The Capital Market and Economic Growth in Nigeria

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Abstract
The capital market offers access to a variety of financial instruments which are very essential for government and private businesses in need of long-term funds. The objective of this study is to determine the effect of capital market on economic growth in Nigeria being an alternative source of finance for investment. The data used for the study were obtained from the Central Bank of Nigeria Statistical Bulletin and World Development Indicators, spanning 1985-2021 and, analyzed using Auto-regressive distributive lag (ARDL) on Eviews. Value of transactions, all share index, government stocks, corporate bonds, equities and inflation rate; were the independent variables, while economic growth proxied by gross domestic product was the dependent variable. The results obtained showed that equities and all share index had positive and significant effects on economic growth in Nigeria. We therefore, recommend that the Securities and Exchange Commission should come up with measures that will boost investors' confidence in the Nigerian capital market and make it a veritable alternative source of finance for businesses.

Keywords: Auto-regressive Distributed Lag (ARDL), Capital Market, Economic Growth, Nigeria.

1. Introduction
Financial markets in general deal in financial assets and liabilities of various maturities and consist of institutions, instruments, rules and regulations which guide the mobilization of funds from surplus units of the economy to the deficit units (CBN, 2013). However, financial markets can be divided into money and capital markets in view of their *modus operandi*. This paper focuses on the capital market by virtue of the fact that businesses and governments can raise long-term funds from the savings of other economic agents by selling stocks and bonds in the capital market. Because of its capacity to mobilize savings and investment, the capital market is a highly specialized and organized financial market that plays a crucial role in driving economic growth. For self-sustaining economic growth, which is consistent with external adjustment and rapid economic expansion, the capital market must be the source of long-term financing (Iyola, 2004). Thus, the economy's level of growth and development depends heavily on the capital market.

According to available literature, industrialized nations had looked into both capital market and money market channels that influence economic growth and development (Demirguc-Kunt and Levine Roos, 1996). However, this is not the case in developing economies, where the money market was prioritized with little regard for the capital market.

With the financial sector's deregulation and the privatization process in Nigeria during the implementation of the Structural Adjustment Programme (SAP) in 1986 through to the early 1990s, activities in the Nigerian stock market increased dramatically Soyode (1990), Alile (1996). Investors and businesses became more aware of the stock market's importance. Equity financing has developed into one of the capital market's most affordable and adaptable sources of funding and continues to be a crucial component of the economy's sustainable growth.

Thus, the main objective of this paper is to evaluate the performance of the Nigerian capital market. In specific terms, to find out the extent to which equities and stocks affect economic growth in Nigeria.

This is premised on the empirical fact that the capital market plays a critical role in mobilizing savings, providing finance for investment, and promoting economic growth and development. The variables of interest, such as value of transactions, all share index, government stock, corporate bonds and equities are essential in understanding the impact of the capital market on the Nigerian economy.

This study utilizes a time series design which span a 36-year period between 1985 and 2021, due to data limitation. In order to explore the relationship between capital market and economic growth, economic growth was proxied by Gross Domestic Product(GDP), while the capital market variables considered were, Value of Transactions(VLT), All Share Index (ASI), Government Stocks(GS), Corporate Bonds(CB), Equities(EQ) and InflationRate (INF) as a control variable.

The rest of the paper is structured as follows. This brief introduction constitutes section one and it is immediately followed by section two which is devoted to literature review. Section two containsa review of the Nigerian Capital Market as a background to the paper as well as a review of some theoretical and empirical literature. The methodology and estimation methods are covered in section three. The results and discussion of their interpretations are presented in section four. The summary of findings, conclusions, and recommendations resulting from the empirical findings is provided in the fifth and last section of the paper.

2 Literature review
2.1 The Nigerian Capital Market
In Nigeria, the capital market first came into existence with the establishment of the Lagos Stock Exchange in 1961. The Exchange was incorporated under the company's ordinance as an association limited by guarantee. The Lagos Stock Exchange was given initial financial backing by the Central Bank of Nigeria in the form of annual subventions. Following the recommendations of the Government Financial System Review Committee of 1976, the Lagos Stock Exchange was re-named and reconstituted into the Nigerian Stock Exchange in 1977.

Additional trading floors were also opened in the same year in Port Harcourt and Kaduna (to serve the Eastern and Northern parts of the country).

The Nigerian Stock Exchange (NSE) is the center point of the Nigerian capital market, while the Security and Exchange Commission (SEC) serves as the apex regulatory body. The NSE provides a mechanism for mobilizing public and private savings, and makes such funds available for productive purposes. The Exchange also provides a means for trading in existing securities.

The functions of the Nigerian capital market include:
(1) Provision of an additional channel for harmonizing and mobilizing domestic savings for productive investment;
(2) Foster the growth of the domestic financial services sector and the various forms of institutional savings such as life insurance and pension funds;
(3) Improves the efficiency of capital;
(4) Facilitates the transfer of enterprises from the public sector to the private sector; and
(5) Provides access to finance for small companies (CBN, 2013).

The Nigerian capital market consists of the following institutions: Securities and Exchange Commission (SEC)- the apex regulator; the Nigerian Stock Exchange (NSE); the Abuja Commodity Exchange (ACE); the Stock broking firms; the issuing houses as well as the registrars.

There are two main segments of the market. These are primary and secondary markets. The major instruments used to raise fund at the Nigerian capital market include: equities (ordinary shares and preference shares); government bonds (Federal, States and Local governments); and industrial loans/debenture stocks and bonds. Consequently, the capital market products/instruments can be divided into two broad categories namely; equities and debts. Debt instruments are interest-bearing obligations with fixed or floating interest rates. The equities are the instruments that confer ownership rights on the investors.

2.1.1 Equities Market
The market for equities in the Nigerian Stock Exchange consists of the first-tier and the second-tier securities market. One important feature of the equities market is that subscriptions must be fully paid up before allotments are given to an individual investor. Another feature of the equities market is part ownership by the subscribers immediately after allotment of the shares. Thus, holders of the instrument are entitled to attend the Annual General Meetings and can vote to elect the management. The return on equities is by way of dividend or price appreciation or scrip's issues. Unlike a debt instrument, repayment of the principal occurs only if the instrument is traded through the secondary market.

