FINANCIAL SECTOR DEVELOPMENT AND NIGERIAN MACROECONOMIC PERFORMANCE

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Abstract

Over the years, the Nigerian financial sector has been characterized by relative fragility and instability with intermittent incidences of liquidity challenges, bank distress, bail out, declining all-share index and eroding investors' confidence. Although several efforts have been made by policy makers and financial sector regulators towards stabilizing and strengthening the financial sector, the macroeconomic performance of the Nigerian economy has continued to raise questions about the effect of financial sector development on the macroeconomy of Nigeria. Consequently, researchers have made substantial effort to understand the implication of financial sector development for economic performance. However, most studies have focused mainly on financial depth as a measure of financial sector development. However, following the World Bank recommendations, there are three other segments of financial sector development namely access, efficiency and stability, in addition to financial depth, such that evaluation using only one segment may not give a holistic account of financial sector development. Using annual time series spanning from 1970 to 2015 and vector autoregressive (VAR) framework, the study found that financial depth and stability measures has positive effect on economic growth while private sector credit and lending - deposit spread had negative effects on economic growth. Similarly, apart from access to financial service, all other financial sector development indicators under study exerts negative effects on discomfort index, which implies that financial sector

development was capable of improving economic welfare. The study therefore recommends that the Central Bank of Nigeria and other financial sector regulators should strive to strengthen the financial sector and ensure increased private sector access to financial services such as bank credit through policy formulation and implementation as a means of improving macroeconomic performance of the nation.

Keywords: Discomfort Index, Financial Sector Development, Economic Growth, VAR

INTRODUCTION

In recent years, economists have been preoccupied with evaluating the precise impacts that financial sector activities have on macroeconomic performance. The growing interest in the sector's activities is not unrelated to the reoccurring global financial crisis since mid-20 century vis-à-vis the critical role the financial market plays in the entire sectors of the economy. According to World Bank (2005), the financial sector is a crucial sector of any economy, affecting its business environment, investment, economic prospects, and social dimensions, including poverty. It provides services to the rest of the economy through mobilizing and channelling of financial resources from excess sectors to the deficit sectors. It impacts on macroeconomic performance mainly through growth as it finances investment opportunities that propel increased GDP and job creation. Vulnerabilities in the sector often lead to financial crises, economic slowdowns, and fiscal costs (Levine, 2005). The extent to which the sector is developed and managed determines the level of impacts it has on the economy (Esther, 2005). According to Schmukler (2003), the availability and efficient uses of a nation's financial resources are evident in its effects on the real sectors and manifests in major macroeconomic performance indicators such as real GDP growth, inflation and employment rate.

During the 1970s and early 1980s, the government of most developing countries, Nigeria inclusive, believed it was economically wiser to pursue a state-led and non-market approach to financial services, as means of guiding the development in the entire economy. Thus, government intervention in the domestic financial sector was predominant. The state intervention in the sector took various forms, which includes interest rate ceiling, market entry regulation, selective credit allocation, capital out-flows and government ownership. The government regulation, restriction and control were more pronounced in the banking sub-sector (Okonji, 2018). With time, it became obvious that the public sector - led financial system limits the operational efficiency of the market and results to financial repression and slower economic growth (Abu, 2009). In this regard, Schmukler (2003) notes that government's heavy

intervention in the financial system was highly inefficient and devoid of efficacy of control which slows the rate of development in both the financial and real sectors. For instance, the restrictions and controls imposed on the banks by the government did result in unrealistic interest rates, high inflation, less supply of loanable funds and excess demand for credits in most developing countries. It was also partly responsible for increased number of non-performing loans in banks' balance sheets and risk asset portfolios, as banks were systematically compelled under the state led financial market to grant credits on political rather than commercial considerations. Because of the obvious negative impacts of state - led financial institution, reforms which centered on liberalization and deregulation among others have been widely embraced in recent time as a means of encouraging the growth process and stability of the economy. In other words, since mid-1980s, financial sector reforms have been pursued by most African countries as a means of developing, stabilizing and deepening the financial sector. Earlier, McKinnon (1973) and Shaw (1973) provided the analytical foundation for far reaching financial sector repositioning and development. They reaffirmed the all-inclusive crucial role of the sector in a nations' economic growth, de-emphasized excessive state control in favour of deregulation and liberalization in the operation of the financial sector by analyzing the resultant market distortions (Ewah & Bassey, 2009; Agbakhese, 2012).

