



Capital Market Indicators and Economic Growth in Nigeria

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Abstract: This paper focused on capital market indicators and economic growth in Nigeria. It specifically examined influence of market capitalization, new issues, stock market prices, value of transactions and market turnover on economic growth. It is a time series study covering a period of thirty three years (1990-2022). Secondary source of data collection was employed. Data were obtained from Central Bank Statistical bulletin and Nigerian Stock Exchange Fact-Book. Data was analyzed using inferential statistics. The inferential statistics consisted of correlation matrix, Augmented Dickey Fuller and Phillips Peron, Unit Roots Tests, Co-Integration and Error Correction Method (ECM). This paper revealed that Market capitalization, stock prices and market turnover has significant positive effect on Economic growth, while, new issue and value of transaction has negative and no significant influence on economic growth in Nigeria. The paper therefore recommended the need for the capital market or Nigerian Stock Exchange to increase the market capitalization since it enhances economic growth. The capital market should encourage quoted firms to regularly release new issues in the market since it can pave way or access to funds to businesses which can influence economic growth. The Nigerian Stock Exchange should ensure that stock price of quoted firm increases as the firm grows such that information provided about the firm stock prices can give signals to investors.

Key words: Capital Market, Indicators, Economic Growth and Turnover.

1.0 Introduction

The efficient functioning of the capital market is linked to the existence of capital market indicators and their relationship with the economic growth (Houston, 2012). Capital market indicators like market capitalizations, liquidity, value of transactions and new issues contribute to the stock of capital in an economy (Osaze (2007). Investors and various players in the capital market utilize the relationship and

direction of the capital market indicators in the market to boost their businesses. The capital market indicators has played during the privatization of public owned enterprises, recapitalization of the banking sector and avenue of long term funds to various governments and companies in Nigeria. Government creating more enabling environment can further increase the efficiency of the stock market to attain higher economic growth.

The Gross Domestic Product is a measure of the economic activities in any country. It takes a holistic view of the total production within a particular time period. The capital market is a source of raising funds for purposes of investments in an economy and further promotes economic growth and development. Liu and Hsu (2006) emphasize the positive effect of stock market development (measured by market capitalization as percentage of Gross Domestic Product (GDP), turnover as percentage in Gross Domestic Product (GDP) and stock returns) on economic growth. Brosaveanu *et al* (2008) asserted that the financial development is a predication element for the economic growth, because the capital market reflects the present value of the future growth opportunities.

New issues of stocks, bonds or equities are meant to finance modernization and expansion program. Governments and public or private limited companies issue New Issues in the capital market to finance fixed assets and increase the gross domestic product or economic growth. According to Ilaboya and Ibrahim (2004), the measure of the amount and size of new issue denominated in Naira value as in case of Nigeria is the gross fixed capital formation ratio. Every country of the world determined its gross fixed capital formation, which is a measure of the popularity of the capital market as a source of raising funds for purpose of investment.

Over the years, paucity of long-term capital has posed the greatest predicament to economic development in most African countries including Nigeria. However, the effectiveness of the capital market in underdeveloped or developing financial environment is often queried against the backdrop of perceived structural and institutional rigidities in the economy. The poorly developed capital market system in giving adequate information on the importance of the New Issues market for the purpose of raising funds capable to improve the nation's Gross Domestic Product, low market capitalization and insignificant numbers of listed firms in the capital market.

However, several studies have been conducted in both developed (Nieuwerburgh, Buelens and Cuyvers 2006 from Belgium; Bruckner and Tuladhar, 2010 from Japan; Brasoveanu, Dragota, Catarama, Semenescu, 2008 from Romania) and developing countries like Nigeria on capital market indicators in relation to economic growth (Okpara, 2010; Ojo, 2010; Ilaboya, and Ibrahim, 2004; Ezeoh, Ebele and Ndidi Okereke, 2009). The various outcomes from extant studies were mixed and inconclusive due to methodological approaches used. Similarly, extant studies from Nigeria to the best of our knowledge have not recognized the importance of market turnover on economic growth. Hence there lies a gap in knowledge which this study desires to fill.

