Banks, Stock Market and Sustainable Economic Growth: The Nigerian Experience

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ABSTRACT

Financial sector consists of stock markets and banking sector, both play an important and critical role for the better performance of economies. This paper empirically investigates the role of banking sector, and stock markets and the economic growth of Nigeria using time series data for the period between 2004 and 2014. This paper uses Vector Error Correction Model (VECM) based causality tests to establish a link between Financial development (represented by both banking and stock market) and economic growth Impulse response Functions (IRFS) and Variance Decomposition (VDCs) are computed to further examine the short-run dynamic among the variable in the financial system. Also, Structural Vector Auto regression (SVAR) is applied to examine the link between financial development and economic growth. The study was able to achieve this by following. Blanchard and Quati"s (1989) technique to identify the components of residuals to recover the shocks based on endogenous economic theory. The study find out that at the long-run there is evidence of bidirectional causality between financial development and economic growth using the banking sector proxy by bank credit to private sector (BCP). While, the variable for stock market are turnover ratio (TR) and value of shares traded (VT), the results shows unidirectional causality from economic growth to stock market system. The Impulse response functions (IRFs) and variance decomposition (VDCs) indicate that financial development (BCP, TR, & VT) have short-run impact on economic growth at the immediate year of initial stocks and VDCs shows that all the indicators for financial development contain some useful information in predicting the future path of economic growth. SVAR, results shows little evidence that finance promote economic growth in the long-run. The study therefore recommended that policy to promote banking competition and the appropriate use of stock market facilities should be vigorously pursued.

Keywords

Stock Market, Banks, Gross Domestic Product, Sustaianable Economic Growth

1. INTRODUCTION

This level of financial market development has impact on the economy of a nation. The finance-growth nexus theory indicate that financial development may bring about a full in intermediation margins search cost and efficiency in financial markets. The effectives functioning of a country's financial system is said to enhance the smooth implementation of its macroeconomic policies. The levels of banking development and stock market liquidity each are found to have impact on the economy of a country (Stephen, Daniel, and Anokye, 2011).

Financial markets consist of intermediation through mobilizing savings. They constitute a large pool of small savers and channeling these funds into productive investments by a generally much smaller number of borrowers. Stock markets also potentially endorse broad-base of increasing ownership of financial assets and the reallocation of funds among corporations and sectors. Moreover, a developed capital market assists in domestic growth and credit expansion by liquidity (Ali and Danish, 2010).

Theoretical literature has offered conflicting predictions on the role of financial development and economic growth. Schumpeter (1911); Gurley and Shaw (1955); Goldsmith (1969); Mckinnon (1973), and Shaw (1973), all argue that financial repression which characterized the Less Developed Countries (LDCs) tend to retard economic growth. Therefore, rapid economic development in these countries can only be achieved when they liberalize their financial sector – deregulating interest rate, removing selective credit control and encourage free competition in the banking sector. Lucas (1988) on the other hand believes that the role of financial development in the growth process has been over – exaggerated and to him financial development does not contribute to long-term economic growth. Stiglitz and Weiss (1981) also argue that in Less Developed Countries (LDCs), banks may

refuse to give loans to new innovative and productive borrowers because of high risk of default associated with new borrowers. A high risk premium would only encourage the riskier borrowers, a process that discourage safe borrowers and thereby reducing the opportunity for innovation and hence retard economic growth.

However, when it comes to specific role of stock markets and banks in the economic development, there are also conflicting theoretical predictions. Stiglitz (1985) has shows that banks perform a better role in promoting economic growth than stock markets especially when it comes to resource allocation. Singh (1997) indicates that stock market do not lead to long – run economic growth due to macroeconomic instability, volatility and arbitrariness of pricing process. Japilla and Pagano (1994) and Atje and Jovanovich (1993) have indicated that stock markets contribute positively in economic growth. However, Boyd and Prescott (1986); Boyd and Smith (1998), and Blackburn, Rose, and Capasso (2005) have all shown that both the stock markets and the banks are necessary in promoting economic growth. Therefore, they consider stock markets as compliment to banks rather than substitute.

