR	OLS regression technique	BMTR, TOR and are significant and positive; VTR and MCR are insignificant and negative
5	Briggs (2015)	Impact of the Capital Market on the Economy	Nigeria: 1981-2011	Dependent: GDP Independent: MCR, total new issues (TNI), value of transactions (VLT), and total Listed Equities and government stocks (LEGS)	Johansen co-integration and Granger causality tests	positive impacts

6	Coskun, Seven, Ertugrul and Ulussever (2017)	Capital Market Sub-Components and Economic Growth	2006:M1 and 2016:M6 in Turkey	Dependent: GDP Independent: MCR, pension and mutual funds' total asset values (FUNDS), market capitalization of corporate bonds (BMCAP), VTR, total value of short and long term government bonds (DIBS), rate of employment (EMP), consumer price index (CPI), and reel effective exchange rate (REER)	Autoregressive distributed lag (ARDL), Granger and Todo Yamamoto techniques and Markov Switching Regression and Kalman Filter models	Long run relationship exist. Capital Market development causes economic growth Bond market development is negative
7	Muyambiri and Chabaefe (2018)	Causal Relationship Btw Financial Development and Economic Growth	Bostwana, 1976 to 2014	Dependent: GDP Independent: Investment, Savings, MCR, VTR, TOR	Multivariate Granger causality model	Bank-related variables causes GDP
8	Tabash (2018)	Islamic Banking Investments and Economic Growth	United Arab Emirates (UAE), 1989 to 2016	Dependent: GDP Independent: Bank Investment	ARDL and Granger causality	Positive effects in long and short run. Bidirectional Causal relationship
9	Mamun, Ali, Hoque, Mowla and Basher (2018)	Stock Market Development and Economic Growth	Bangladesh, 1993 and 2016	Dependent: GDP Independent: MCR, financial deepening,, INTR and real effective exchange rate	ARDL and Granger causality	MCR has direct impact in long and short run. Bidirectional causal relationship
10	Abina and Lemea (2019)	Capital Market and Performance Of Economy	Nigeria: 1985 to 2017	Dependent: GDP Independent: MCR, VTR, NI	Johansen Co-integration, Error correction and Granger Causality	long-run positive relationship GDP cause MCR and VTR
11	Uruakpa (2019)	Capital Market and Industrial Sector Development	Nigeria, 1985 to 2017	Dependent: GDP of industries Independent: All share index (ASI), MCR, VTR	Co-integration and Error Correction Model	Capital market has long and short run impact on GDP

						Industrial output causes MCR and VTR (supply leading hypothesis)
12	Adebayo, Awosusi and Eminer (2020)	Stock Market and Economic Growth	Nigeria, 1989 to 2017	Dependent: GDP per Capita Independent: VTR, STOR, MCR	ARDL, FMOLS, DOLS, Toda Yamamoto causality and the variance decomposition techniques	stock markets has long run effect on economic growth MCR, VTR are positive Stock market variables has unidirectional causality on GDP (supply leading hypothesis)
14	Oluyemi and Adewale (2020)	Financial Development and Economic Growth	Nigeria: 1985 to 2015	Dependent: GDP Independent: MCR, VTR, STOR, Financial market (CPS, MS, commercial bank assets)	Toda and Yamamoto and Dolado and Lütkepohl (TYDL) approach	bi-directional causality between financial markets indicators and GDP Unilateral causality from stock market indicators to GDP
15	Migap, Ngutsav and Andohol (2020)	dynamics of financial inclusion, capital market development and economic growth	Nigeria: 1986 to 2017	Dependent: GDP Independent: Market capitalisation, penetration index (financial inclusion), Lending rate, bank loans to SMEs and Exchange rate	Toda and Yamamoto causality	No causal relationship between financial inclusion and capital market Unidirectional causality from capital market to GDP
16	Maharjan (2020)	financial development and economic growth	Nepal: 1975 to 2019	Dependent: GDP and GFCF Independent: Stock Market Capitalization (MC), Insurance Premium, (IP) and Real Private Sector Credit	Johansen co-integration test, Granger Causality test, and Vector Error Correction Model (VECM)	Long run relationship exists Unidirectional causality from MC to GDP
17	Ihezukwu and Uche	Capital market and	Nigeria: 1981 to 2017	Dependent: unemployment rate	impulse response	Both models showed long