The main objective of the study is to investigate impact of capital market indicators on economic growth.

2.0 Literature Review

In their study, Algaheed (2021) examined the impact of capital market development on per capita GDP growth in the Saudi Arabian economy. The study utilized time series data on a twelve-monthly basis from 1985 to 2018 and analyzed various variables such as share price index, capitalization, liquidity, number of share transactions, and number of shares using Autoregressive Distributed Lag (ARDL), FMOLS, and Johansen tests. The results indicated that market capitalization and liquidity had negative effects, while the share price index, total number of shares traded, and volume of transactions had positive effects as expected. Notably, the study solely relied on yearly time series collated data for quantitative analysis and did not use real GDP to measure economic growth.

Cynthia, Chinedum, and Ikechi (2021) conducted a research that investigates the impact of capital market development on Nigeria's economic growth. The study utilized secondary data from 1983 to 2016 and employed the autoregressive distributed lags model (ARDL) for analysis. The findings indicate a positive and significant correlation between the number of listed securities and economic growth in Nigeria. However, the study reveals a negative and significant relationship between the number of all share indexes and economic growth.

In the research conducted by Imade (2021), examined the relationship between capital market performance and economic growth in Nigeria and the United States of America from 1990 to 2017. The study utilized the cointegration econometric method and the error correction model for data analysis. The findings indicated that gross fixed capital formation was the only variable that significantly influenced economic progress in Nigeria, both in the short-run and long run. As a recommendation, the study suggested that the government should implement regulations to oversee the activities of the capital market and its participants. It is important to note that this study relied on time series data collected annually for quantitative analysis, which fell short of the minimum requirement of 30 observations for time series analysis.

In the study conducted by Grbic (2020), the relationship between stock market development and economic growth in the republic of Serbia was examined. The analysis was based on quarterly time-series data from quarter one 2000 to quarter four 2018. The study used real GDP as the dependent variable and market capitalization, total value ratio, and turnover ratio as independent variables. To test for granger causality, the Vector Autoregressive Model was employed using the Toda-Yamamoto-Dolado-Lutkepohl approach. The findings revealed a unidirectional Granger causality, indicating that stock market development influences economic growth.

Alam and Hussein (2019) conducted research on the influence of the capital market on Oman's economic growth. The study employed secondary data from 1960 to 2015 and analyzed it using OLS. The findings indicate a noteworthy and affirmative correlation between the capital market and economic growth in Oman.

In the study conducted by Araoye, Ajayi, and Aruwaji (2018), explored the influence of the development of the Nigerian stock market on the economic growth of Nigeria from 1985 to 2014. The findings of their research indicated that the stock market played a crucial role in determining the country's economic growth. As a result, they advised policymakers to focus on enhancing the market capitalization by promoting foreign direct investment in the market.

In their study, Oprea and Stoica (2018) explored the effects of capital market integration on economic growth in European Union (EU) countries. They utilized panel data from 2004 to 2016 and identified the key factors through which capital market development influences economic growth. The dependent variable was measured by GDP growth and multifactor productivity, while the independent variables included capital mobility, foreign portfolio investments, market capitalization, value traded, turnover ratio, stock indices, unemployment rate, and immigrants. The Autoregressive Distributed Lag Model was employed for analysis, which revealed that the integration of capital markets has a positive impact on economic growth. The primary factors responsible for these positive effects are stock market capitalization, capital mobility, value traded, stock indices, immigrants, and foreign portfolio investments.

Araoye, Ajayi, and Aruwaji (2018), conducted a study on the Nigerian Stock market's impact on the country's economic growth from 1985 to 2014. The study used GDP as a proxy for economic growth and market capitalization and market turnover ratio as proxies for stock market development in terms of size and liquidity. The Johansson's co-integration test was used to determine if a long-term relationship existed between stock market development and economic growth in Nigeria. The results showed that the

stock market played a significant role in determining economic growth in Nigeria using the error correlation model. However, it was concluded that the stock market had an insignificant impact on economic growth. The study recommended that small and medium entrepreneurs should be encouraged to access the market for investible funds due to their close affinity with grassroots funds mobilization ability.