2.1.2 First tier securities market
The First Tier Securities Market deals with issues of quoted companies. The essential difference between the two tiers lies in their listing requirements. The listing requirements for the first-tier market are:

(1) The company must be registered as a public limited liability company under the provisions of the Companies and Allied Matters Act (1990) as amended;

(2) At least 25 percent of the nominal value of share capital must be offered to the public;

(3) The date of the last audited accounts must not be more than nine (9) months:

(4) The company must submit to the Exchange its financial statements and business records for the past five years;

(5) The annual quoted fee payable by the companies in this market is based on a percentage of its total market capitalization;

(6) After listing, the company must submit quarterly, half-yearly and annual accounts to the Exchange;

(7) At the time of listing, the number of shareholders in the company must not be less than 300; and

(8) The securities must be fully paid at the time of allocation.

A benefit that accrues to members of the first-tier markets is that the amount of money that the firm can raise in the market is unlimited. This however depends on the borrowing capacity of the company.

2.1.3 Second tier securities market

The Second Tier Securities Market (SSM) on the other hand was introduced on 30th April 1985, primarily to attend to the needs of small and medium size enterprises, which cannot meet the strict listing requirements of the first-tier market. In effect, it provides an avenue for smaller companies to access public issues for expansion. The listing requirements in this market include:

(1) That at least 10 percent of the nominal share capital must be offered to the public;

(2) At the point of listing the number of shareholders must not be less than 100;

(3) The quotation fee for companies in this market is a flat rate of N30,000 per annum;

(4) The amount that can be raised may not exceed N100 million;

(5) Financial statements and business records of the company for the past three years must be submitted to the Exchange; and

(6) After listing, the company must submit half yearly and annual accounts to the Exchange.

Under the SSM, an individual cannot have more than 75 percent of total shares directly or indirectly. Besides these, all other requirements such as registration, date of last audited accounts as well as securities being fully paid up at the time of allocation are the same for the two markets.

2.1.4 Operators of the capital market

The operators in the capital market include Brokers/Dealers, Issuing houses, Registrars, Underwriters, Trustees and Portfolio/Fund Managers, which provide various services for the investors and borrowers in the capital market.

2.1.5 Regulators of the capital market

The regulatory bodies of the Nigerian stock market consist of the Securities and Exchange Commission, the Nigerian Stock Exchange, Central Bank of Nigeria and Federal Ministry of Finance. On the basis of their experiences, different countries evolve different statutes for stock

market operations. In Nigeria, there are several statutes that have provisions for guiding the operations of the stock market. The statutes are:

(1) The Lagos Stock Exchange Act, 1961;
(2) Trustee Investment Act, 1962;
(3) Companies and Allied Matters Act (CAMA), 1990;
(4) Banks and Other Financial Institutions Act, 1991;
(5) Nigerian Investment Promotion Act, 1995;
(6) Foreign Exchange (Miscellaneous provisions) Act, 1995;
(7) Securities and Exchange Commission Act, 1999;
(8) Investment and Securities Act, 1999.

2.1.6 Securities and Exchange Commission

The apex regulatory body in the capital market is the Securities and Exchange Commission (SEC). It is empowered by the Securities and Exchange Commission Act, 1999 amongst others to:

(i) Register and approve all securities for subscription or sale to the public, while ensuring that full disclosure is given in the prospectuses and other issue documents in the case of a public offer;
(ii) Ensure fair, orderly and equitable dealings in securities;
(iii) Register commodity and stock exchanges, investment advisers and all market operators with a view to maintaining an enviable standard of conduct and professionalism in the stock market;
(iv) Review, approve and regulate mergers and acquisitions;
(v) Perform market oversight functions through surveillance, Monitoring and on/off site inspection with a view to assuring fair play and equitable dealings on the Exchange; and
(vi) Promote investors' education and all categories of intermediaries in the securities market.

Thus, the SEC regulates the issue of securities and conduct of operators/players in the market, as well as sales practices. In addition, to its administrative and regulatory roles, the SEC is also vested with the power to suspend or revoke the registration of any person/body involved in price manipulations, unjust or inequitable practices, after an opportunity for hearing has been given. The Commission may annul such a transaction and further prescribe appropriate measures to rectify such irregularities. The SEC is also expected to relate with some international securities market organizations, stock exchanges, the International Finance Corporation, etc. It became a member of the International Organization of Securities Commission (IOSCO) in 1995. The Commission has also sustained its membership with the Emerging Market Committee (EMC) and the Africa and Middle East Regional Committee (AMERC), among others. The membership provides a platform for SEC to showcase the Commission to the external world, thereby, inducing foreign investment.

2.2 *Theoretical Review*

2.2.1 Efficient Market Hypothesis (EMH)

The efficient markets hypothesis (EMH), also recognized as the Random Walk Theory, is the idea that current stock prices accurately reflect the information that is currently available about

the firm's value and that it is impossible to make excess profits (earnings that are greater than the whole market) using this knowledge. It addresses one of the most important and fascinating topics in finance: the causes and mechanisms of price movements on security markets. Both financial managers and investors must consider the significant ramifications. The phrase "efficient market" was first used in a 1965 study by E.F. Fama, who claimed that on average, competition causes the full effects of new information on intrinsic values to be reflected "instantaneously" in actual prices.

Many investors look for inexpensive stocks whose values are predicted to rise in the future, particularly those whose values will rise faster than those of other securities. The belief that investment managers can choose assets that will outperform the market is shared by many investors. To help them make better investment decisions, they employ a number of forecasting and valuation tools. It goes without saying that every advantage a trader has can result in large earnings. According to the EMH, none of these strategies are successful (the benefit does not outweigh the transaction and research expenses incurred), and as a result, nobody can consistently outperform the market.

According to the efficient markets hypothesis (EMH), it is extremely difficult and improbable to make money by correctly predicting price changes. The emergence of new information is the primary driver of price movements. A market is deemed "efficient" if prices respond to new information rapidly and, on average, impartially. Because of this, the current prices of securities always include all information that is currently available. As a result, there is no justification for thinking that prices are either too high or too cheap. Before an investor has a chance to trade on and profit from fresh knowledge, security prices change (Clarke, Jandik, and Mandelke, 2001).

