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Abstract

The study examined a comparative study of the stock market capitalization on economic growth in Nigeria and South Africa for the period 2000-2018. The impressive growth recorded by Nigeria and South Africa Capital markets performance indicators are expected to transform their economies to the desired level. The study relies on time series OLS regression to analyze the data. The study found that the relationship between market capitalization ratio to GDP and economic growth is positive for South Africa but insignificant for Nigeria. Thus, the economic growth is positively correlated with the size of both countries’ capital markets, though the size of South Africa capital market has better contribution to economic growth compared to Nigeria. The study recommends that there is a need to increase the size of the markets in both countries by increasing the number of financial instruments available to investors so as to increase trading as well as improve liquidity in the markets.

Key words: Stock Market, Economic growth, Market Capitalization, GDP

JEL Classification: G15, F43

1.1 Introduction

Capital market is a vehicle that aid an economy on its part of growth. It is responsible for long term capital accumulation/formation and
ensures the liquidity and stability of the financial system. This is achieved via financial intermediation and allocation of savings among competing uses which are critical to economic growth. Mobilization of resources for national growth has long been the central focus of financial system.

The development of the Nigerian capital market like other developing countries has been induced and fostered by the government. Relying on the historical development of the establishment of the Nigerian stock exchange first as Lagos stock exchange (LSE) by the federal government upon the recommendation of Barback committee. The efficiency of the stock exchange by mid 1970s was shown in the upgrade of the operation of LSE on 2nd Dec, 1977 to Nigerian stock exchange powered by the articles and memorandum of association with the function of enhancing the flow of long term capital into productive investment. The lagged capital market growth was however shaken off by the Nigerian Enterprise Promotion Decree of 1972 as Nigerians gain the commanding height of the economy and the introduction of structural adjustment programme (SAP) of 1986 in Nigeria which results in the deregulation of the financial sector and the privatization exercise improve the activities in the capital market.

The current crash of the Nigerian capital market has been unprecedented in its historic evolution since 1960 to date. The Nigerian capital market which witnessed a boom in the last few years is now experiencing a meltdown. Ote (2011) puts it thus “Market capitalization has declined from over N13trillion in 2007 to N9.918trillion in 2010. The all-share index has also fallen from 57,990.22 points to approximately 24,770.52 points in the same period”. Many stocks lack liquidity as their holders are trapped due to inability to convert it to cash to meet their domestic and other investment needs. Moreover, the dampening of shareholders and investors’ confidence seems to be alarming as fresh investors are also cautious of jumping into a vehicle that does not seem to have a brake should they wish to disembark.

A number of factors have been blamed for the sorry state of affairs. These includes: global economic meltdown, pool out of various foreign investors, lack of infrastructure and high productive costs, impact of commercial banks following the forced capitalization of
banks which over-heated the market, avalanche of private placement offers, bank short term orientation imposed on long term capital market, inability of federal government to plot a bail-out option to the capital market and structural deficiencies of the Nigerian stock market.

However, investors expect that the prices of stock in the Nigerian capital market will continue their crawl upward and that the activities of Assets Management Corporation of Nigeria (AMCON) will be felt in the market.

Comparatively, Nigeria has a larger population than South Africa but South Africa is richer in per capita. Nigeria with a population of over 200 million has a much larger population than South Africa whose population is little above 58 million as at 2019. Nigerian economy needs to be substantially larger than South Africa before an average Nigerian will be as prosperous as an average South African (Fraren, 2014). It is observed that Nigeria economy needs to be growing faster than South African, this is expected because Nigerian economy is still under developed and as such any minor improvement leads to substantial economic gains. South Africa is a middle-income country with a lot of economic infrastructure already in place. Nigeria population is increasing at a higher rate than South Africa (Fraren, 2014).