The relationship between the developmental level of capital market sub-components and economic growth in Turkey was investigated by Coskun et al. (2017) during the period from January 2006 to June 2016. Economic growth was assessed using GDP, while capital market sub-components were measured using stock market capitalization, the combined value of pension and mutual funds assets, corporate bond market capitalization, total traded value in the stock market, the total value of government bonds (both short-term and long-term), employment rate, consumer index, and real effective exchange rate. The analysis employed an ARDL, Markov switching regression, and Kalman filter model. The findings indicated a long-run cointegrating relationship between capital market development and economic growth in Turkey. Furthermore, the results revealed a unidirectional causality from capital market development to economic growth in Turkey. Lastly, it was observed that capital market development has asymmetric effects on economic growth.

Okere and Ndubuisi (2017) conducted a study that examined the correlation between crude oil prices, stock market development, and economic growth in Nigeria, one of the OPEC countries. The study focused on the period from 1981 to 2014 and utilized the autoregressive distributed lag approach (ARDL) for cointegration analysis, which is the latest methodology in this field. To measure stock market development, the researchers constructed three indicators using principal component analysis. The findings of the study revealed that crude oil prices play a dominant role in driving economic growth in Nigeria. However, when considering inflation and trade openness as moderators of economic activities, the study found that the stock market has an insignificant impact on economic growth. This suggests that the financial sector in Nigeria is performing poorly. Overall, the results emphasize the significant influence of crude oil prices on economic growth and highlight the weakness of the stock market in stimulating economic growth through resource mobilization and allocation in Nigeria.

In their research, Karimo and Ogbonna (2017) analyzed the relationship between financial deepening and economic growth in Nigeria from 1970 to 2013. They utilized the Toda-Yamamoto augmented Granger causality test and found that the supply leading hypothesis holds true for the growth-financial deepening nexus in Nigeria. This implies that financial deepening is the driving force behind growth, rather than growth leading to financial deepening.

Iheanacho (2016) conducted a study to examine the correlation between financial development and economic growth in Nigeria from 1981 to 2011. The research utilized the auto-regressive distributed lag (ARDL) approach for co-integration analysis. The findings indicate that the relationship between financial intermediary development and economic growth is negative and lacks significance in the long term, while it is significantly negative in the short term. These results emphasize the influential role of the oil sector in Nigeria's economic activities.

Ogunleye and Adeyemi (2015) conducted a study to analyze the impact of stock market development on economic growth in Nigeria from 1970 to 2008. They utilized Cointegration Analysis and Error Correlation Mechanism as the estimation techniques to determine the presence of a long-term relationship between stock market development and economic growth. In order to assess the confidence of investors in the Nigerian stock exchange and validate the influence of stock market development on economic growth during the specified period, questionnaires were administered. The empirical findings revealed the existence of a long-term relationship between stock market development and economic growth in Nigeria. The results concluded that there is a positive correlation between market capitalization and

money supply with economic growth, while total value traded, turnover ratio, and gross capital formation exhibit an inverse relationship with growth. Additionally, market capitalization was found to be highly significant and emerged as the primary indicator of the stock market. Based on these findings, it is recommended that the government address the scarcity of investment assets through effective policy measures that enhance the performance of the stock market in Nigeria and restore investor confidence.

3.0 Methodology

The research design adopted for this research is the ex-post facto research design.

The paper employed time series data covering a period of thirty-four (33) years which is between 1990 to 2022. Emphasis was based on capital market indicators and economic growth which was proxied with Gross Domestic Product (GDP). The paper examined the relationship between the variables like market capitalization, new issues (government and private issues), stock prices, value of transaction and stock turnover which are the independent variables.

Both government and private sectors are examined and as well the entire economy especially as New Issues would enhance Gross Domestic Product (GDP). The aggregates of the variables for the period are utilized for the study. The Nigerian economy constitutes the population for the study and while the sample were Nigeria capital market. The study basically employed secondary type of data. The secondary data were sourced from the Central Bank of Nigeria Statistical Bulletin, Nigerian Stock Exchange (NSE) fact-books, textbooks, journal articles, and seminar papers. The data were restricted to the variables captured in the introduction. The secondary data for the analysis in relation to the variables to be examined were from the Nigerian economic environment.