	(2020)	growth nexus		(UNPR) and poverty reduction (PR) Independent: MCR, VTR, ASI,	functions (IRF) and variance decompositions	run relationships. Capital market does not have significant contribution to poverty and unemployment reductions
18	Adesanya, Adediji and Okenna (2020)	Stock Exchange Market Activities and Economic Development	Nigeria: 1985 to 2019	Dependent: GDP Independent: MCR, ASI, Total volume of transaction (TNOV)	ordinary least square (OLS) method	Capital market had positive, with significant effects from ASI and TNOV
19	Paudel and Acharya (2020)	Financial Development and Economic Growth	Nepal: 1965 to 2018	Dependent: GDP Independent: Broad money, domestic credit to private sector, total credit from banking sector, capital formation, and Foreign direct investment	ARDL	financial development causes to economic growth
20	Eze, Ezenwa and Chikezie (2020)	Stock exchange and economic growth	Nigeria: 1990 to 2015	Dependent: Real GDP Independent: domestic share traded (DOP), Listed domestic companies (LDC), Turnover ratio of the stock market (TOR) and Value of shares traded to GDP (VST)	ARDL	LDC and TOR had a negative and significant effect on lnRGDP, While VST had a positive and significant effect on lnRGDP
21	Eneisik, Ogbonnaya and Onuoha (2021)	capital market indicators and economic growth	Nigeria: 1989 to 2019	Dependent: Real GDP Independent: MCR, ASI, and VTR	OLS, Johansen cointegration test, and pairwise granger causality	Bidirectional causality exist MCR has positive effect. ASI and VTR has no effect
22	Oke, Dada, and Aremo (2021)	Bond Market Development and Economic Growth	Nigeria: 1986 to 2018	Dependent: GDP Independent: Government Bond (GBOND), Corporate Bond (CBOND), Bond Yield (BYID) and Value of Bond	Co-integration bounds test approach	CBOND was positive while BYID had negative effects.

				Traded (VBTD)		
23	Hismendi, Masbar, Nazamuddin, Majid and Suriani (2021)	Comparative Causal Relationship Between Sectoral Stock Markets and Economic Growth	Quarterly time-series data (first quarter 2009 to fourth 2019).	Dependent: GDP of agricultural, financial, industrial, and mining sectors Independent: Sectoral Stock Market Shares	Multivariate granger causality test	Agric has demand pull hypothesis Industrial sector had supply leading hypothesis
24	Abel, Magomana, Makamba and Le Roux (2021)	Stock Market Development and Economic Growth	Southern African Development Community (SADC) region: 1993 to 2017	Dependent: GDP Independent: market capitalisation, trade openness and investment	ARDL	bi-directional causality both in the short and long run
25	Algaheed (2021)	Capital Market Development on the per-Capita GDP Growth	Saudi Arabia: 1985 to 2018	Dependent: GDP Independent: share price index, capitalization, liquidity, number of share transactions, and number of shares	ARDL, FMOLS and Johansen tests	capitalization and liquidity had negative signs, whereas share price index, number of shares traded, and the ratio of number of share transactions had positive signs NO casual effects

Source: Author's conception

The review cut across Asia, Africa and some developed economies. It also cut across the financial markets (including bank-related money market and the capital market). More of the concern of the present study is the capital market, of which the review identified several segments to include new issues market, debt market, and stock market. The debt market involved variables as the government bond, corporate bond among others whereas the stock market captured the market capitalisation and number of shares as measure of size; the value traded, volume traded and turnover ratio as measures of liquidity while All Share index measures volatility. Another strand is the new issues market and bond market development which was not adequately captured by the previous studies in Nigeria. Thus, it has been learned from the review that capital market components include new issues market development (new capitals), bond market development (government and corporate bonds sizes and turnover) and stock market development (market capitals, number of quoted firms, value traded, volume traded, turnover ratio, and All share index).

Of the studies reviewed, majority centred on capital market variables and growth nexus. The outcome is replete with conflicting findings. For instance, on a causal issues, the findings lies across supply leading (finance led) hypothesis, demand following (growth driven) economy and no causal effects between finance and growth trends. Algaheed (2021) in Saudi Arabia posits no causal relationship. The studies of Abel, Magomana, Makamba and Le Roux (2021) in SADC and Eneisik, Ogbonnaya and Onuoha (2021) from Nigeria, and Tabash (2018) from UAE and Mamun, Ali, Hoque, Mowla and Basher (2018) in Bangladesh saw two-way causal relationship. However, the work of Paudel and Acharya (2020) and Maharjan (2020) both in Nepal and Migap, Ngutsav and Andohol (2020) and Adebayo, Awosusi and Eminer (2020) in Nigeria found that finance led (supply leading

hypothesis) obtains. Even a monthly sourced data from developed Turkish economy from Coskun, Seven, Ertugrul and Ulussever (2017) supported the finance led hypothesis. In a relatively mixed results, Hismendi, Masbar, Nazamuddin, Majid and Suriani (2021) found that agricultural sector follows demand following hypothesis whereas the industrial sector supports supply leading hypothesis. These results tends to suggest that nature of relationships and relevance of the capital market to the economy is economy dependent and at times can be driven by the activities in a given sector. One remarkable fact about the causal relationships is that it demeans the time serial nature of data whether for annual, quarterly and monthly data.