In Nigeria, the capital market was a major beneficiary of structural reforms to the economy, which began in 1999, as a result of which the trend growth rate of the economy rose from 3% to 4% per annum before the turn of the last century, to around 7% per annum since 2003. Additional reforms to the financial services sector, including the 2004/2005 increase in banks’ minimum capital base saw further inflows of investment into the capital market. The cashless policy of the Nigerian economy has also further improves the competitiveness of the economy cum ease of funds into the capital market to compete with improve capital market like the South African capital market.

The market witnessed a steep decline in trading volumes and overall market capitalization, with the value index dropping from 33,358.3 points in 2006 to 20,730.6 points in 2014, and the value of approved new issues dropping precipitously to N2.03 billion in 2014 from N1,410 trillion in 2006. According to NSE (2014), the listed
equities of Nigeria capital market was 190 with 48 listed bonds (including one exchange traded fund), and an average daily turnover this year of US$17 million, the market capitalization of equities on the NSE currently stands at N6.54trn, while that of bonds is slightly lower at N3.74 trillion, (Nigerian Stock Exchange, 2014).

The Johannesburg Securities Exchange was established in 1887. Though there was no formal documented regulatory procedure of the operation of the exchange until enactment of the Stock Exchanges Control Act (Uyaebo, Atoi & Usman, 2015).

Johannesburg Securities Exchange was renamed JSE Securities Exchange, which provided a market for securities trading with a regulated procedure. The JSE’s market capitalization stood at USD614 billion as at end May 2009 and the market turnover was USD300 billion in 2008 calendar year SARB (2009) cited in Uyaebo et al (2015). Between 1995 and first quarter 2013, JSE averaged 15,656 Index points reaching an all-time high of 40,984 Index points in March of 2013 and a record low of 4,308 Index points in September of 1998. The FTSE/JSE All Share Index has a base value of 10,815.083 as of June 21, 2002 (Uyaebo et al., 2015).

The JSE plays a key role in the commercial and economic development of South Africa. It is a strong driver of the South African economy and the companies listed on the JSE represent a sizeable part of South Africa’s economic activity. Companies across the range of industry and commerce meet to raise the public capital needed to expand their businesses and in doing so, they create new jobs, products, services, wealth and economic opportunities (Mkhize & Msowell-Mbanga, 2006). It currently has about 400 companies listed with a market capitalization of R6,633.6 billion as of March 25, 2011, the strongest performance in SSA (World Development Indicators, 2011). According to a press release by the African Capital Markets news, in 2010, JSE revenues increased 9% per year over- year to R1, 255 million in 2010 (2009: R1, 156 million) despite a challenging environment. Moreover, South Africa’s Johannesburg Stock Exchange (JSE) led African exchanges in Initial Public Offerings (IPO) transactions and capital raised in the past five years, amounting to $2.7 billion. In the period under review, there were 105 IPOs, raising $6.1 billion by African companies on exchanges worldwide and non-African companies on African exchanges, with the top 10 African IPOs
by value in 2015 taking place in South Africa and North Africa, namely Egypt and Morocco. In 2015, capital raised from IPOs by companies on the JSE in dollar terms decreased by 11 percent as compared with 2014, largely due to the weakening of the South African rand during the year, while capital raised from IPOs by companies on other African exchanges in dollar terms increased slightly by 3 percent as compared with 2014 (Oputa, 2016).

However, recent periods before the recent recession set in Nigeria and indeed South Africa capital markets witnessed a sporadic growth in their economies. Output growth in the Nigeria averaged 6 to 7 percent yearly, which within the context of global output growth was very impressive performance (Nigeria Bureau of Statistics, 2015). According to the report before this period, the oil sector has remained the major driver of growth recording a 7.50 per cent increase in contrast to the non-oil sector. This scenario is different with the South African economy which although has equally witnessed an impressive performance in economic growth, the capital market performance indicators have not transformed their economies to the desired level (Oputa, 2016).

Although a number of studies have been conducted on the relationship between capital market development and economic growth in many developing countries, the majority of these studies have relied mainly on bank development as a proxy for financial development. However, specific studies addressing the dynamic relationship between stock market development and economic growth in Africa on regional and comparative studies are very limited.