In the view of many experts, stock market occupies the vital and strategic position in the economic development of countries despite the role the banking sector play. As Mohtadi and Agarwal (2007) found that the stock markets plays both direct and indirect role in the economic growth. Without having fully developed stock market a country will not be able to increase the availability of equity funding and move towards more balanced financial structures. During the last decade global equity markets experienced phenomenal growth, not only the developed markets but also the emerging markets out performed during the boom.

This paper drives into the debate by examining the effect of the banks, the stock market development on economic growth in Nigeria. The study specifically looks at the channel through which banks activities and stock market promote economic growth. The study also intends to investigate the determinants of stock market and banking sector in Nigeria.

The rest of the paper is organize as follows; section two looks at the literature review, section three the method of the study. Empirical results in section four and concluded in section five.

2. LITERATURE REVIEW

Ndako (2010) conducted a study to investigate the casual relationship between stock market, banks and economic growth in South Africa. The study used quarterly time series data set ranging from 1983 – 2007 and applied Vector Error Correction Model (VECM) to check the causality between financial development and growth. The results of this study showed that the financial development has a short run impact on the growth and the indicators of financial development have an important place in the forecasting of future growth. Baboo and Odit (2009) explored to the nature of impact of stock market on the growth for the economy of Mauritius because it was new at compared to many countries. A time series data set was used for the period of 1989 – 2006 by using Engle and Granger approach and made an Error Correction Model (ECM) by using two indicators, size and liquidity, for stock market development, population and foreign direct investment. Major findings of this study included that in both long and short-run stock market development and FDI has a positive impact on economic growth and it is an important tool to measure the health of the economy.

Khan (2008) explored the relationship between financial development and economic growth of Pakistan. The study used annual data over the period of 1961 – 2005 and an Autoregressive Distribution Lag (ARDL) framework used for estimation. The main empirical findings suggested that in the long and short run, financial development and investment exerted a positive impact on economic growth. The findings also indicated that in the long-run, real deposit rate is positively related to economic growth but exerted an insignificant impact, however, in the short-run, the relationship between real deposit rate and real output is significant. The long and short-run responses of the real interest rate were very low as compared to financial development variable, implying that the availability of funds is more important than their cost. To achieve sustainable economic growth, the study suggests a further acceleration of liberalization process in Pakistan.

Samy and Ghazouani (2003) explored relationship between financial development and economic growth and also separately checked the impact of banks and financial markets on growth. The study used a panel data from Middle East and North African (MENA) region countries. A dynamic panel with Generalized Method of Moment (GMM) estimator used for estimators. The empirical results showed an insignificant relationship between the banking, the stock market development, and economic growth. By taking market capitalization as a measure of the stock market, the relationship between banks and economic growth was negative. The study recommends

that market capitalization of stock market must be more enhanced and banking competition should be encouraged,

Mishra, Mishra, Mishra, and Mishra (2010) explored the impact of capital market efficiency on economic growth in India. The study used time series data on market capitalization, total market turnover, and stock price index over the period spanning from the first quarter of 1991 to the first quarter of 2010. Multiple regression models have been used for estimation. The empirical results of their study indicate that the capital market of India has potential to contribute to the economic growth of the country.

Rousssean and Wactitel (2000) use panel vector autoregression with the generalized method of moment technique to examine simultaneously the relationship between stock markets, banks, and economic growth. The use of M3/GDP as the measure of the banking sector variable while the stock market system is measured by market capitalization and total value traded. After examine the relationship on 47 countries using annual date from 1980 – 1995, their results indicate that both banks and stock market promote economic growth.

Beck and Levine (2004) accessed whether stock markets and banks have a positive influence on economic growth. Using a dynamic panel data set on 40 countries over a period 1976 – 1998 and with the application of GMM estimators, their results shows that after controlling for simultaneity and omitted variable bias: both stock markets and financial development either all of the systems panel growth regression significantly.

Handa and khan (2008) also use time sense data on 13 countries to test for causality hypotheses between financial development and economic growth. They utilized both banking and stock market variables to measure financial development. After applying Johansen procedure and VEC model the results show the existence of unidirectional causalities from economic growth to financial development for Bangladesh, Sri Lanka, Brazil, Malaysia, Thailand and Turkey. Meanwhile, for Germany, Japan, India, Argentina, the Uk and the USA they establish bi directional causality between the financial development and economic growth and no causality exists for Pakistan.