A comprehensive financial sector reform in Nigeria was initiated in 1987 (as a key element of structural adjustment program, SAP). Since then, the financial sector has witnessed tremendous development in the midst of numerous challenges. The development drives and policies implemented in the sector over the years include, deregulation of interest rate, establishments aimed at strengthening the regulatory and supervisory institution such as CBN, Nigeria Deposit Insurance Cooperation (NDIC) and Asset management company of Nigeria (AMCON), upward review of capital adequacy, introduction of indirect monetary policy instruments, capital market deregulation, Bureau-de-Change guidelines, privatization of government owned banks, the establishment of the second and third tier security markets, Credit check bureau, increase in range and type of bank accounts, etc. (Somoye, 2006). As a precursor of financial sector development , financial sector reforms aims at overcoming 'cost' incurred in the financial system through excellent financial service delivery that culminates in efficient acquisition of information, enforcing financial contracts and executing transactions intermediaries. According to World Bank Global Financial Development Database (GFDD) Reports (2012), finance sector development relates to improved financial deepening, increased access to financial services, financial efficiency and stability in both financial institutions and market. Over the years, there has been debate on the role of finance in macroeconomic development of nations. In the earlier literature, there were significant disagreements on the

finance-growth nexus. For instance, questions were often raised over the nature of causality: whether financial sector development causes economic growth or economic growth generates a need for financial sector development.

Empirically, the existing studies in both developing and developed countries revealed three main categories of views regarding the role of finance in economic growth and macroeconomic performance. The first view considers finance as a critical element of economic growth/development and include the works of economists like Goldsmith (1969), King and Levine (1993), McKinnon (1993) ,Odedokun (1996), Schumpeter (1912), Shaw (1973), Adelakun (2010), Agbakhese (2012), Victor & Samuel (2014) and Ndebbo (2014). The second view regards finance as a relatively unimportant factor in growth as it has not significantly impacted on economic growth and they include the works of Robinson (1952), Stern (1909), Rousseau and Watched (2005), Alege and Ogunrinola (2005), Nnanna (2005) and Nzotta and Okereke (2009). The third view which focused on the potential negative impact of finance on growth includes the works of Buffe (1984) and Wijinbegen (1983). In the same vein, there are other views such as Xu (2000) who express a parallel opinion to the previous three views by stressing neither positive nor negative role between financial sector development and growth.

The World Bank Global Financial Development Database developed a comprehensive yet relative simple contextual 4X2 framework to measure financial sector development around the world. The framework identified four sets of proxy variables characterizing a well-functioning financial system: financial depth, access, efficiency and stability. The four dimensions are then measured for the two major components in the financial sector namely the financial institutions and financial markets. Several scholars have documented different empirical results and findings on the impact of financial sector development on key macroeconomic performance indicators such as GDP growth, poverty and welfare. However, most of the past studies were limited in scope as they used variables from only one dimension, particularly from financial deepening. In some other cases, the studies were limited in coverage as they focused only on either financial institutions or financial market. This study intends to fill this gap by incorporating variables from the four dimensions selected from both the financial institutions and financial market. On the other hand, the study pioneered the empirical examination of the impacts of the development of financial sector on the economic wellbeing of the citizens using discomfort (misery) index invented by Prof. Okun (1899 - 1980) in Nigeria. To the best of our knowledge this area has not been worked on previously.

This study therefore provides a thorough understanding of not just the roles of financial sector, but also the effects and implications of financial sector instability on Nigerian macroeconomic performance for policy analysis, formulation, forecasting and implementation. It

will equally help in reducing existing knowledge gap, broaden the frontier of knowledge and serve as a benchmark for future study. The rest of the paper is organised as follows. Section two presents stylized facts on financial sector development and the Nigerian macroeconomy. In section three, the empirical strategy including the theoretical framework and techniques of analysis are discussed while the results of empirical model estimations are presented in section four. Finally, section presents the policy implications of the findings and the conclusions.