1.2 Objectives of the Study
The broad objective of the study is to comparatively evaluate the role of capital market on the economic growth of Nigeria and South Africa between 2000-2018. To achieve this, the study will analyze,

1. Examine the relationship between stock market capitalization ratio to gross domestic product and economic growth in Nigeria and South Africa economies.
1.3 Research Hypotheses

H$_{01}$: Stock market capitalization ratio to gross domestic product has no significant relationship with economic growth in Nigeria and South Africa.

2.0 Review of Related Literature

2.1 Theoretical Framework

The theoretical framework for this study is based on the theory of efficient market. The concept of efficiency is central to all segments of the financial market. It refers to any one of the three types namely: Operational efficiency, allocation efficiency and pricing efficiency. However, the theoretical explanation on the nexus between capital market and economic growth is well discussed using the Efficient Market Hypothesis (EMH). The Efficient Market Hypothesis, according to Fama (1965) is an academic concept which provides a framework for examining the efficiency of the capital market. According to the EMH, financial markets are efficient or prices on traded assets, have already reflected all known information and therefore are unbiased because they represent the collective beliefs of all investors about future prospects Olawoye (2011) In other words the EMH states that all relevant information are immediately and fully reflected in a security’s market price. Previous test of the EMH have relied on long range dependence of equity returns. It shows that past information has been found to be useful in improving predictive accuracy. Previous test of the EMH have relied on long range dependence of equity returns. It shows that past information has been found to be useful in improving predictive accuracy. This assertion tends to invalidate the EMH in most developing countries. Using Egyptian data, Mecagni and Sourial (1999), applied the GARCH estimating methodology to show that four of the popular stock market indices did not conform with the efficient market hypothesis. Osei (2002), using Ghanaian data, explored the character of asset pricing and the response to earning announcement on the Stock Exchange. He found that abnormal and cumulative abnormal returns of selected securities were not efficient with respect to annual earnings. Working with Nigerian data covering 1981 to 1992, Olowe (1999), employed correlation analysis to show that the Nigerian stock market was weak
form efficient. This work believes that the stock market is efficient, and that changes in the market significantly reflect changes in economic growth of any nation with reasonably organized national stock markets like Nigeria and South Africa.

2.2 Empirical Literature
The stock market serves as a veritable tool in the mobilization and allocation of savings among competing ends which are critical and necessary for the growth and efficiency of the economy. Therefore, the determination of the overall growth of an economy depends on how efficiently the stock market performs its allocative functions (Ewah, Esang & Bassey, 2009). Adam and Sanni (2005) examined the role of stock market in Nigeria’s economic growth using Granger Causality test and regression analysis. The study discovered a one-way causality between GDP growth and market capitalization and a two-way causality between GDP growth and market turnover. They also observed a positive and significant relationship between GDP growth and turnover ratios. The study advised that government should encourage the development of the capital market since it has a positive relationship with economic growth.

Afees and Kazeem (2010) critically and empirically examined the causal linkage between stock market and economic growth in Nigeria between 1970 and 2004. The indicator of the stock market development used are market capitalization ratio, total value traded ratio and turnover ratio while the growth rate of gross domestic product is used as proxy for economic growth, using the granger causality (GC) test, the empirical evidence obtained from the estimation process suggests a bidirectional causality between turnover ratio and economic growth, a uni-directional relationship from market capitalization to economic growth and no causal linkage between total value traded. The result of the causality test is sensitive to the choice of variable used as proxy for stock (capital) market. Overall the result of the granger causality test suggested that capital market drive economic growth.

Nyong (1996) developed an aggregate index of capital market development and used it to determine its relationship with long run economic growth in Nigeria. The study employed a time series data from 1970 to 1994. Four measures of capital market development
ratio of market capitalization of GDP measured in percentage, ratio of 
total value of transaction on the main stock exchange to GDP in 
percentage, the value of equities transactions relative to GDP and 
listing were used. The four measures were combined into one overall 
composite index of capital market development using principal 
component analysis. The financial market depth was included as 
control. It was found that the capital market development is 
negatively and significantly correlated with the long-run growth in 
Nigeria.