The fierce competition among investors to make money off of any new knowledge is the main driver of an efficient market. It is extremely important to be able to spot overpriced and underpriced stocks since it would enable investors to purchase some stocks below their "true" value and sell other stocks for more than they were really worth. As a result, a lot of people invest a lot of time and money in looking for "mis-priced" stocks. Naturally, the likelihood of being able to profit from overvalued and undervalued assets decreases as more analysts engage in competition with one another in this regard (Clarke, Jandik, and Mandelke,2001).

The opportunity to locate and profit from such mispriced assets diminishes over time. In equilibrium, there will only be a few analysts who can profit from the mispriced securities frequently discovered by accident. The information analysis reward would probably not outweigh the transaction costs for the vast majority of investors.

The EMH's most important conclusion can be summed up in the following phrase: Trust market prices! Prices of securities in effective markets represent all information that is currently known to investors at any one time. Investors cannot be duped; therefore, all investments in efficient markets are properly priced, meaning that, on average, investors get what they paid for. Even if

all assets are priced fairly, that does not guarantee that they will perform equally or that they would all have the same chance of appreciating in value.

According to capital markets theory, a security's projected return essentially depends on its risk. The security's price reflects the present value of its anticipated future cash flows, which takes into account a number of variables like volatility, liquidity, and bankruptcy risk. However, while prices are rationally based, changes in prices are expected to be random and unpredictable, because new information, by its very nature, is unpredictable. Therefore, stock prices are said to follow a random walk (Clarke, Jandik and Mandelke,2001).

2.2.2 Solow's Growth Model
It is well known that Solow's 1956 growth model, which can be found in the article "A Contribution to the Theory of Economic Growth," served as the foundation for the theory of growth. The article includes a differential equation-based mathematical model to illustrate how more capital stock results in higher per capita production. Solow's thesis is that society saves a certain fixed percentage of its incomes. Both the population and the work pool are expanding steadily it is possible to regulate capital intensity (or capital per employee). In this model, a steady-state growth path is reached over time and in the absence of technical advancement when output, capital, and labor all expand at the same rate. As a result, output per worker and capital per worker are constant, and the economy is getting closer to a situation where capital, labor, and total output are growing at the same rates. It is impossible for the percentage of saved incomes to permanently raise growth rates. In fact, without technological advancement, the pace of growth will remain constant (regardless of the share of savings) and will only depend on a rise in the labor force (Schiliro 2017).

Solow's growth-theoretical model had a significant influence on economic analysis. The model has influenced how we view macroeconomics as a whole and economic growth specifically.

2.3 *Empirical Review*
There have been the growing concerns and controversies on the role of the Stock market on economic growth and development. This section contains excerpts from previous research works on this subject matter.

Esian and Ebipre (2020) looked at how Nigeria's capital market affected economic growth between 1980 and 2016. Data were gathered from CBN statistical bulletin. Real Gross Domestic Product (RGDP) served as the dependent variable and a proxy for economic growth, while Market Capitalization (MCAP), Volume of Shares Traded (VST), Government Expenditure on Health (GCEH), and Government Capital Expenditure on Education (GCEE) served as the independent variables and proxies for the performance of the capital markets. The results showed that Market Capitalization (MCAP) had a positive and significant impact on the economy in the short run but had an adverse effect on the economy over the long run. Volume of Shares Traded (VST) had a positive and significant impact on the economy in the short run but had an adverse effect over the long run. While government capital expenditure on education had a negative and statistically significant impact on economic growth both in the short- and long-terms in Nigeria,

government capital expenditure on health (GCEH) had a positive and statistically significant effect on economic growth in the long-run but not in the short-run. The conclusion was drawn that Nigeria's capital market has the ability to contribute to economic growth with a low ECM (-1) of 20% speed of convergence to equilibrium.

Angaye and Frank (2020)studied the impact of Nigeria's capital market expansion on economic growth between 2008 and 2018. Market capitalization rate, interest rate, and inflation rate were used as proxies for stock market development, while GDP was used to measure economic growth. The study used the multiple regression analysis test to determine whether there is a strong correlation between Nigeria's stock market development and national economic expansion. According to the empirical findings, the Nigerian stock market is favorably correlated with economic growth, but its impact is minimal.

The impact of Nigeria's capital market was looked at by Rilwanu and Daniel (2020) to determine the contribution made by the capital market to the growth of Nigeria's economy and to identify the challenges the Nigerian capital market is currently experiencing that are preventing further economic expansion. The majority of the data used in the study came from the CBN and World Bank Group, and it was evaluated using correlation analysis. The findings of the study show that the capital market is a key factor in the expansion of the Nigerian economy and that the Nigerian public views it as a significant outlet for savings and investment.

Binuyo Oluwatimilehin, Edy-Ewoh and Binuyo (2019)looked at how the growth of the capital market affected the Nigerian economy from 1987 to 2018. Time series data were employed in the study and the ordinary least squares method was used for analysis. The findings indicated that while value of transactions had a negligible and minor impact on GDP, market capitalization has a favorable impact on GDP.

Secondary data was used by Acha and Akpan(2019) to investigate the causal relationship between stock market performance and economic development in Nigeria from 1987 to 2014. Gross domestic product (GDP) serves as a proxy for economic growth, and market capitalization, total new issuance, volume of transactions, and listed equities serve as indicators of capital market performance. Using the Vector Autoregressive (VAR) model as the foundation, the Granger causality test was used to investigate the causal link. The results imply that the relationship between capital market performance measures and economic growth runs unilaterally. The analysis demonstrates that between 1987 and 2014, the Nigerian economy was positively and considerably impacted by the capital market performance.

Ugbogbo and Aisien (2019) Used time series data from Nigeria for the years 1981 to 2016 to look at the effects of capital market development on economic growth. The empirical finding showed that the expansion of Nigeria's capital market has a considerable and favorable impact on economic growth over the long and short terms. Interest rate, money supply, and investment level were additional significant factors in the empirical finding. In order to ensure a dependable, effective, and stable stock market in Nigeria.