Zang and Chul Kim (2007) carrying out a panel test to establish the direction of causality between the financial development and economic growth. They use Sims – Genweke causality test in the panel data provided and used by Beck, Loayza and Levine (2000). The paper uses three measures of financial indicators: the ratio of commercial banks assets divided by commercial banks plus central banks assets, the ratio of private sector credit provided by financial intermediaries to GDP and liquid liabilities. The panel data set consists of seven-time periods for 74 countries covering the period 1961 – 1995. The results contrast the finding of Beck of et al (2000) by showing that economic growth leads financial development. They also sensitivity analysis to check the robustness of their finding after all tests the result remain the same.

3. METHOD OF THE STUDY

Model Specification

The model from this study is generated from the endogenous growth model precisely from the Romer model of the endogenous growth theory. From his definition of money demand function, Romer (1996) postulated a relationship between financial sector variables such as inflation, money growth and interest rate in such that demand for real money balance is a decreasing function of interest rate and increasing function of real output. That is:

$$\frac{M}{P} = L(r, Y) \quad \text{.....1.0}$$

According to Romer the linear presentation of equation 1.0 is thus:

$$\frac{M}{P} = \alpha Y - \beta r \quad \text{.....1.1}$$

Therefore:

$$\alpha Y = \frac{M}{P} + \beta r \quad \text{.....1.2}$$

Dividing both sides by α leads to:

$$Y = \frac{1}{\alpha\left(\frac{M}{P}\right)} + \frac{\alpha}{\beta(r)} \quad \text{.....1.3}$$

Since $\frac{M}{P}$ represents money supply that is determined by net domestic credit and r is interest rate, therefore the two are recognized as financial variables that determine Y output as shown in equation 1.3. Adopting equation 1.3 shows that output Y can be expressed as a function of some financial variables thus:

$$Y = \sigma FS \quad \text{.....1.4}$$

Where, FS is the financial sector variables. From the above discussion both the stock market and banking sector are the key sub-sectors in the financial sector of an economy. And the complimentarily between the two has

been identified by Dritsaki et al (2005), consequently the model for this study will be specified as:

G = f (SM, BCP, INV)…….1.5

LGt = βi SMt-1 + βj LBCPt-j + βk INVt-k + εt …….1.6

The theoretical framework of the study which is the financial development and economic growth theory explain that both the stock markets and banking sectors are complimentary rather than substitute. This makes the GDP to be the dependent variable which responds to the changes that may occur in the independent variables.

Where:

L = logarithm

G = Gross Domestic Product (GDP) per capita

SM = Stock market

BCP = Banks credit to private enterprises

INV = Investment level

εt = error term

Equation 1.6 will be restructured to include factors that determine banking performance in two economies. The specified equation will be:

BGDP = f (TCR, TDB, TA, PAT)……...1.7

BGDP = βi TCRt-I + βj TDBt-j + βk TAt-k + βl PATt-l + εt …….1.8

This equation shows how the ratio of banking sector in GDP as dependent variable react to the determinants of banking sector performance in Nigeria and South Africa economy. The independent variables are the determinants of banking sector performance.

Where:

BGDP = share of banking sector in GDP

TCR = Total credit to private sector

TDB = Total deposit base

TA = Total assets

PAT = Profit after tax.

Equation 1.8 will restructure to incorporate variables that can be use to determine the performance of stock market, the model will be specified thus:

SMC = f (ASI, TR, VT,) ……......1.9

Where:

SMC = Stock market capitalization

ASI = All share index

TR = Turnover ratio

VT = Volume of traded share

SMC = βi ASIt-i + βj TRt-j + βk VTt-k, + εt ……...1.10

Equation 1.10 will be restructured to incorporate how the banking sector and stock market react to external shocks in both economies. The external shocks will be captured by interest rate, exchange rate and oil price. Therefore, the model will be specified thus,

GDP = f(BGDP, SMC) ……...…….....1.11

GDP = βi BGDPt-i + βj SMCt-j + εt ……1.12

Model Estimation Technique

The study makes use of co-integration and Structural VAR as the estimation technique. The first technique is used to study the impact analysis as well as the determinants of both banking sector and stock market performance.