STYLISED FACTS ON FINANCIAL DEVELOPMENT AND NIGERIAN MACROECONOMY

The quest for financial sector development engineered series of financial sector reforms in Nigeria since the late 80s. A comprehensive financial sector reform in Nigeria was initiated in 1987 (as a key element of structural adjustment program, SAP). Since then, the financial sector has witnessed tremendous development in the midst of numerous challenges. The developmental drives and policies implemented in the sector over the years include, deregulation of interest rate, establishments aimed at strengthening the regulatory and supervisory institution such as CBN, Nigeria Deposit Insurance Cooperation (NDIC) and Asset management company of Nigeria (AMCON), upward review of capital adequacy, introduction of indirect monetary policy instruments, capital market deregulation, Bureau-de-Change guidelines, privatization of government owned banks, the establishment of the second and third tier security markets, Credit check bureau, increase in range and type of bank accounts, etc. (Somoye, 2006). Evidently, the financial deepening indicators have shown upward trend. As shown in Figure 2.1, money supply (M^2) which stood at ₦14.5billion in 1981, increased to about ₦878.5billion in 1990 and ₦13.9trilion in 2012. Credit to private sector (CPS) in same period was ₦8.6billion, ₦530.3 billion and ₦14.6trillion respectively. Figure 2.1 also indicates that GDP growth rate fluctuates intermittently and was at peak in the year 1974, 1981, 1995 and 2015. These were periods of oil boom. The growth rate was negative at some periods such as in 1978, 1986 and 1998 which shows a drastic decline in those period. The drastic decline in GDP may be attributed to the fall in price of crude oil at the international market, which also affected the Nigeria economy. During deregulation, GDP growth rate was positive and relatively on the increase, that is between 2004 and 2009. In all cases the discomfort index rises and fluctuate higher than M2/GDP. The implication of this is that the consolidation in the financial system especially the banking sector led to steady and marginal increase in GDP growth rate, financial sector development and slight decline in discomfort index.
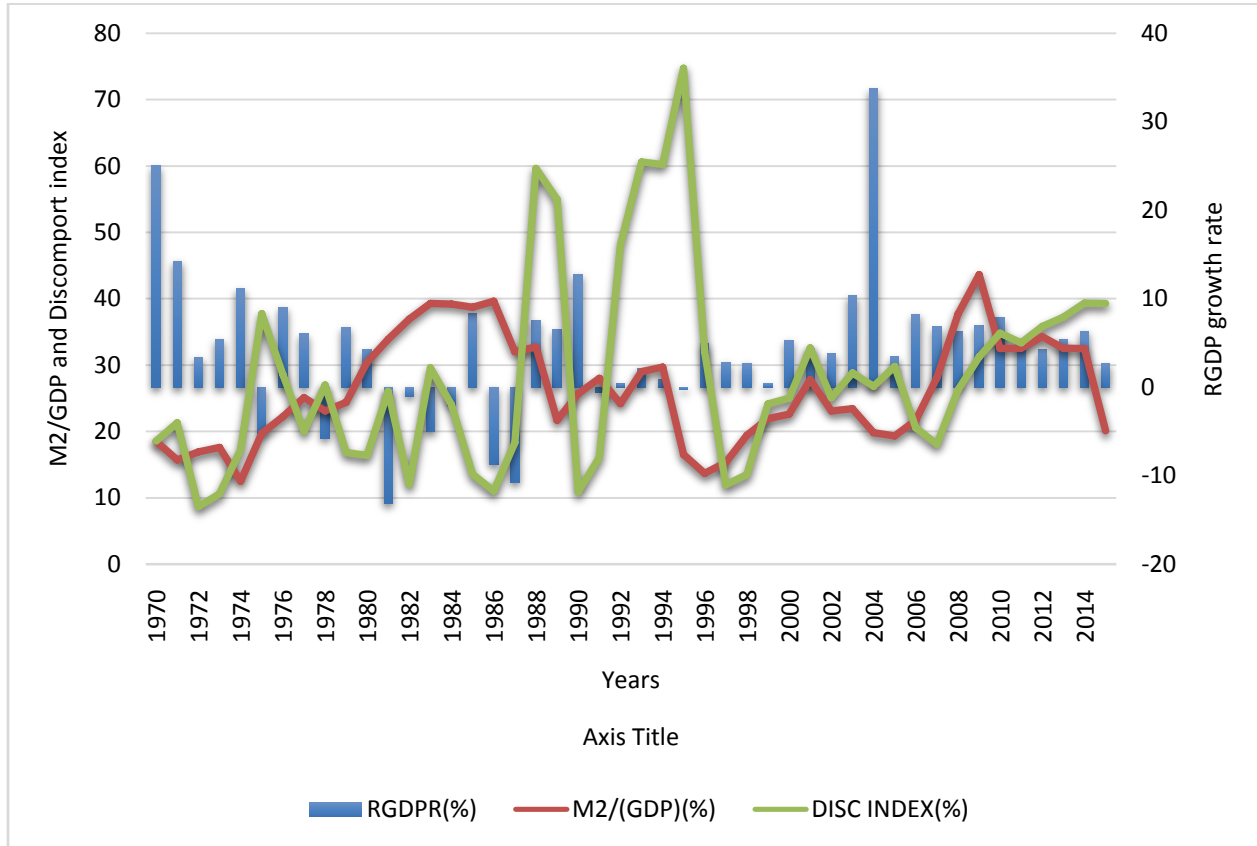
Figure 1. GDP Growth Rate, Discomfort index and Ratio of Broad Money to GDP (1970 – 2016)