Kuna, Hassan Ibrahim (2019) study goal was to empirically examine the relationship between Nigeria's capital market performance and its socioeconomic progress. The gross domestic product (GDP) served as a proxy for socioeconomic development. Stock market capitalization (SMC), stock market index (SMI), trade share (TS), and capital market saving ratio (CMRS) are among the capital market variables taken into account. The study's findings demonstrate that the capital market has a favorable and considerable influence on the economic growth of the nation.

Nwamuo (2018) studied the effect of Nigeria's capital market on economic growth for the years 1981 to 2016. Annual time series data on the study's variables were gathered from the Securities and Exchange Commission statistical bulletin and the Central Bank of Nigeria's statistical bulletin. The variables were stationary, even though they were at different levels, according to the results of a unit root test using the Augmented Dickey-Fuller test procedure. The model's variables were co-integrated, which means there exist a long-run relationship. According to the short run regression results, total listed equities and the volume of transactions had a negative impact on Nigeria's economic growth, whereas market capitalization and the number of deals had a favorable impact. According to the results of the long run dynamic analysis, the number of deals had a negative and non-significant impact on Nigeria's economic growth; whereas total listed equities had a positive and significant impact.

Briggs (2015)examined effect of the capital market on the Nigerian economy between 1981 and 2011. Gross Domestic Product (GDP) was used as a proxy for economic growth, and market capitalization (MCAP), total new issues (TNI), value of transactions (VLT), and total listed equities and government stocks (LEGS) were all taken into account as capital market variables. The outcome demonstrated that the capital market unmistakably has favorable relative impact on economic growth.

Yadirichukwu and Chigbu (2014) examined the effect of Nigeria's capital market on economic growth. The study used secondary data spanning the years 1985–2012. The research revealed that new issues (TONIS) and value of transaction (VALTRAN) showed a statistically significant positive association with economic growth, whereas Market capitalization (MKTCAP) and Total listing (TOLIST) showed a negative relationship.

Eze and Nwankwo (2013) studied the effect of capital market reform on the expansion of the Nigerian economy. The study's time frame was from 1990 to 2011. The outcome of the analysis demonstrates that capital market reform has a considerable impact on Nigeria's rate of economic growth.

3. Methodology
3.1 Scope, Data and Variables
In this study, the 36-year period between 1985 and 2021 was used to evaluate the relationship between the capital market and economic growth in Nigeria. The Central Bank of Nigeria's (CBN) Statistical Bulletin and World Development Indicators were the primary sources of the data utilized for the analysis.

The variables of interest were; value of transactions, all share index, government stocks, corporate bonds, equities and inflation rate; which were the independent variables, while economic growth proxied by gross domestic product was the dependent variable. Below is the full description of the variables used for the study.

3.1.1 Value of Transaction
The value of a transaction refers to the total amount involved in buying or selling financial instruments such as equities, debt securities, or other financial products. There are various factors that can influence the value of a transaction, including the type of financial instrument, the number of shares or securities being traded, and the current market price of the instrument.

3.1.2 All Share Index
The All-Share Index (ASI) is a type of stock index that represents the performance of a broad market segment, including stocks from various sectors and sizes. It is a capitalization-weighted index, meaning that the weights of the constituent stocks are determined by their market capitalization. The ASI is often used as a benchmark for the overall performance of a stock market, and it helps investors to gauge market movements and compare the performance of their portfolios. Example is the All-Share Index in Nigeria, which tracks the performance of the Nigerian stock market and is composed of stocks from various sectors, including banking, insurance, consumer goods, oil/gas, and more.

3.1.3 Government Stocks
Government stocks, also known as government bonds or sovereign bonds, refers to debt securities issued by a national government to raise funds to finance its operations and projects. It is a form of borrowing where the government acts as the borrower and investors, such as individuals, institutions, and other governments, act as lenders by purchasing these bonds.
Government stocks are typically considered low-risk investments because they are backed by the creditworthiness and taxing power of the issuing government. They are often regarded as safer investments compared to other types of bonds due to the lower probability of default.
These bonds have predetermined terms, including the interest rate (yield), maturity date, and face value. Governments pay periodic interest payments, typically semi-annually or annually, to bondholders based on the agreed-upon interest rate. At maturity, the face value of the bond is repaid to the bondholders.

3.1.4 Corporate Bonds
A corporate bond is a debt obligation that an investor buys as a way to lend money to a business. It's usually considered a less risky investment than a stock. Companies issue corporate bonds to raise money that they use to reinvest in operations, buy other companies, or even pay off older, more expensive loans. A corporate bond is like an IOU (I Owe You) that a company gives you in return for money you lend the business. It's a contract to pay you back at a certain rate of interest at a certain period.

3.1.5 Equities

Equity refers to the ownership interest or residual claim that shareholders have in a company's assets after deducting liabilities. It represents the ownership stake in a company and represents the value that would be returned to shareholders if all the company's debts were paid off and its assets were liquidated.

3.1.6 Inflation Rate

Inflation is defined as a general increase in the price of goods and services in the economy, or a general decrease in the value of money. It refers to the decline of purchasing power of a given currency, meaning over time, the currency holds less value. Inflation can be measured using various indexes, such as the Consumer Price Index and Wholesale Price Index. For this study inflation is use as a control variable as investors and participants in the capital market often closely monitor inflation indicators and assess their potential impact on various asset classes to make informed investment decisions.

3.1.7 Economic Growth

Economic growth is typically expressed as an increase in real gross domestic product, or real GDP, expressed as a percentage. Economic growth, according to Balcerowicz (2012), is a process of quantitative, qualitative, and structural changes that have a positive impact on the economy and the standard of living of the population and have a propensity to rise steadily over time. Economic growth, according to Fasanya, Onakoya, and Agboluaje (2013), is the process of enlarging national economies and macroeconomic indicators, such as the GDP per capita, in an ascendant but not necessarily linear direction. This has favorable effects on the economic and social sectors. Economic growth, according to Friedman, is a process of innovation that results in the fundamental alteration of the social system. Schumpeter (1912) contrasts this by defining it as a discontinuous and spontaneous change in the stationary state that permanently modifies and replaces the preceding equilibrium state.

Economic growth, however, is defined for the purposes of this study as an increase in the actual value of goods and services generated in the nation over time.