The theoretical review identified a spectrum of views about of the direction on relationship in the capital market and growth nexus. The demand following hypothesis supposes that growth drives capital market development whereas the supply leading hypothesis posits the opposite; a scenario where growth in the capital market drives the economy. The supply leading hypothesis is the anchor of most finance supporters as the wheel and fulcrum on which the economy revolves. Another strand of the theory is that both the economy and financial market drives one another as claimed by the bi-directional causal proponents. However, the neoclassical portends that the financial market and economic activities runs at variants and has no recourse to one another in the course of development. These theories are the bane of academic conflict from the era of Schumpeter till date.

5. Methodology

The study was based on *ex-post facto* research design. The study employed secondary data set based on time series covering the market-based era in Nigeria starting from 1987 to 2021

The variables for the study are two pronged. Dependent variable is economic growth indicator; while independent variables are the capital market indicators.

Dependent Variable: The dependent variable will be economic growth. It will be represented with GDP growth rate. This is rate of change in GDP over time. It captures a rate of change of trend in movement of the quantity of GDP. An upward trend indicate growth and a continuous upward trend signified economic boom. A downward trend is an indication of low output and a continuous downward trend implies economic downturn. Thus, annual GDP growth rate will be a good measure of economic growth in this study.

A number of capital market indicators are employed to proxy for the capital market performance that the specific objectives represented. These include

1. New issues which is the total value of new shares issues and subscribed to for capital investment of quoted firms in Nigeria. It is obtained by dividing the New Issued Amount by Real GDP.
2. Market Capitalisation as proxy for stock market size. Market capitalisation in Nigeria comprises government securities, corporate bonds, Exchange Trade Funds and equities. The value is computed as total market capitalisation divided by Real GDP. This is market capitalisation ratio.
3. Turnover ratio is used as proxy for stock market liquidity. It is obtained as the total value of traded shares divided by total market capitalisation.
4. The all share index is used as proxy for stock market volatility. It measured the stock market riskiness. It is expressed as the log of the index values.

The model specification follows from the contents of the specific objectives of the study. The variables included in the study were based on the works of Algaed (2021), Eneisik, *et al* (2021) and Adesanya, *et al* (2020) that employed a plethora of capital market variables to develop a framework for capital market studies. These models did not include new issues which the current study incorporated. Thus the present model will be:

$$GDP_r = f(NI, SMS, SML, SMV, \text{ and } BMS)$$

Where:

GDP_r = Gross Domestic Product growth rate

NI = new issues represented by value of new issues raised.

SMS = Stock market size represented by the stock market capitalisation ratio.

SML = Stock market liquidity represented by turnover ratio

SMV = Stock market volatility represented by All Share index as a proxy for stock market riskiness.

BMS = Bond market size represented by the value of government debts traded

The Vector Autoregressive (VAR) model of the univariate model was adapted from the work of Hismendi, *et al* (2021) based on the pairwise causality framework. According to Granger (1969), “*X* causes *Y*, if *X*'s past values

improve the estimate of Y , simply by using Y 's past values". It is therefore a concept that is based on predictability, that is, the ability of one variable to help predict another. The models for the study, in line with the specific objectives are as follows:

$$GDP_r_t = \alpha_{01} \sum_{i=1}^p \alpha_{1i} GDP_{r,t-i} + \sum_{i=1}^p \alpha_{2i} NI_{t-i} + e_{1t} \quad (3.1)$$

$$GDP_r_t = \alpha_{01} \sum_{i=1}^p \alpha_{1i} GDP_{r,t-i} + \sum_{i=1}^p \alpha_{2i} SMS_{t-i} + e_{1t} \quad (3.2)$$

$$GDP_r_t = \alpha_{01} \sum_{i=1}^p \alpha_{1i} GDP_{r,t-i} + \sum_{i=1}^p \alpha_{2i} SML_{t-i} + e_{1t} \quad (3.3)$$

$$GDP_r_t = \alpha_{01} \sum_{i=1}^p \alpha_{1i} GDP_{r,t-i} + \sum_{i=1}^p \alpha_{2i} SMV_{t-i} + e_{1t} \quad (3.4)$$

$$GDP_r_t = \alpha_{01} \sum_{i=1}^p \alpha_{1i} GDP_{r,t-i} + \sum_{i=1}^p \alpha_{2i} BMS_{t-i} + e_{1t} \quad (3.5)$$

Where: e = error term, t = term periods, I = variables and \sum = summation of variables over time.