Source: Graphed by Author, using data from CBN, (2016)

The deregulation and adoption of the market- led financial system did not only trigger increased financial deepening, it equally led to improved participants and access to financial services through increase in number of banks branch network (Esther, 2005). By 1992, the number of banks in the Nigerian banking sub-sector had risen from 56 in 1986 to 120 with about 2275 branch network. As December 2015 the economy has 5477 banks branches in Nigeria and abroad. It's likely impact on GDP growth and discomfort index was more pronounce between 2005 and 2014, when about sixty percent increase in number of banks branch network resulted to a sharp move with an increase in GDP growth rate but decline in discomfort index in 2005 and 2007. This implied that increased access to financial service is likely to bring about an improved growth rate and economic welfare.
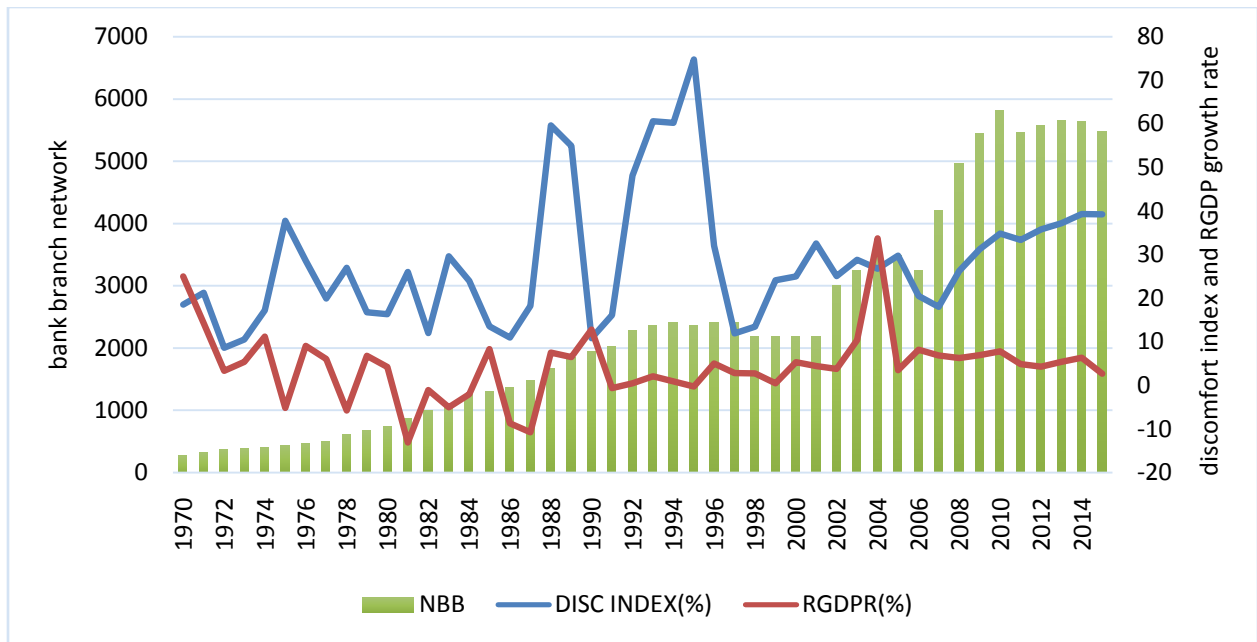
Figure 2. GDP Growth Rate, Discomfort index and number of banks
branch: NNB network (1970 – 2015)
Source: Graphed by Author, using data from CBN (2016)