3.2 *Model Specification*

The model which specifies that economic growth [proxied by Gross Domestic Product (GDP)] is influenced by the capital market indices (value of transactions, all share index, government stocks, corporate bonds and equities as well as inflation rate) is formulated as follows,

GDPGR = f (VLT, ASI, GS, CB EQ, INF) --- (I)

Where:

GDPGR = Gross Domestic Product Growth rate
VLT=Value of Transactions
ASI=All Share Index
GS=Government Stocks
CB=Corporate Bonds
EQ=Equities

INF=Inflation (Consumer price index)

$$GDPGR = \propto_0 + \propto_1 LVLT_t + \propto_2 LASI_t + \propto_3 LGS_t + \propto_4 LCB_t + \propto_5 LEQ_t \propto_6 INF + U_t \text{---------(II)}$$

Equation II shows the Statistical model of the equation

Where:

$\propto_{1,2,3,4,5,6} =$ coefficient of the independent variables

$t =$ time

$U_t =$ error term

$$LGDP_t - LGDP_t(-1) = \propto_0 + \propto_1 LVLT_t + \propto_2 LASI_t + \propto_3 LGS_t + \propto_4 LCB_t + \propto_5 LEQ_t \propto_6 INF + U_t\text{-}$$
(III)

Equation 3 can be written as:

$$LGDPGR_t = \propto_0 + \propto_1 VLT_t + \propto_2 ASI_t + \propto_3 GS_t + \propto_4 CB_t + \propto_5 EQ_t \propto_6 INF + U_t \text{--------------- (IV)}$$

Equation 4 shows the logarithmic model of the equation.

Where:

LGDPGR = Log of Gross Domestic Product Growth Rate

$LGDP_t - LGDP_t(-1) =$ LGDPGR = Change in economic growth

The ARDL short run model is specified as:

$$LGDPGR_t =$$

$$\propto_{01} + \sum_{i=1}^{p} a_{1i}\Delta VLT_{t-i} + \sum_{i=1}^{q} a_{2i}\Delta ASI_{t-i} + \sum_{i=1}^{q1} a_{3i}\Delta GS_{t-i} + \sum_{i=1}^{q2} a_{4i}\Delta CB_{t-i} +$$

$$\sum_{i=1}^{q3} a_{5i}\Delta EQ_{t-i}$$

$$+\sum_{i=1}^{q4} a_{6i}\Delta INF_{t-i} + u_t \text{--- (V)}$$

Where;

$\propto_0 =$ intercept

$\Delta =$ difference operator

p,q,qi,q2,q3,q4, = lag length

$\propto_1, \propto_2, \propto_3, \propto_4, \propto_5, \propto_6, =$ coefficient of the independent variables

The *apriori* expectations are α1, α2, α3, α4 α5> 0 and α6<0 meaning we expect a positive relationship between the dependent variable and the independent variables except for inflation

3.3 *Estimation Technique and Procedures.*

The Auto-regressive distributive lag (ARDL) econometric method was used in view of the preliminary stationarity test that was conducted. Some of the variables were integrated at order 0, stationary at levels, while others were integrated at order 1, stationary at first difference. The unit root tests were conducted using enhanced Dickey-Fuller and Phillips Perron-tests. Also, the VAR model was also estimated to get the optimal lag for the study following the Units root test. Additionally, bounds test was conducted where it was discovered that there is no long run relationship. The Error Correction Model was also established in order to understand the short-run relationships between the variables.

3.4 *Post Estimation Tests.*

To assess the stability of the short run dynamic model, the following tests were performed using the residual diagnostic test: The Ramsey Reset test for linearity, the Serial Correlation test (LM test), the Heteroscedasticity test, the JarqueBera test for normality, and the Cusum test for stability.

4. Empirical Analysis

4.1 *Descriptive Statistics*

From Table 1, the observation for all the variables is 37 with a mean value of 39894.15, 472.0084, 17500.44, 2890.492, 190.5516, 4981.973 and 19.12162 for RGDP, VLT, ASI, GS, CB, EQ and INF respectively which is the average value of the distribution of the series. The median values are 33004.80, 120.4026, 15559.90, 25.20000, 5.800000, 1325.700 and 12.54000 which is the middle value for each of the variables. The Table then lists each variables maximum values as 72393.67, 2350.876, 50424.70, 19026.10, 1400.430, 22296.84 and 72.84000 and minimum values as 16997.52, 0.225400, 117.2833, 2.100000, 0.000000, 2.700000and 5.390000 for RGDP, VLT, ASI, GS, CB, EQ and INF respectively.

Table 1. Descriptive Statistics

	RGDP	VLT	ASI	GS	CB	EQ	INF
Mean	39894.15	472.0084	17500.44	2890.492	190.5516	4981.973	19.12162
Median	33004.80	120.4026	15559.90	25.20000	5.800000	1325.700	12.54000
Maximum	72393.67	2350.876	50424.70	19026.10	1400.430	22296.84	72.84000
Minimum	16997.52	0.225400	117.2833	2.100000	0.000000	2.700000	5.390000
Std. Dev.	20195.37	588.0348	15467.88	4830.090	392.6335	6227.638	17.43978
Skewness	0.435313	1.204470	0.421620	1.993800	2.353634	1.163348	1.775772
Kurtosis	1.561574	4.030235	1.979928	6.338104	7.343232	3.542731	4.846922
Jarque-Bera	4.358382	10.58258	2.700381	41.69266	63.24229	8.799939	24.70457
Probability	0.113133	0.005035	0.259191	0.000000	0.000000	0.012278	0.000004
Sum	1476084.	17464.31	647516.3	106948.2	7050.410	184333.0	707.5000
Sum Sq. Dev.	1.47E+10	1244825	8.61E+09	8.40E+08	5549798.	1.40E+09	10949.25

Observations	37	37	37	37	37	37	37

Source: Author's Compilation (2023)

The standard deviation numbers, which represent the dispersion of the observation around the mean, are 20195.37, 588.0348,15467.88, 4830.090,392.6335, 6227.638 and 17.43978. All observations according to the Skewness metric in the table that quantify the asymmetry of the distribution of the series are positively skewed which implies that their distributions have long right tail and are normally distributed around their mean. RGDP and ASI have kurtosis's that are less than three which suggests that their distributions are platykurtic or flat in comparison to the mean. VLT, GS, CB, EQ and INF are leptokurtic, or significantly peaked as their values are all higher than 3.