The finance led hypothesis posits that capital market development has positive relationship with economic growth. Thus, NI, SMS, SML, and BMS have positive relationships with GDP_r. However, SMV has negative relationship with GDP_r.

The unit root analysis is apt in every long term time series data to test for the stationarity of the variables. The Augmented Dicker Fuller test will be adopted, wherein the null hypothesis is presence of unit root. The Engel Cointegration test will be used to confirm presence of long run relationship among the variables. Then the pairwise granger causality test will be used to determine the direction of causality between each capital market variable and GDP_r.

6. Presentation and Analysis of Data

6.1. Description of the Variables

Table 2: Summary of Descriptive Nature of the Variables

	GDP _r	NI	SMS	SML	SMV	BMS
Mean	4.658529	0.016544	0.122641	0.0600	3.9049	0.3217
Maximum	14.60000	0.032500	0.380100	0.1756	4.7026	7.3199
Minimum	-1.920000	0.005200	0.030900	0.0102	2.2477	0.0000
Std. Dev.	3.927889	0.006987	0.083747	0.0366	0.7428	1.2702
Jarque-Bera	1.034020	2.310460	5.015787	5.9032	5.5913	1093.7
Probability	0.596301	0.314985	0.081440	0.0522	0.0610	0.0000
Observations	34	34	34	34	34	34

Source: Authors computation from Eviews 9.0

The result in Table 2 is the summary of mean, maximum, minimum and standard deviation of the variables used for the study. The mean showed the average value of the variables. The mean for real GDP growth is 4.658529 which indicates that Nigeria economic growth over the period under study is an average of 4.66% annually. This implies that Nigeria is a growth economy with high GDP growth rate. The GDP growth rate compares with very high maximum of 14.6% witnessed in early 2000s, and the negative minimum of -1.9% seem in the recent 2020. This shows that Nigeria economic growth was booming in the periods around 2000s and in austere in the later years especially within the last five years backward from 2020. The standard deviation is 3.927 and within a lower bound than maximum and minimum to indicate that there is no wide variation from normal distribution.

The New Issues (NI) measures as ratio of total amount issues divided by real GDP is given as 0.016544. This shows a ratio of 0.02 to real GDP, with maximum and minimum of 0.0325 and 0.0052 respectively. The standard deviation is 0.0069.

For the stock market size (SMS) measured as total market capitalisation divided by real GDP, the mean is 0.1226, maximum of 0.3801 and minimum of 0.0309, with a standard deviation of 0.0837. The stock market liquidity (SML) being the total value traded divided by real GDP has a mean, maximum and minimum values of 0.0600, 0.1756 and 0.0102 with a standard deviation of 0.0366.

The stock market volatility (SMV) being stock riskiness is the All Share Index indicating variation in total market share prices over time. The mean, maximum and minimum values are 3.9049, 4.7026, and 2.2477 respectively. The standard deviation is 0.7428. The mean value for Bond Market Size (BMS) measured as government debt is 0.3217. The maximum and minimum values are 7.3199 and 0.0000, respectively with a standard deviation of 1.2702.

The results of the Jarque Bera statistics is used to determine the normality of the individual variables. The coefficients for GDP_r (1.0340, $P > 0.05$), NI (2.3104, $P > 0.05$), SMS (5.0157, $P > 0.05$), SML (5.9032, $P > 0.05$), SMV (5.5913, $P > 0.05$) and BMS (1093, $P < 0.05$). The decision rule is to reject the null hypothesis (variables are normally distributed) when the p.value is less than 0.05 level of significance; or accept in the otherwise. Since the p.values for GDP_r, NI, SMS, SML, and SMV are greater than 0.05 level of significance, we cannot reject the null hypotheses. The p.value for BMS is less than 0.05 level of significance and indicates lack of normality.

6.2. Stationarity Test Result

This test is conducted to determine the nature of the time series of the variables. It is pertinent since most time series data are susceptible to instability that can distort normal trends and affect the reliability of regression analyses. The study thus conducted stationary test using the Augmented Dickey-Fuller (ADF) Tests. The null hypothesis that is tested in the variable have unit root tests (that is not stationary). The stationarity results for the variables are presented in Table 3.