Apart from banks, other financial institutions such as the finance houses, capital market, insurance companies, bureaux-de-change, merchant and microfinance banks also witnessed increased growth and expansion in branch networks.
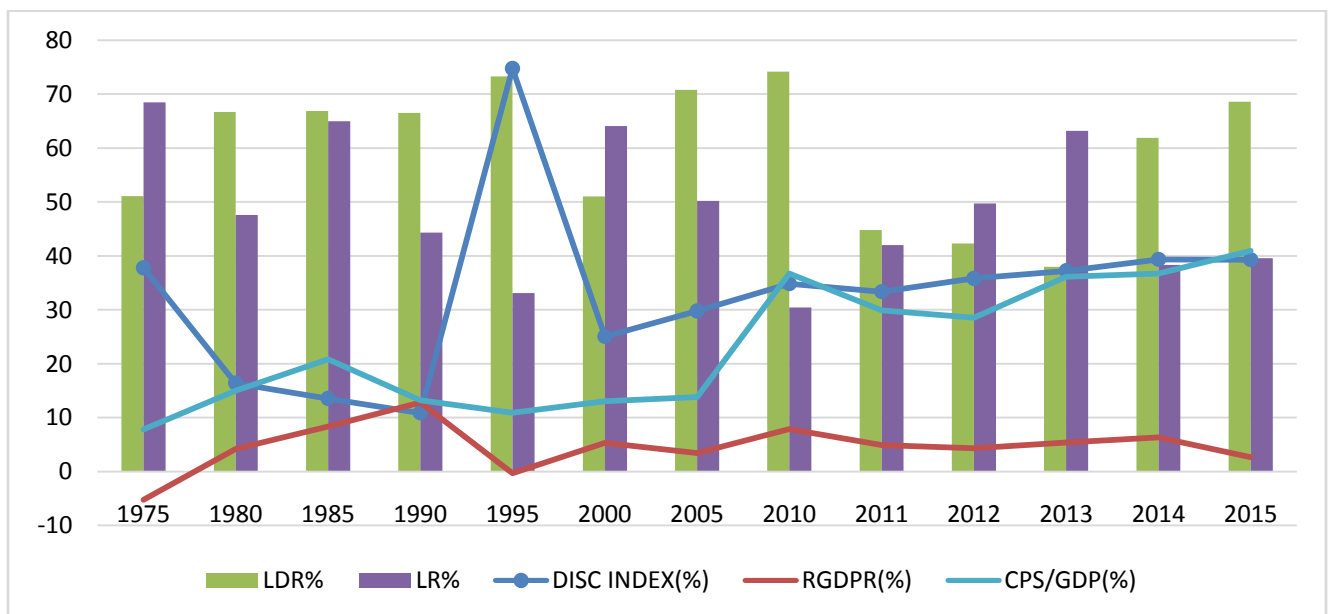