Additionally, the statistics for Jarque-Bera were shown on the table for RGDP, VLT, ASI, GS, CB, EQ and INF which implies that the series is normally distributed. These variables probabilities, RGDP and ASI are all greater than 5% (0.05). This shows that the normal distribution's null hypothesis cannot be rejected. However, because the VLT, GS, CB, EQ and INF probability values are less than 0.05, the null hypothesis is rejected, indicating that the series is not normally distributed.

4.2 Unit Root Test
As indicated in Table 2, the stationary characteristics of the data were examined using the Augmented Dickey-Fuller (ADF) and Phillips-Perron Test for unit root. Under the ADF test, all variables aside from LGDPGR and ASI are stationary at first difference (integrated at order 1). At levels integrated at order 0 the LGDPGR and ASI are observed to be stationary. All variables are stationary at first difference (integrated at order 1) under the Philips-Perron test, with the exception of LGDPGR, LASI and INF, which is stationary at levels (integrated at order 0). The mixed order of integration shows that the estimating procedure uses the Autoregressive Distributed Lag (ARDL) model.

Table 2.Unit Root Test

VARIRBLES	AUGMENTED (ADF)	DICKEY-FULLER		PHILLIPS-PERRON (PP)		
	T-statistics	P-Value	Remark	T-statistics	P-Value	Remark
LGDPGR	-3.937292*	0.0046	I (0)	-3.850941*	0.0057	I (0)
LVLT	-5.123735*	0.0002	I (1)	-5.134178*	0.0002	I (1)
LASI	-2.750621***	0.0756	I (0)	-3.011166**	0.0433	I (0)
LGS	-3.422497*	0.0001	I (1)	-4.058280*	0.0033	I (1)
LCB	-5.326768*	0.0001	I (1)	-7.518823*	0.0000	I (1)
LEQ	-4.971483*	0.0003	I (1)	-4.933911*	0.0003	I (1)
INF	-4.537745*	0.0012	I (1)	-2.770284**	0.0726	I (0)

Note: *, **, and *** denote that the variable is significant at 1%, 5% and 10%.
Source: Author's computation. (2023)

4.3 OptimalVar Test

Table 3. Optimal Lag Length for Endogenous Variable

Lag	LogL	LR	FPE	AIC	SC	HQ
0	61.53277	NA	0.001494	-3.668653	-3.623304	-3.653394
1	64.29037	5.180946	0.001343	-3.775174	-3.684477	-3.744657
2	67.07405	5.061238*	0.001206*	-3.883276*	-3.747230*	-3.837501*
3	67.86705	1.393753	0.001222	-3.870730	-3.689335	-3.809696

  * indicates lag order selected by the criterion
  LR: sequential modified LR test statistic (each test at 5% level)
  FPE: Final prediction error
  AIC: Akaike information criterion
  SC: Schwarz information criterion
  HQ: Hannan-Quinn information criterion
  Source: Author's Compilation (2023)

From table 3, the Akaike Information Criteria were used to determine the best lag length. According to this criterion, lag 2 is the most optimum lag length for the dependent variable.

Table 4. Optimal Lag Length for Exogenous Variable

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-288.4558	NA	7.170824	18.99715	19.27469	19.08762
1	-138.8658	231.6232	0.004937	11.66876	13.61158*	12.30207
2	-87.35343	59.82082*	0.002409*	10.66796	14.27606	11.84411*
3	-44.83492	32.91755	0.003803	10.24741*	15.52079	11.96640

  * indicates lag order selected by the criterion
  LR: sequential modified LR test statistic (each test at 5% level)
  FPE: Final prediction error
  AIC: Akaike information criterion
  SC: Schwarz information criterion
  HQ: Hannan-Quinn information criterion
  Source: Author's Compilation (2023)

On the basis of the Akaike Information Criteria, an appropriate lag length was chosen. According to this criterion, lag 3 is the most optimum lag length for the independent variable.

4.4 Estimation Analysis

4.4.1 Bounds Test

The outcome of the bounds test is displayed in Table 5. At the 5% level of significance, the number of parameters under observation is 6, the upper limit critical value is 3.28, and the lower bound critical value is 2.27. Indicating that the null hypothesis of no co-integration is accepted. The F-statistic, which is 1.516382 is less than the upper and lower bound critical values. This test proves that the series under observation have no long-term relationship. The ARDL Error Correction model is used to estimate the short run relationship.

Table 5. bounds test table

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	1.516382	10%	1.99	2.94
K	6	5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

Source: Author's Compilation (2023)

4.4.2 ARDL Error Correction Model.

The Error Correction Model (ECM) result is shown in Table 6. The stability of the coefficient is positive and significant indicating that the model has reached a point where it can no longer improve its performance, with a probability value of 0.0014 and coefficient of 0.059526. Additionally, the coefficient's significant value is demonstrated by a high t-statistics of 4.769249. The R-squared value of 0.877030 indicates that the independent variables in the model explained 87.7 percent of the variation in the dependent variable, which is quite high.