Table 3: ADF Test of Stationarity for the variables

Variables	At Level		First Difference		Order of Integration
	t-Statistic	Prob.	t-Statistic	Prob.	
GDP _r	-2.886570	0.0577	-7.710109	0.0000	1(1)
NI	-2.967242	0.0489			1(0)
SMS	-1.657727	0.4427	-6.208374	0.0000	1(1)
SML	-2.480424	0.1292	-7.619755	0.0000	1(1)
SMV	-3.175355	0.0306			1(0)
BMS	-4.528336	0.0010			1(0)

Source: Authors computation from Eviews 9.0

The tests of stationarity for the variables were shown in Table 3. The results showed that only NI, SMV, and BMS are stationary at level. The GDP_r, SMS and SML are not stationary in their level but become stationary at first defences. This means that the three variables are stationary at first difference 1(1) and three stationary at level 1(0).

This means that the model have variables with combined stationarity status of level 1(0) and first difference 1(1). This means that some of the variables stationary at level are not time variant while the others that are stationary at first deference suggest that they respond to changes in time periods. The most suitable tool of analysis in this instance is the Autoregressive Distributive Lag technique (ARDL).

6.3. Model Estimation of the Effect of Capital Market on Economic Growth in Nigeria

Table 4: ARDL Bounds Test for long run effect of capital market on economic growth

ARDL Bounds Test		
Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	k
F-statistic	12.64183	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
5%		
1%	3.41	4.68

Source: Authors computation from Eviews 9.0

The test of long run relationship between capital market variables and economic growth is measured with ARDL bound test. The result compare the bound critical values with the F-statistics values. The decision rule: If the F-statistic is above the upper and lower critical bound values, then there is a long run relationship in the model; but where the F-statistics is below the upper and lower bound critical values, it is inferred that there is no long-run effect (relationship). The null hypothesis is that “No long-run relationship exists”.

From the results, the F-value is 12.64183 with lower and Upper bounds of 2.62 and 3.79, respectively. The F-value is greater than the lower and upper critical bound values. Thus we rejected the null hypotheses and posit that capital market have long run relationship with economic growth in Nigeria.

Table 3 describes the nature of the long run relationship between capital market and economic growth in Nigeria. The results from CointEq (-1) from the cointegrating form is used to explain the speed of adjustment,

while the nature of the relationship is explained by the long run coefficients as explained from the long run coefficients.

Table 5: ARDL Cointegrating and Long Run Form

Dependent Variable: GDP				
Sample: 1987 2021				
Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NI)	207.691207	131.616240	1.578006	0.1386
D(SMS)	77.417663	29.786599	2.599077	0.0220
D(SMS(-1))	41.305935	18.087331	2.283694	0.0398
D(SMS(-2))	-35.817815	21.098703	-1.697631	0.1134
D(SML)	47.177471	27.308556	1.727571	0.1077
D(SML(-1))	-63.845911	30.297718	-2.107284	0.0551
D(SMV)	-2.104136	7.242400	-0.290530	0.7760
D(SMV(-1))	27.681866	7.741588	3.575735	0.0034
D(BMS)	-1.180211	0.350603	-3.366228	0.0051
D(BMS(-1))	2.564696	0.871202	2.943860	0.0114
D(BMS(-2))	-1.833132	1.099323	-1.667510	0.1193
CointEq(-1)	-1.596872	0.191000	-8.360592	0.0000
Cointeq = GDP - (27.3665*NI -20.7449*SMS + 173.0818*SML -1.7946*SMV -1.4026*BMS + 2.6865)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NI	27.366509	77.170679	0.354623	0.7286
SMS	-20.744896	9.117054	-2.275395	0.0405
SML	173.081804	13.176990	13.135154	0.0000
SMV	-1.794568	1.575674	-1.138921	0.2753
BMS	-1.402636	0.637171	-2.201351	0.0464
C	2.686542	6.331598	0.424307	0.6783

Source: Authors computation from Eviews 9.0

From the results, the error correction (CointEq (-1)) is -1.596872 at a probability value of 0.0000. The error correction is rightly signed with a negative coefficient to indicate that any deviation from normalcy has the tendency to return to equilibrium in due time. The probability value is less than 0.05 level of significance and thus rejects the null hypothesis of no long run adjustment to equilibrium. This indicates that capital market has a significant long-run effect on economic growth in Nigeria.

The long run cointegrating equation drawn from the long-run coefficients of regression on Table 4 is shown below.

$$GDP_r = 2.69 + 27.37NI - 20.74SMS^* + 173.08SML^* - 1.79SMV - 1.40BMS^*$$

The equation shows that NI (27.3665, P = 0.7286), SMS (-20.7448, p = 0.0405), SML (173.0818, p = 0.0000), SMV (-1.7945, p = 0.2753), and BMS (-1.4026, p = 0.0464).