Figure 3. LDR, LR, Discomfort index, GDP growth rates

Figure above shows that as liquidity ratio declined from 94.5% in 1970 to 61.8% in 1972, lending-deposit ratio and ratio of bank credit to GDP rose from 51.3% and 6.7% to 74.2% and 8.7% respectively. However, economic growth declined from 25% in 1970 to 3.4% in 1972. Similarly, the discomfort index also decline from 18.6% to 8.7% within the same period. The liquidity further rose to 68.8% by 1975. While lending-deposit ratio did not change significantly within the same period, bank credit-GDP ratio declined further to 7.8% in 1975. While economic growth declined substantially hit -5% in 1975, discomfort index rose substantially to 37.8% in 1975. Within the next one decade, bank credit to GDP ratio rose to 20.8% with liquidity ratio declining slightly to 65% while lending-deposit ratio increased to 67%. Similarly economic growth rose to 8.3% while discomfort index declined to 13.54%. Since 1985, liquidity ratio has declined steadily, recording about 40% in 2015 which represents over 38% decline compared to its value in 1985. Meanwhile, bank credit to GDP ratio has increased significantly from 20.8% in 1985 to over 40% in 2015. It is however, mindboggling that since 1985, discomfort index has maintained an upward spree as it rose from 13.5% in 1985 to over 39% in 2015. Most analysts believed that increase in bank credit since early 2000s is as a result of the bank consolidations and several other reforms that were initiated within the period.

However, the extent to which the consolidation and various development drives in the financial sector have achieve its objectives and impacts on macroeconomic performance have therefore remained a debatable issue. While some analysts argue that the ongoing reforms and development in the sector have resulted to increased sectorial performance, economic growth and has helped in repositioning and placing of Nigeria banks and capital market in a competitive leadership position in African economies as Nigerian banks now operate branches profitably in diaspora (Akingbola, 2006); others are of the opinion that the drives have not achieved much as the base of the industry has continued to remain fragile to play a supportive role to the public and private sectors (Okafor, Patience & Ezenekwe,2009). These assertions are evidenced from the continuous weakening of Naira against the dollar which stood at one dollar to about N500 as at 31st December 2016, unrealistic interest and exchange rate, bank distress, and prevailing macro-economic instability in Nigeria. Also discomfort index which measures the combined effect of inflation and unemployment rate on the masses has also been at increase.

The discomfort index was all high at 74% in 1995 with 46 years average of 29% compared to that of the advanced nations where it is only a digit figure. Specifically, in the early 1970`s the Nigeria economy witness positive growth rate which could be attributed to oil price increase by OPEC around 1973. The growth was however not sustained as there were negative growth rates of -5.23% in 1976 and -5.8% in 1979. Also the 1980`s had similar trend with an

average negative growth rate of 1.41 percent per annual. Though there were a few instances of negative growth rates in the 1990`s, the average real growth rate from 1995 to 2015 was about 6 percent with a range of 33% in 2004 and 2.6% in 2015. The trend analysis showed that Nigerian annual GDP growth rate standard deviation is about 8.5% which indicates high growth volatility when compared to 2.47% for sub-Saharan African economies; 2% for U.S and 1.6 percent for France. This study is, therefore, premised on the need to thoroughly understand the impact of financial sector on real GDP rate and discomfort index in Nigeria.

THEORETICAL FRAMEWORK

Modelling financial sector performance-macroeconomy nexus is contingent on the channels through which financial sector development affects key macroeconomic performance indicators with special emphasis on growth (GDP) and economic welfare of citizenry as measured by discomfort index. Following Pagano (1993), the theoretical framework for this study is based on the endogenous theory of economic growth which suggests that growth is not purely exogenous against the exogenous assumption of the neo-classical theory of growth. As a means to an end, the AK model approach was developed within the endogenous growth theory such that financial sector activities were seen as an important variable in achieving economic growth. The AK model posits that production function is linear in the accumulable resource. A key implication of the AK model is that macroeconomic performances of a country depend mainly on economic growth, which in turn depends positively on the saving/investment rate. All inputs are reproducibly in a particular state of knowledge through research and development such that

Y = Ak   *3.1*

Where k= K/L

k representing a broad measure of capital, that is composite of capital and labour which in the broad sense include human capital as virtualized by Solow – Swan growth model (Romer, 1986; Pagano, 1993). In modeling the AK framework into the financial sector, we considered a simple endogenous growth AK model:

$Yt = AK_t$ *3.2*

Where K = capital stock, and A = technological level, Y = economic growth.