Table 6. Estimated Coefficient of Short Run and Error Correction Model

ECM Regression Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LGDPGR(-1))	-0.746942	0.119557	-6.247577	0.0002
D(LVLT)	0.004957	0.011300	0.438710	0.6725

D(LVLT(-1))	-0.005283	0.011847	-0.445912	0.6675
D(LVLT(-2))	-0.000261	0.011946	-0.021858	0.9831
D(LASI)	0.030391	0.043988	0.690895	0.5092
D(LASI(-1))	0.095899	0.041124	2.331938	0.0480
D(LASI(-2))	-0.023581	0.029574	-0.797361	0.4483
D(LGS)	-0.041023	0.011774	-3.484307	0.0083
D(LGS(-1))	0.000551	0.010394	0.053014	0.9590
D(LGS(-2))	-0.032587	0.011581	-2.813734	0.0227
D(LCB)	-0.022247	0.006987	-3.184136	0.0129
D(LEQ)	0.056950	0.029889	1.905362	0.0932
D(LEQ(-1))	-0.061950	0.035208	-1.759545	0.1165
D(LEQ(-2))	0.045914	0.031957	1.436768	0.1887
D(INF)	-0.001097	0.000409	-2.681952	0.0278
D(INF(-1))	0.000754	0.000357	2.113144	0.0675
D(INF(-2))	-7.96E-05	0.000434	-0.183288	0.8591
CointEq(-1)*	0.059526	0.012481	4.769249	0.0014

R-squared	0.877030	Mean dependent var	-0.001132
Adjusted R-squared	0.737665	S.D. dependent var	0.042158
S.E. of regression	0.021593	Akaike info criterion	-4.530475
Sum squared resid	0.006994	Schwarz criterion	-3.714198
Log likelihood	92.75283	Hannan-Quinn criter.	-4.255822
Durbin-Watson stat	1.909274		

Source: Author's Compilation (2023)

With a coefficient value of 0.095899, t-statistic of 2.331938 and probability value of 0.0480 the first lag value of all share index (ASI) have a positive and significant effect on economic growth in Nigeria. Suggesting that every one-unit increase in the first lag of All Share Index results in a 0.095899 percentage increases in economic growth. Similarly, with a coefficient value of 0.056950, t-statistic of 1.905362 and probability value of 0.0932, equities (EQ) have a positive and significant impact on economic growth in Nigeria. This implies that a one-unit increase in equities will increase economic growth by 0.056950 percent. Value of transactions (VLT), with a coefficient value of 0.004957, t-statistic value of 0.438710 and probability value of 0.6725 indicated a positive but insignificant effect on economic growth in Nigeria. These results are in line with apriori expectations as their coefficients are positive.

However, with a coefficient value of -0.041023, t-statistic value of -3.484307 and probability value of 0.0083, Government Stocks (GS) has a negative and significant effect on economic growth in Nigeria in the period under consideration. The implication is that one-unit increase in Government stock leads to a 0.041023 percentage decline in the rate of economic growth in Nigeria. Similarly, Corporate Bonds (CB), with a coefficient value of -0.022247, t-statistic value of -3.184136 and probability value of 0.0129, has a negative and significant effect on economic growth in Nigeria. That is a one-unit increase in Corporate Bonds will bring about a 0.022247

percent decrease in economic growth in Nigeria. These results are contrary to apriori expectations.

As expected, the coefficient value for inflation rate (INF) at -0.001097, t-statistic value of -2.681952 and probability value of 0.0278 indicates that a one percentage increase in inflation rate will lead to a 0.001097 percentage decrease in economic growth.

5. Summary, Conclusion and Recommendation
5.1 Summary of Findings
This paper examined the role of capital market in the development of the Nigerian economy between 1985 and 2021, using the Auto Regressive Distributed Lag estimation technique (ARDL). The capital market variables included in the model were; value of transaction, all share index, government stocks, corporate bonds, equities and inflation rate in view of its macroeconomic significance. The Central Bank of Nigeria Statistical Bulletin and World Development Indicators were the sources of the data. The ARDL technique was adopted after a stationarity test was conducted using the Augmented Dickey Fuller Units Roots test and Phillips-Perron Units Roots test, and stationarity was found at both levels and first difference. In order to get the best optimal lag for the model, the VAR lag order was estimated after which a bounds test was conducted. The findings of the study are as follows:
(1) The first lag of the all share index (ASI), actual values of equities and (EQ) and value of transactions (VLT) were the capital market variables that impacted economic growth positively. Government stocks (GS) and corporate bonds (CB) on the other hand impacted economic growth negatively. As expected inflation rate (INF) impacted economic growth negatively.

5.2 Conclusion
The study reveals that the capital market impacts economic growth in Nigeria positively and significantly via the all share index(ASI) and equities (EQ). This is in line with the results obtained by Esian and Ebipre (2020), Rilwanu and Daniel (2020), Binuyo, Edy-Ewoh and Binuyo (2019) Acha and Akpan (2019) and Nwamuo (2018). However, in this study, economic growth is impacted negatively and significantly by Government stocks(GS) and Corporate bonds(CB). This could be as a result of the fact that government stocks (GS) and corporate bonds (CB) are still traded at a very low levels in the Nigerian capital market.

5.3 Recommendations
The following recommendations are based on the outcome of the study:
   i.   Since equities contribute positively and significantly to economic growth, government is therefore advised to put up measures to step up investors' confidence and activities in the market and more foreign investors should be encouraged to participate for improvement in the capital market.
   ii. Similarly, since the all share index is positive and significant, there should be increase in the total member listed companies to ensure stable macroeconomic environment in order to encourage foreign multinational companies (MNCs) or their subsidiaries to be listed on the Nigerian stock exchange, relax the listing requirements to the first tier market and

ensure tax rationalization in the capital market to encourage quotation and public interest in shareholdings.

iii. To boost the value of transactions in the Nigerian capital market, there is need for availability of more investment instruments such as derivatives, convertibles, future, and swaps options in the market.

iv. Governments and regulatory bodies can enforce stricter disclosure requirements for corporate bond issuers. This includes mandating companies to provide comprehensive and accurate information about their financial health, operations, and risk factors associated with their bonds. This could make them more attractive to investors who want to take informed decision.

v. To improve the performance of government bonds, governments should take steps to enhance the liquidity of the secondary market for government bonds. This can involve promoting market-making activities, facilitating the entry of market makers, and encouraging the participation of intermediaries. Measures to increase secondary market liquidity make it easier for investors to buy and sell government bonds, thereby improving market efficiency.

Acknowledgments

References

Acha, I. A., &Akpan, S. O. (2019). Capital market performance and economic growth in Nigeria. Noble International Journal of Economics and Financial Research, 4(2), 10-18.

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

Adewuyi, I. D., &Olowookere, J. K. (2011). The contributions of capital market to economic development in Nigeria. International Journal of Economic Development Research and Investment, 2(1), 36-46.

Agu Bertram, O. (2018). Economic growth and capital market development in Nigeria an appraisal. Economic Research, 2(4), 27-38.