Nyasha and Odhiambo (2015) investigate the dynamic causal 
relationship between bank-based financial development, stock market 
development and economic growth in South Africa – during the period 
1980–2012. The study includes savings and investment as 
intermittent variables – thereby creating a multivariate Granger-
causality model. Using the newly developed autoregressive 
distributed lag (ARDL)-bounds testing approach, the empirical results 
of this study reveal that there is a distinct short- and long-run 
unidirectional causal flow from stock market development to economic 
growth in South Africa. The results also indicate that there is a 
unidirectional causal flow from bank-based financial development to 
stock market development in the short run. The study, however, fails 
to find any causality between bank-based financial development and 
economic growth. The study, therefore, concludes that the 
development of the real sector in South Africa is largely driven by 
stock market development.

Josiah, Samson and Apketi (2012) looked at the impact of the 
capital market in the development of the Nigerian economy with the 
main objective of identifying the importance of the capital market. 
Using the Ordinary Least Square and cochrane – Orcutt interactive 
methods, they discovered that the capital market has not contributed 
positively to the development of the Nigerian economy. However, 
there is a positive correlation between the rate of transactions in the 
capital market and the development of Nigerian economy.

Khetsi and Mongale (2015) studied capital markets as 
institutions that actively play a role in the development of an 
economy. This study investigates the impact of capital markets on 
economic growth in South Africa from 1971-2013. The results 
indicated that there is a positive relationship between economic
growth and capital markets in South Africa. Furthermore, the country should focus on factors that contribute to the development of capital markets, such as the development of financial institutions. The study contributes to the existing body of empirical literature with regards to economic growth and capital markets, especially with reference to stock markets as South Africa has one of the largest stock markets (JSE) in the world.

Nomfundo (2010) examined the long run relationship between stock market development and economic growth in the case of South Africa. The study used quarterly data covering the period from 1990Q1 to 2010Q4. To empirically test the link between the two variables, the study used the Johanson’s cointegration approach and Granger causality so as to test the direction of the relationship. The Vector Error Correction Model was also employed to capture both short run and long run dynamics. Generally, the results reveal that a long run relationship exists between the two variables and the causality flows from economic growth to stock market development. Also, the extent to which of stock market development impacts on growth is statistically weak.

Popoola and Ademola (2017) investigates the short run effect and causal relationship between stock mkt and economic growth in Nigeria using Augmented Dickey Fuller unit root test, ordinary least square(OLS), Johansen co-integration test and Pairwise Granger causality method on their variables. The OLS results shows that all share index a significance but negative relationship with economic growth. Johansen co-integration test shows that a long run relationship exist between stock market performance and economic growth in Nigeria in the long run while the granger causality test shows that stock market performance does not granger cause economic growth but economic growth granger cause stock market performance at 5% significance level. They recommend that government should improve the stock market performance so as to have a positive effect on the real GDP of Nigeria.

Odo, Anoke, Onyeisi and Chukwu (2017) studied the impact of capital market indicators on economic growth in Nigeria from 1986-2016 using Auto Regression distributed lag (ARDL) bound testing and VAR granger causality econometric tools of estimation to test the variables. Their result shows a stable long run relationship between
the dependent and independent variables as supported by the greater bound. The ARDL reveals that market capitalization has positive significance relationship with economic growth. They also revealed that market capitalization percentage of GDP exhibited a negative significant link with economic growth in the long run.