3.1 Model Specification

The model used in this study is specified as below

$$GDP = \alpha + \beta_1 MC + \beta_2 NI + \beta_3 SP + \beta_4 VT + \beta_5 MT + u$$

Where;

GDP= Gross domestic Product which is the proxy for economic growth.

α = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 = Coefficients

MC= Market Capitalization

NI= New Issue

SP= Stock Prices

VT= Value of transaction

MT= Market Turnover.

Appriori expectation: $\beta_1, \beta_2, \beta_3, \beta_4$ and $\beta_5 > 0$

3.2 Method of Data Analysis

The Error Correction Model (ECM) and Cointegration test technique was used. Since the data was time series in nature, we conducted the unit root tests for Stationarity to avoid spurious regression (Granger and Newbold, 1974; and Engle and Granger 1987) as the application of OLS to non-stationary data would result in spurious regression. The rationale for the use of the test was to examine relationships between the dependent variable (Gross Domestic Product) and the independent variables which were the

explanatory variables (New Issues, Total value of transaction, Market Capitalization) within the stipulated time period was analyzed and used to examine the hypotheses formulated.

Error Correction and Co-integration retains the focus and emphasis on the dynamic structure of the time series while bringing in explanatory variables. According to Iyoha (2004) Error Correction Model or Cointegration explains how to study the interrelationships between the long term trends in the variables and how the short-run dynamics can be described.

4.0 Data Presentation, Analyses And Interpretation

4.1 Unit Roots Test

Generally, unit root test involves the test of stationarity of variables used in regression analysis. The importance of stationarity of time series used in regression borders on the fact that a non-stationary time series is not possible to generalise to other time periods apart from the present. This makes forecasting based on such time series to be of little practical value. Moreover, regression of a non-stationary time series on another non-stationary time series may produce spurious result. The starting point of an empirical analysis for the purpose of policy stance is to examine the stationarity properties of the time series. This is pertinent because a non-stationary series can lead to bias and misleading inferences. According to Granger (1987), the use of non-stationary series will lead to misleading analysis. Therefore, we begin the analysis of empirical result by first testing for the existence of unit roots in the series. To this end, we employ the Augmented Dickey Fuller (ADF) techniques including an intercept and a trend.

This version of unit root tests was used in testing for the data's stationarity using Augmented Dickey Fuller (ADF). The results are presented in levels and first differences. This enables us determine in comparative terms, the unit roots among the time series and also to obtain more robust results. The reason for this is that an explicit test of the trending pattern of the time series has not been carried out and established. Table 4.1 shows ADF unit roots result.

Table 4.1: ADF Unit Roots Result

| Series | Level | 1st Difference | Integration |
|------------|-----------|----------------|-------------|
| GDP | -2.409852 | -6.92936* | I (1) |
| MC | -1.090231 | -4.44990* | I (1) |
| NI | 0.050991 | -4.298617* | I (1) |
| SP | 1.697635 | -3.657840* | I (1) |
| VT | -2.532518 | -5.819093* | I (1) |
| MT | -1.771032 | -6.659587* | I (1) |

Source: Author's Computation (2023) Using E-View 9.0

Note *&** indicate the critical values at 1% and 5% level respectively. The critical value at 1% & 5% are -3.64 and -2.95 respectively.

Table 4.1 The implication is that the time series were non-stationary in their levels but later stationary at first difference. Box and Jenkins (1978) noted that non stationarity time series in levels, be made stationary by taking their first differences. This further suggested that, the variables were time-dependent and would not guarantee a long run relationship unless tested. Thus, the variables are integrated of order one (i.e. 1[1]). It is deduced that the ADF test statistic for each of the variables at first difference are greater than the 95% critical ADF values (in absolute terms) which is adjudged to be stationary.

4.2 Model Estimation And Interpretation

In this section, the results of the estimated model that was specified in previous section is reported and analyzed. The system of estimation performed involves the use of Error Correction Model (ECM) in order to obtain more robust estimates.

The results of the estimated model are presented in Table 4.2. The diagnostic statistics reported are the R square and D.W statistics.