The coefficient for SMS is negative and less than 0.05 level of significance. The results show that stock market size (SMS) and Bond market size (BMS) had a negative and significant effect on real GDP growth in Nigeria. The coefficient for New Issues (NI) is positive and greater than 0.05, thus has positive and insignificant effect on real GDP growth. Also, the coefficient for stock market volatility (SMV) is negative and greater than 0.05 level of significance.

6.4. Test of Short Run Effect of Capital Market on Economic Growth

The short-run effects of capital market on economic growth is addressed by the Auto-regressive Distributive Lag (ARDL) model. The interpretation are based on key statistics including the coefficient of regression, and the coefficient of determination (R^2). The statistical significance is confirmed using the t-statistics for the coefficient of regression, and F-statistics for the coefficient of determination.

The resulting output is shown in Table 5. The coefficient regression of the dependent variable (Real GDP) is -0.596872 with p.value of 0.0081. This shows that endogenous effect of the Real GDP is negative and the p.value is less than ($p < 0.05$) 0.05 level of significance. This supposes that economic growth is an endogenous factor in the model. This implies that GDP_t has a negative and significant effect on the previous year economic growth in the Model.

Table 6: Short Run Model of the Relationship between Capital Market and Economic Growth in Nigeria

Dependent Variable: GDP _t				
Method: ARDL				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP _t (-1)	-0.596872	0.191000	-3.124987	0.0081
NI	207.6912	131.6162	1.578006	0.1386
NI(-1)	-163.9904	128.6120	-1.275078	0.2246
SMS	77.41766	29.78660	2.599077	0.0220
SMS(-1)	-105.0565	36.38810	-2.887111	0.0127
SMS(-2)	-41.30593	18.08733	-2.283694	0.0398
SMS(-3)	35.81781	21.09870	1.697631	0.1134
SML	47.17747	27.30856	1.727571	0.1077
SML(-1)	165.3661	39.27136	4.210858	0.0010
SML(-2)	63.84591	30.29772	2.107284	0.0551
SMV	-2.104136	7.242400	-0.290530	0.7760
SMV(-1)	26.92031	11.39779	2.361888	0.0345
SMV(-2)	-27.68187	7.741588	-3.575735	0.0034
BMS	-1.180211	0.350603	-3.366228	0.0051
BMS(-1)	-0.328055	0.326866	-1.003639	0.3339
BMS(-2)	-2.564696	0.871202	-2.943860	0.0114
BMS(-3)	1.833132	1.099323	1.667510	0.1193
C	4.290064	10.09692	0.424888	0.6779
R-squared	0.906154			
Adjusted R-squared	0.783433			
F-statistic	7.383830	Durbin-Watson stat		2.138722
Prob(F-statistic)	0.000369			

Source: Authors computation from Eviews 9.0

The New Issues (NI) at initial period has a coefficient of positive coefficient (207.69) with p.value greater than 0.1386. At lag 1, the coefficient for NI is negative (-163.99) with p.value greater than 0.2246. Since the p.value at both periods are greater than 0.05 level of significance, the study cannot reject the null hypothesis. Thus it posit that New Issues does not have a significant effect on GDP_t in the short run.

The coefficient of the Stock Market Size (SMS) for the initial period (77.42), and lag 3 (35.82) have positive relationship with economic growth. The coefficient for lag 1 (-105.06) and lag 2 (-41.31) have negative relationship with economic growth. The p.values for initial period (0.0220), lag 1 (0.0127) and lag 2 (0.0398) is less than 0.05 level of significance. The p.value for lag 3 is 0.0398 and greater than 0.05 level of significance. The study rejects the null hypothesis for initial period and lags 1 and 2. This means that stock market size have positive effect in the initial period and negative effects in lag 1 and 2 on economic growth in Nigeria. This implies that SMS has a mixed significant effect on economic growth.

Stock Market Liquidity (SML) reveals positive relationship with economic growth in all the periods from the initial period (47.18), lag 1 (165.37) and lag 2 (63.85). The p.values are 0.1077 for initial period, 0.0010 for lag 1 and 0.0551 for lag 2. The p.value for lag 1 is less than 0.05 level of significance. Thus the study rejected the null hypothesis and posit that SML had a positive and significant effect on economic growth in the lag 1 period.