Odhiambo (2009) in his study, the dynamic causal relationship between stock market development and economic growth in South Africa is examined – using the newly developed ARDL Bounds testing procedure. The study uses three proxies of stock market development, namely stock market capitalization, stock market traded value and stock market turnover, against real GDP per capita, a proxy for economic growth. Using the 1971-2007 data sets, the empirical results of this study show that the causal relationship between stock market development and economic growth is sensitive to the proxy used for measuring the stock market development. When the stock market capitalization is used as a proxy for stock market development, the economic growth is found to Granger cause stock market development. However, when the stock market traded value and the stock market turnover are used, the stock market development seems to Granger cause economic growth. Overall, the study finds the causal flow from stock market development to economic growth to predominate. The results apply irrespective of whether the causality is estimated in the short run or in the long run. Gondo (2009) studied the impact of financial development has on economic performance of the South African economy from 1970 to 1999. The evidence is based on a time series empirical growth model, using instrumental variables with robust standard errors. The paper introduces an index of political and economic polarization as well as the inflation tax, as the identifying instruments, to compensate for simultaneity bias in the financial development regressors. The results show that credit extension to the private sector and stock market liquidity have a complementary and statistically progressive impact on economic performance over the period, whilst, in the short-run at least, liquid liabilities exerts a negative impact on economic growth. He also finds that institutions and the regulatory environment matter for both economic growths and financial development. Increasing access to credit and indexed securities is a beneficial policy proposition to reduce inequality and protect the earnings of the poor.
in particular, whilst increasing productivity. He concluded that a more active stock market and banking sector drives economic growth in South Africa.

3.1 Methodology

The study used time series data cover 2000 - 2018. The data were sourced from the 2018 World development Indicators

Model Specification

Following Oke (2012) the functional specification for this study is as follows:

\[ \text{GDPGR} = f(\text{MKTCR}) \]

Econometrically transforming the models results to thus:

\[ \text{GDPGR}_t = \beta_0 + \beta_1 \text{MKTCR}_t + \mu_t \]

Where:

\( \text{GDPGR} \) = Gross Domestic Product Growth Rate.

\( \text{MKTCR} \) = Market Capitalization Ratio

\( \beta_0, \beta_1 \) = constant parameters, \( \mu_t \) = the error term, \( t \) = the time trend

The procedure in the analysis was regression with ordinary least square econometric procedure. The study commenced its analysis with Dickey-Fuller test, to verify, the stationary variables so as to avoid spuriousness of empirical result. The diagnostic test was used to check for the goodness of fit of the model. The computer software application E-Views 9.0 was used for the analysis

Variable Measurement and Definition

The variables selected are those that reflect the major activities of the capital markets which include: Gross domestic product growth rate (GDPGR) used as the dependent variable and proxy for economic growth; and the independent variable is the market capitalization ratio to GDP (MKTCR) which proxy the capital market.

4.1 Analysis of Data and Result

4.1.1 Stationarity Test Result

The unit root test adopted here is the Augmented Dickey Fuller (ADF) Test and the results are shown in Tables 4.1 to 4.4:
The results of ADF test show that the variables are stationary at first difference. All the data for both Nigeria and South Africa became stationary at first difference. World Bank development indicators data for South Africa are more stationary at level compared to that of Nigeria.

### 4.2 Ordinary Least Square Regression Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>2.093722</td>
<td>1.959913</td>
<td>1.068273</td>
<td>0.2936</td>
</tr>
<tr>
<td>MKTCR</td>
<td>0.357232</td>
<td>0.153738</td>
<td>2.323633</td>
<td>0.0303</td>
</tr>
<tr>
<td>GDPGR</td>
<td>0.207553</td>
<td>0.163508</td>
<td>1.269376</td>
<td>0.2138</td>
</tr>
</tbody>
</table>