Alam, M., & Hussein, M. A. (2019). The impact of capital market on economic growth in Oman. Financial studies, 23(2 (84)), 117-129.

Alile, H. I. (1984). The Nigerian Stock Exchange: Historical perspective, operations and contributions to economic development. Central Bank of Nigeria Bullion, Silver Jubilee edition, 2, 65-69.

Alile, H. (1996). Dismantling barrier of foreign capital inflows. The Business Times of Nigeria 14th April, 5.

Binuyo, B. O., Oluwatimilehin, D., Edy-Ewoh, U., &Binuyo, A. O. (2019). Capital Market Development and Nigerian Economy. KIU Journal of Social Sciences, 5(2), 41-53.

Briggs, A. P. (2015). Capital market and economic growth of Nigeria. Research Journal of Finance and Accounting, 6(9).

Central Bank of Nigeria (2013). The Nigerian Financial Market: CBN Briefs Series No. 2012-2013/01, Research Department. *In CBN Briefs 2012-2013 Edition, ISBN: 2384 – 5082. Pages 4 – 22.* Published by the Research Department, Central Bank of Nigeria, Abuja.

Clarke, J., Jandik, T., &Mandelker, G. (2001). The efficient markets hypothesis. Expert financial planning: Advice from industry leaders, 7(3/4), 126-141.

Demirgüç-Kunt, A., & Levine, R. (1996). Stock markets, corporate finance, and economic growth: an overview. The World Bank Economic Review, 10(2), 223-239.

Donwa, P., & Odia, J. (2010). An empirical analysis of the impact of the Nigerian capital market on her socio-economic development. Journal of Social Sciences, 24(2), 135-142.

Edame, G. E., &Okoro, U. (2013). The impact of capital market and economic growth in Nigeria. Public Policy and Administration Research, 3(9), 7-15.

Esian, A. E., &Ebipre, P. (2020). Capital market performance and economic growth in Nigeria. International Journal of Innovative Finance and Economics Research, 8(3), 65-76.

Ewah, S. O., Esang, A. E., &Bassey, J. U. (2009). Appraisal of capital market efficiency on economic growth in Nigeria. International Journal of Business and Management, 4(12), 219-225.

Eze, O. R., &Nwankwo, O. (2013). Impact of Nigerian capital market instability on the growth of the economy (1990-2011). Journal of Economics, 4(1), 29-37.

Ifionu, E. P., &Omojefe, G. O. (2013). The capital market and performance of the Nigerian economy: A time series analysis. West African Journal of Industrial and Academic Research, 8(1), 192-207.

Isenmila, D. M. (2012). The role of capital market in emerging economy. International Journal of Business and Social Research, 2(6), 61-71.

Iyola, M.A. (2004). Macroeconomics: Theory and Policy. Mindex Publishing.

Kolapo, F. T., &Adaramola, A. O. (2012). The impact of the Nigerian capital market on economic growth (1990-2010). International Journal of Developing Societies, 1(1), 11-19.

Kuna, A. U. I., Hassan, A. I., & Ibrahim, A. (2019). Capital market performance and economic development in Nigeria. Scholars Bulletin, 5(12), 723-731.

Mary, J., Adedinran, S. A., & Elizabeth, A. O. (2012). Capital market as a veritable source of development in Nigeria economy. Journal of Accounting and Taxation, 4(1), 7.

Nwaolisa, E. F., Kasie, E. G., &Egbunike, C. F. (2013). The impact of capital market on the growth of the Nigerian economy under democratic rule. Oman Chapter of Arabian Journal of Business and Management Review, 34(983), 1-10.

Nwamuo, C. (2018). Impact of capital market on the economic growth in Nigeria: An empirical analysis. IOSR Journal of Economics and Finance, 9(5), 48-59.

Obiakor, R. T., &Okwu, A. T. (2011). Empirical Analysis of Impact of Capital Market Development on Nigeria's Economic Growth (1981–2008). DLSU Business & Economics Review, 20, 79-96.

Odetayo, T. A., &Sajuyigbe, A. S. (2012). Impact of Nigerian capital market on economic growth and development. International journal of arts and commerce, 1(5), 1-8.

Ogege, S., &Ezike, J. E. (2012). The Nigerian capital market and economic development: A critical appraisal. International Business Research, 5(8), 228.

Oke, M. O., &Adeusi, S. O. (2012). Impact of capital market reforms on economic growth: The Nigerian experience. Australian journal of Business and management research, 2(2), 20.

Ologunwa, O. P., &Sadibo, O. V. (2016). Capital market development and economic growth in Nigeria: an empirical analysis. FUTA Journal of Management and Technology Maiden Edition, 48-59.

Olowofeso, E. O., Adeleke, A. O., &Udoji, A. O. (2015). Impact of private sector credit on economic growth in Nigeria. CBN Journal of Applied Statistics, 6(2), 81-101.

Owolabi, A., &Ajayi, N. O. (2013). Econometric analysis of impact of capital market on economic growth in Nigeria (1971-2010). Asian Economic and Financial Review, 3(1), 99-110.

Rilwanu, U. I., & Daniel, C. O. (2020). Role of capital market on economic development in Nigeria. IOSR Journal of Business and Management, 22(5), 01-06.

Schiliro, D. (2017). A glance at Solow's growth theory. Journal of Mathematical Economics and Finance, 3(2 (5)), 83-103.

Soyode, A. (1990). The role of capital market in economic development. Security Market Journal in Nigeria, 6(2), 321-336.

Taiwo, J. N., Alaka, A., &Afieroho, E. O. (2016). Capital market and economic growth in Nigeria. Account and Financial Management Journal, 1(8), 497-525.

Ugbogbo, S. N., &Aisien, L. N. (2019). Capital market development and economic growth in Nigeria. International Journal of Development and Management Review, 14(1), 14-24.

Ubesie, M. C., Nwanekpe, C. E., &Ejilibe, C. (2020). Impact of capital market on economic growth in Nigeria. Business and Management Research, 9(2), 49-57.

Yadirichukwu, E., &Chigbu, E. E. (2014). The impact of capital market on economic growth: The Nigerian Perspective. International Journal of Development and Sustainability, 3(4), 838-864.