Table 4.2: The Parsimonious Result of the Error Correction

| Variable | Coefficient | Std. Error | t- Statistics | Prob. |
|--|-------------|------------|---------------|--------|
| C | 7.781002 | 13.41628 | 0.579967 | 0.5673 |
| D(MC) | 96.25922 | 18.09736 | 5.318966 | 0.0000 |
| D(NI) | -17.63212 | 13.94497 | -1.264407 | 0.2182 |
| D(SP) | 0.001518 | 0.000706 | 2.150146 | 0.0347 |
| D(VT) | -0.000141 | 0.000882 | -0.160027 | 0.8742 |
| D(MT) | -2.777281 | 0.734618 | -3.780578 | 0.0004 |
| ECM(-1) | -1.191389 | 0.201208 | -5.921192 | 0.0000 |
| $R^2 = 0.7059$ Adjusted $R = 0.6202$ F- Stat (Prob.) = 8.2306 DW = 2.04 | | | | |

Source: Author's Computation (2023) Using E-View 9.0

$$GDP = 7.7810 + 96.259MC - 17.632NI - 0.002SP - 0.0001VT - 2.777MT$$

$$(0.5800) (5.3190) (-1.2644) (2.1501) (-0.1600) (-3.7806)$$

Table 4.2 showed the results of the error correction model (ECM) and reported below the equation in parenthesis are the respective t-statistics of variables examined. Three of the variables (MC, SP and MT) included in the model were statistically significant with economic growth proxied with GDP at the 5% level, except two variables NI and VT passed the t-test at 21% and 87% level (not statistically significant), meaning they are weak determinant of gross domestic product (GDP). Comparing their (MC, SP and MT) calculated t-values of 5.318, -2.1501 and -3.78057 respectively with the t-table value of 1.69 at 5 percent level indicates that a unit decrease or increase in NI and VT will lead to increase of GDP by -1.2644 and -0.1600 units respectively. Similarly, both variables are correctly signed. The coefficients of new issue (NI), stock prices (SP) volume of transaction (VT) market turnover (MT) which each have negative coefficients, implied that a unit decrease in any of the variables could negative affect economic growth. These suggest that these variables have negative impacts on economic growth in Nigeria.

The J-statistic for the equation fails the significance test at the 5 percent level indicating that we cannot reject the null hypotheses that the over-identifying restrictions are equal to zero. Apparently, the equation in the model along with selected instruments actually passes the identification tests. Consequently, we cannot reject the specification of model since it is well specified and the instrument seems to be appropriate.

The coefficient of determination R-squared value of 0.705 indicates impressive goodness of fit for the model. Thus, for the period under study based on the available data, market capitalization (MC), stock prices (SP), market turnover (MT) were able to account for 71 percent of the changes in economic growth in the country with only 29 percent being explained by other variables which were not included in the study. This result was further supported by the R-Bar squared value of 62 percent which is reasonably high.

The F-Stat (Prob.) of 8.2306 indicates that there is a simultaneous linear relationship between the dependent variable and all the explanatory variables combined. Thus, we therefore reject the hypothesis of a non-linear simultaneous relationship between economic growth and all the explanatory variables

combined. This suggests that the joint effects of all the included variables in the model are significant in explaining economic growth in Nigeria. The Durbin Watson (D-W) statistic values for the equation of 2.04 is generally acceptable in terms of absence of autocorrelation in the estimates. Thus, there is the absence of a first order position autocorrelation in the model.

The coefficient of ECM is statistically significant at 1 percent level and correctly signed. From the result, ECM coefficient indicated negative value of 1.191389. This suggested that about 84 percent of the disequilibrium in the model will be corrected every year. Interestingly, the overall model is highly significant and shows a high goodness of fit even at the 1 percent level, suggesting that the entire results are fundamental for policy decision. Hence, we proceed to test of hypotheses.

4.3 Discussion of Findings

Findings of this study are discussed as follow.