4. RESULTS

The paper established a level of co-integration among the models stated, from VECM test the results of Wald test indicates a short-run Granger Causality from a Turnover ratio to Gross Domestic Product (GDP) that is, Turnover ratio (TR) which represent the stock market system, Granger causes the level of GDP. Also, in the short-run Granger causes bank credit to private sector (BCP) which represents the banking sector. In the long-run the weak erogeneity Tests show the evidence of bidirectional causality between financial development (which consist of banks and stock markets) and economic growth. The result of this paper is consistent with that of Umar (2008) and Luintel and Khan (1999) results. However, with the stock market system, there is evidence of no feedback effect as the result indicates unidirectional causality from economic to turnover ratio (TR).

The overall causality in the system is tested through the strong erogeneity and shows that the null hypothesis that stock market and banks development does not granger-cause GDP is rejected at 5% level of significance with banking variable (BCP) and 1% level of significance with stock market variable (TR). On the null hypothesis that GDP does not granger-cause financial development is rejected at 5% level of significance with the banking system, while, the null hypothesis is not rejected for stock market variable.

The second regression results indicate that in the short-run there is evidence of one granger causality, that is, from stock market system value of shares traded (VT) to the level of GDP. In the long-run, however, the weak erogeneity results indicate unidirectional causality from GDP to financial development (Banks and stock markets). The strong erogeneity tests also support the evidence of weak erogeneity.

The VECM indicate bidirectional causality between financial development and economic growth using the banking system (bank credit to private) and unidirectional causality for economic growth to stock market system captured by Turnover ratio. The second model also shows unidirectional causality from economic growth to financial development that is in both in the banking and stock market variables. The general results are consisting with the Wald test results. The overall results are good expect for LINV, BCP and TR fail the normality test in the first result BCP an TP in the second model.

The estimation of SVAR is carried out in bivariate VAR model, the results of the unit root tests indicate that all the senses are 1(1) and lag (2) is used which is suggest absent of serial correlation. They impulse responses from a stock to LGDP in the brivariate model for GDP and financial development (BCP). It shows that the level of GDP increases but not significantly to about 0.1% which is the new steady state. The result for the shows there is bivariate VAR model of LDGP and turnover ratio (TR). The impulse responses from stock to LGDP shows that the level of GDP increases immediately to about 0.2% and later settles to a new steady state approximately above 0.05%

Meanwhile, the third shows the bivariate VAR of LGDP and value or share traded (VT) indicate a positive response of value of shares traded (VT) to LGDP stocks. The LGDP increases to over 0.2% and later settles at steady rate of 0.1%. The results indicate that both stock markets and banks do have little effect in promoting economic growth in the long – run in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

The study has been aimed to examine the casual relationship between stock markets, banks and economic growth in Nigeria by using time senses date from 2004 to 2014. VECM based causality tests was to establish a link between stock market, banks and economic growth.

The empirical findings suggests that in the long – run, there is evidence of bidirectional causality between financial development (which is captive by stock markets variables which are used as turnover ratio, and value of share traded, and the results indicate unidirectional causality from economic growth to stock market. The impulse response functions (IRFS) and variable decomposition (VDCs) indicate that financial development which is stock market and banks (BCP, TR, VT) have short – run impact on economic growth at the immediate year on initial stocks and VDCs shows that all the indicators for financial development contain some useful information in predicting the future path of economic growth.

From the study, it is found that the financial sectors have a vital position in the Nigeria's economy growth and development. As the arrival of the democracy in 2005, Nigeria financial system has undergone massive huge restricting reform. In results of these reforms, has now made Nigeria financial market as one of the best in Africa and the world at large.

It is necessary to persist on these reforms to regulate and develop an efficient financial sector to contribute in the economic growth.

On this note the study therefore, now recommends the following

- Minimize the volume of non performance loans
- Bank credit ratio in Nigeria is approximately 47%. So there is need to improve the bank credit ratio
- There is need to boost the reform process in the institution and also stringent the risk management tools
- Major steps should be taken to resolve the confidence of the investors, to participate fully in the stock exchange market.

- More effective risk management should measures, should be implemented to prevent the stock exchange firm plunging into one.

- Decision makes need to encourage sustainability in the decisions they formulated

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