For the Stock Market Volatility, the coefficients are: initial period = -2.10 with p.value of 0.7760, lag 1 = 26.92 with p.value of 0.0345 and lag 2 = -27.68 with p.value of 0.0034. The p.values are statistically significant at lags 1 and 2 and this implies a mixed positive and negative effects at lags 1 and 2, on economic growth of Nigeria.

The Bond Market size (BMS) coefficient showed negative values in the initial (-1.18), lag 1 (-0.33) and lag 2 (-2.56) but positive value at lag 3 (1.83). The p.values for initial period (0.0051) and lag 2 (0.0114) are less than

0.05 level of significance. Thus the study posit that bond market size has negative and significant effect on economic growth in Nigeria.

6.5. Causality Evaluation

Having determined the nature of the relationship between capital market and economic growth both in the long and short runs, this study aims to examine the causal effect between capital market variables and economic growth in Nigeria.

Table 7: Pairwise Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.	Remark
NI does not Granger Cause GDPR	32	0.07079	0.9318	GDPR → NI
GDPR does not Granger Cause NI		5.25600	0.0118	
SMS does not Granger Cause GDPR	32	0.03611	0.9646	SMS ≠ GDPR
GDPR does not Granger Cause SMS		0.14724	0.8638	
SML does not Granger Cause GDPR	32	2.78664	0.0794	SMS ≠ GDPR
GDPR does not Granger Cause SML		0.26197	0.7715	
SMV does not Granger Cause GDPR	32	0.16831	0.8460	SMS ≠ GDPR
GDPR does not Granger Cause SMV		0.03710	0.9636	
BMS does not Granger Cause GDPR	32	0.06759	0.9348	SMS ≠ GDPR
GDPR does not Granger Cause BMS		1.39679	0.2647	

Source: Authors computation from Eviews 9.0

The following are the interpretations of the granger causality results on Table 6. The two way causality analysis is shown below.

Causal Relationship between New Issues and GDP

The result showed coefficient of NI on GDP is 0.07079 with p.value of 0.9318. Since the p.value is greater than 0.05, the study posit that NI does not granger cause GDP. Again, the coefficient for GDP on NI is 5.25600 with p.value of 0.0118. Since the p.value is less than 0.05, the study posit that it is statistically significant and thus GDP granger causes NI. This means that there is a uni-directional causal relationship from GDP to NI.

Causal Relationship between Stock Market Size and GDP

The result for causal relationship between SMS and GDP has a coefficient of 0.03611 and p.value of 0.9646 for SMS to GDP; and 0.14724 with p.value of 0.8638 for GDP to SMS. The p.values for both direction of causality is greater than 0.05. The study thus cannot reject the null hypotheses for both directions of causality. This means that there is no causal relationship between stock market size (SMS) and Economic growth (GDP) in Nigeria.

Causal Relationship between Stock Market Liquidity and GDP

The result for causal relationship between SML and GDP has a coefficient of 2.78664 and p.value of 0.0794 for SML to GDP; and 0.26197 with p.value of 0.7715 for GDP to SML. The p.values for both direction of causality is greater than 0.05. The study thus cannot reject the null hypotheses for both directions of causality. This means that there is no

causal relationship between stock market liquidity (SML) and Economic growth (GDP) in Nigeria.

Causal Relationship between Stock Market Volatility and GDP

The coefficient of the causal relationship from SMV to GDP is 0.16831 with p.value of 0.8460. The causal relationship from GDP to SMV is 0.03710 with p.value of 0.9636. Since the p.values for both direction of causality is greater than 0.05, the study cannot reject the null hypotheses for both directions of causality. This means that there is no causal relationship between stock market volatility (SMV) and Economic growth (GDP) in Nigeria.

Causal Relationship between Bond Market Size and GDP

The coefficient of the causal relationship from BMS to GDP is .067590 with p.value of 0.9348. The causal relationship from GDP to BMS is 1.39679 with p.value of 0.2647. Since the p.values for both direction of causality is greater than 0.05, the study cannot reject the null hypotheses for both directions of causality. This means that there is no causal relationship between bond market size (BMS) and Economic growth (GDP) in Nigeria.

7. Discussion of Findings

New Issues and Economic Growth Nexus

The regression and causality analyses showed that new issues has no significant long and short run effects on economic growth but economic growth granger causes new issues in Nigeria. This means that new issues from the primary market does not

significantly lead to changes in economic growth. This is true both in the long and short run periods. The implication is that new issues does not determine economic growth in Nigeria. This result did not support the finance-led (supply leading hypothesis) theory of the financial market development. Hence, the primary market does not lead to improvement in the growth of Nigeria economy. However, the granger causality analysis showed a uni-directional causal relation from economic growth to new issues. This supports that demand following hypothesis which posits the development of the economy as determinant of financial market development. The primary market in Nigeria develops as a result of need for exploit existing economic booms. This supports Abina and Lemea (2019) which posits positive but no significant effect on growth. It however, tends to support Briggs (2015) with positive effect but the present study showed no significant positive effects that portends New Issues as ineffective to influence economic growth in Nigeria.