To begin with, the impact of market capitalization on economic growth is noteworthy. The outcome suggests that market capitalization holds statistical significance. This discovery aligns with the research conducted by Beck and Levine (2004), which demonstrated that market capitalization plays a role in resource allocation and economic growth. Additionally, Ojo (2010) discovered that market capitalization has a positive contribution to economic growth or Gross Domestic Product (GDP).

Furthermore, the impact of the New Issue on economic growth in Nigeria is not significant. The regression analysis results indicate that the model adequately explains the influence of new issues in Nigeria, despite the statistical insignificance of the findings. Consequently, it can be inferred that new issues have a limited effect on economic growth in Nigeria. This finding contradicts the perspective of Osaze (2007), who argued that the total amount of new securities issued in the capital market contributes to the growth of funds. Similarly, Ewah et.al, (2009) discovered that the Gross Domestic Product (GDP) is significantly influenced by capital indices such as new issues...

Stock prices play a crucial role in shaping economic growth. It can be inferred that stock prices have a substantial impact and a positive correlation with economic growth in Nigeria. This research supports the findings of Obamiro (2005), who discovered a significant positive effect of stock prices on economic growth.

The impact of Value of Transaction on economic growth in Nigeria is not significant, indicating that it is not a strong determinant of economic growth. Despite this, Okpara (2010) suggests that significant changes in the market value of shares traded can have a positive impact on GDP. This means that changes in market indicators can affect economic growth. Ezeoha et al. (2009) found that new issues can promote capital market development, which in turn can lead to increased domestic private investment and enhance the economy's production capacity and national output. However, their results also show that new issues have been low, which has affected stock market development and GDP, and has not encouraged foreign private investment in Nigeria.

The positive impact of Market Turnover on economic growth in Nigeria is noteworthy. This suggests that market turnover plays a limited role in determining economic growth in Nigeria. This discovery aligns with the research conducted by Adam and Sanni (2005), who found a significant and positive correlation between turnover ratios and GDP growth.

5.0 Summary of Findings Conclusion and Recommendations

The issue of capital market indicators in relation to economic growth continues to be a fundamental aspect in Nigeria. Economic growth is a phenomenon that is closely tied to market productivity and the increase in Gross Domestic Product (GDP). GDP represents the total value added by all resident producers in the economy, including any product taxes and excluding any subsidies. Economic growth is

just one component of the overall process of economic development. The capital market plays a crucial role in facilitating this process for any economy. Its allocative function is vital in determining the overall growth of the economy. The functioning of the capital market has an impact on liquidity, the acquisition of information about firms, risk diversification, savings mobilization, and corporate control. Additionally, the functioning of stock markets can influence the rate of economic growth, making the capital market a critical element in the sustainable development of the economy. There are several capital market indicators, such as market capitalization, all shares index, stock market prices, and market turnover that play a significant role in the interplay within the capital market. The interaction of these indicators has implications for economic growth. Based on various research findings and existing studies, it can be concluded that market capitalization, new issues, stock prices, market turnover, and the value of transactions have a significant effect on economic growth.

5.1 Recommendations

Based on the findings and conclusion of this study, we therefore propose the following recommendations.

(1) The measurement and assessment of the financial market and its impact on economic growth heavily rely on market capitalization. Therefore, it is imperative for the capital market or Nigerian Stock Exchange to enhance market capitalization in order to foster economic growth. (2) Both private and public corporate organizations, as well as various tiers of governments, issue new securities in the Nigerian capital market to raise funds for investment purposes. The financial markets play a vital role in stimulating economic growth by providing short and long term funds to the productive sector. Public offers also contribute to market correction. Hence, the capital market should encourage quoted firms to regularly release new securities in the market, as it can facilitate access to funds for businesses and subsequently influence economic growth. (3) The efficiency of the capital market is enhanced by stock prices, as they reflect important information and investors' perception of the market. It is crucial for the stock prices of quoted firms to accurately represent their value. The Nigerian Stock Exchange should ensure that the stock prices of quoted firms increase in line with the growth of the firms, as this will provide investors with reliable signals regarding the firm's performance.

(4) Market turnover, which indicates the proportion between the value of transactions and market capitalization, is a significant metric. It is essential for both the value of transactions and market capitalization to increase simultaneously in order to achieve higher market turnover.

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