Table 4.6: OLS Regression Result: South Africa’s GDP and MKTCR

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.075350</td>
<td>1.130740</td>
<td>0.066638</td>
<td>0.9473</td>
</tr>
<tr>
<td>MKTCR</td>
<td>0.009277</td>
<td>0.006367</td>
<td>1.457150</td>
<td>0.1551</td>
</tr>
<tr>
<td>GDPGR,1</td>
<td>0.231181</td>
<td>0.165265</td>
<td>1.398850</td>
<td>0.1718</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.140679</td>
<td>Mean dependent var</td>
<td>2.179706</td>
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</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.085239</td>
<td>S.D. dependent var</td>
<td>2.198184</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>2.102412</td>
<td>Akaike info criterion</td>
<td>4.408145</td>
<td></td>
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<tr>
<td>Sum squared resid</td>
<td>137.0243</td>
<td>Schwarz criterion</td>
<td>4.542824</td>
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<tr>
<td>Log likelihood</td>
<td>-71.93847</td>
<td>Hamman-Quinn criter.</td>
<td>4.44074</td>
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<tr>
<td>F-statistic</td>
<td>2.537505</td>
<td>Durbin-Watson stat</td>
<td>1.794128</td>
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<tr>
<td>Prob(F-statistic)</td>
<td>0.095369</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the models via the OLS estimation technique were presented in Tables 4.1 to 4.6. The yardstick for interpretation was based on coefficient of individual variables, adjusted R-square, F-statistic and its p-value and Durbin Watson. From Table 4.5 and 4.6, market capitalization ratio to GDP has positive and significant relationship with economic growth of Nigeria while that of South Africa is positive but insignificant. If market capitalization ratio is held constant, economic growth rate of Nigeria would be 2.09% while that of South Africa would be 0.07%. A unit increase in market capitalization has the capability of causing a 35.72% upsurge in economic growth rate of Nigeria but for South Africa, 0.9% would be witnessed in economic growth rate.

Finally, tables 4.5 and 4.6 reveal that capital market turnover ratio of both South Africa and Nigeria have positive relationship with economic growth rate. Holding turnover ratio constant would lead to 1.7% rise in Nigeria’s economic growth rate while that of South Africa was observed to swell by 0.87%. A unit rise in turnover will cause Nigeria’s economic growth to rise by 0.23% but for South Africa it
would be 0.05%. However, while the components of MKTCR showed positive and significant relationship with GDP in Nigeria as shown in table 4.5 with T-test and P-value of 2.323633 and 0.0303 respectively thus accepting the alternative components of significant relationship; the South African components of MKTCR showed positive but insignificant relationship with GDP as shown in table 4.6 with T-test and P-value of 1.457150 and 0.1551 respectively thus accepting the null hypothesis of no significant relationship. The Durbin-Watson statistics showed that there is absence of autocorrelation in the study thus the result is reliable for decision making.

4.3 Discussion of Findings
The result of a positively significant relationship between market capitalization ratio to GDP for Nigeria while insignificant in South Africa is indication that a unit increase in market capitalization ratio to GDP influences economic growth in both countries but significant in Nigeria while insignificant for South Africa. It would be inferred from the result that the size of the capital market affects the liquidity of the market. This supports the results of previous studies in Nigeria via Atoyebi, Ishola, Kadiri, Adekunjo and Ogundeji (2013), Ologunwa and Sadibo (2016), Saidu (2014), Oke (2012). Nevertheless, the positive relationship between market capitalization ratio to GDP refutes the empirical results of Nduka, Anigbogu and Nyiputen (2016), Alajekwu and Achugbu (2012) and Josiah, Adedinran and Akpeti (2012).

5.1 Conclusion and Recommendations
This study examined the role of market capitalization on economic growth in Nigeria and South Africa countries. The study used the capital market performance in market capitalization ratio on GDP using Ordinary least square econometric approach. The results imply that capital markets affect economic growth positively. The results favour more of Nigerian economy with the significant position capital market on economic growth compared to South Africa economy with insignificant indication of capital market on economic growth. The study therefore concludes that economic growth is positively correlated with the size of the both countries' capital markets.
However, the study recommends that government and Stock Market regulators in Nigeria and South Africa should put in place policies and measures that aim at reducing the narrowness and increase the liquidity and efficiency of the stock markets. The Nigerian and South African government and stock market regulators should improve capital market activities that will help expand the size of their capital markets by increasing the level of savings from the local populace which will in turn increase investment. More policies should encourage cashless policies that will improve ease of transactions among traders and investors in the capital market.

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