Stock Market Size and Economic Growth Nexus

The result on objective two posits that Stock Market Size has a negative long run significant effect; a mixed short run effect of positive in the initial period and negative in later years but no causal relationship with economic growth in Nigeria. This means that stock market size being the total market capitalisation has adverse effect on the economy in the long run. This means that an increase in market capitalization often result to long run economic retrogression. However, the short run relationship was sporadic, swinging between a significant positive effect in the initial period and later a negative effect that continued into the long run. This implies that stock market size have largely adverse effect on economic growth in Nigeria. A very short run policy review is imminent to sustain the initial short run effect of market size on growth. However, causal relationship does not exist between market size and economic growth and this connotes the presence of neutrality hypotheses in Nigeria. This means that capital market development and economic growth runs separate ways and does not encourage each other. This agrees with the works of Alajekwu and Achugbu (2012) and Algaheed (2021).

Stock Market Liquidity and Economic Growth Nexus

The result of objective three showed that Stock Market liquidity has significant and positive long run and short run effects but no causal relationship with economic growth in Nigeria. This means that stock market liquidity leads to significant improvement in economic growth in Nigeria. The capital market

becomes more liquid and encourages quick conversion of assets, the economy gains added rise to boost productivity at increasing rate. This is true both in the long and short run which implies that liquidity boosts growth in Nigeria in the short periods as well as later years. However, causality reveal no causal relationship between stock market liquidity and economic growth. The study tends to aligned with Alajekwu and Achugbu (2012), Aduda, Chogii and Murayi (2014) that stock market liquidity measured as turnover ratio has positive effect on economic growth. It however disagrees with Muyambiri and Chabaefe, (2018) relative to causal relationship. It also stood against Oluwatosin, Adekanye & Yusuf (2013) and Eze, Ezenwa and Chikezie (2020) which showed no effects on growth.

Stock Market Volatility and Economic Growth Nexus

The outcome of regression and causality analyses on objective four reveals Stock Market Volatility has insignificant negative long run effect; a mixed positive and then negative effect in the short run but no causal relationship with economic growth in Nigeria. This means that stock market volatility has no effect on economic growth in the long run. It depicts that riskiness of the stock market is a short run phenomenon. The short run result confirms that volatility significantly affects economic growth and that this gyrates between positive and negative at intervals. The effects will become positive and beneficial in the beginning and then turns adverse on economic growth after the first lag. Nonetheless, there is no causal relationship between stock market volatility and economic growth in Nigeria. This suggests that stock volatility and economic growth do not determine each other. This shares the notion that volatility can have positive effects with Eneisik, Ogbonnaya and Onuoha (2021), but disagrees with the causality.

Bond Market Size and Economic Growth Nexus

The result of objective five reveals that Bond Market Size has significant and negative long run and short run effects but no causal relationship with economic growth in Nigeria. This suggests that bond market size, which was measured as government debt has adverse effect on economic growth in Nigeria. This adverse effect runs from the short period to the long run period affecting in a negative manner the growth of the economy. This implies that a unit increase in bond market size, that is, added government debts increase, result to fall in economic growth in Nigeria. Further analysis confirmed that no causal relationship between bond market size and economic growth in Nigeria. This suggests that bond market size is not

directly responsible for the growth of the economy. The extant studies including Oke, Dada, and Aremo (2021) showed positive effect against the findings of the present study.

8. Conclusion and Recommendations

Capital market has significant relationship with economic growth. The market follows the demand following hypothesis as economic growth determines one of the capital market variables (new issues). The capital market size, liquidity and volatility have no causal relationship with economic growth which depicts the neutrality hypothesis that the financial market (nee capital market) and economic growth has no recourse to each other in development. The study hence recommend as follows:

1. Existing firms in Nigeria should be encouraged to assess the capital market for business financing. The SEC should lessen the process for entering the second tier market to encourage new businesses.
2. There is need for effective supervision of stock market activities. The NSE should ensure that company reports are duly audited to ensure accurate stock valuation. This will assist the price of assets properly.
3. The stock market regulators should further reduce the days of trading to enhance market liquidity.
4. The government should encourage factors that lessen stock market riskiness.
5. The Bond Market Size has significant and negative long run and short run effects but no causal relationship with economic growth in Nigeria.

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