The capital stock is made up of both physical and human capital, both of which is producible with identical technologies on the assumption that production is stationary and involves only a single good which can either be consumed or invested; depreciation is stated at a rate ($\propto$) per period. Thus, gross investment I_t will take the form of

$I_t = K_{t+1-} (1-\propto) K_t$ *3.3*

Equation (3.3) implied that investment is functionally related to capital stock.

In a closed economy without government spending, capital market equilibrium requires that gross savings, S_t equal gross investment, I_t. Ideally, the cost of intermediation in the transformation function of banks implies that not all savings can be channel into investment. A proportion of the saving $(1 - \emptyset)$ is lost in the process of financial intermediation (Pagano, 1993). Thus, the fraction of saving is taken by the financial intermediates as a reward for financial services supply. This is termed leakage out of the flow of savings such that only $(\emptyset s)$ is available for investment. Therefore

$\emptyset S = I_t$(with $O < \emptyset < 1$)   3.4

Market equilibrium condition is given by $(\emptyset sY = I$ 3.5

Where s = S/Y

Interposing equation 3.3, 3.4 and 3.5 above, the rate of growth of output, *g,* at time *t* can be stated as:

$g_{t+1} = (Y_{t+1}/Y_t) - 1 = (K_{t+1}/K_t) - 1$ 3.6

By re-arranging equation (3.3) and substituting K_{t+1} into equation (3.6), we have:

$g_{t+1} = I_t/K_t - \propto$ 3.7

Recall that $Yt = AK_{t;}$ Thus, $K_t = Yt/A$ and:

$g_{t+1} = A(I_t)/Y_t - \propto$ 3.8

By involving the capital market equilibrium condition, $I = \emptyset S$, equation (3.8) becomes

$g_{t+1} = A\emptyset(S_i/Y_t) - \propto$ 3.9

such that the steady state solution can be stated as

$\qquad g_{t+1} = A(I/Y) - \propto = A\emptyset S/Y - \propto$ 3.10

The equation (3.10) suggest that steady state growth is influenced by the social marginal productivity of capital, proportion of total saving that are transformed into investment and the saving ratio. It is a known fact that financial sector plays a major role in pooling savings from the surpluses sector and channeling same to the investing public through the financial intermediation services (Murinde, 1994; Agbakhese, 2012). From the above, it became suggestive that introduction of costly financial intermediation in the endogenous growth model leads to a direct effect on economic growth rate as only savings collected through financial intermediaries matter. According to the neo-classical thought, pooling of financial resources through savings for investment and minimization of financial intermediation cost $(1-\emptyset)$ is core aspect of financial sector development. This reveals that financial sector activities can affect growth but only as it affects the proportion of saving channel to investment $(\emptyset)$ and influences

social marginal productivity of capital (A)and private saving rate (S). This also implied that $\emptyset S$ is a function of financial intermediation activities. Thus

$$\emptyset S = f(FD, _U) \qquad\qquad 3.11$$

Where FD is financial sector development.

Furthermore, given that our objective is centered on the impact of development of the financial sector on both economic growth and economic-welfare of the citizenry as measured by discomfort index, the trickledown theory of economic growth and development which sees growth as the major function of Welfare (W) was incorporated into above model.

$$W = f(g_{t+1, U}) \qquad\qquad 3.12$$

In this context, economic welfare will be seen as reduced inflation rate and unemployment crisis through job creation that generates steady income. Recall that discomfort index (DI) measures the combined effect of inflation and unemployment rate. Thus:

$$W = DI = f(g_{t+1}, u) \qquad\qquad 3.13$$

Where u stand for other variables not specifically stated.

Therefore from equation (3.8) to (3.13), growth is functionally related to investment rate (I/Y); savings (S/Y); broad human capital (HC) (as it relates to stock of capital: K and technology: A); discomfort index (DI as it relates to welfare: W) and financial sector development (FD) to the extent at which FD affects pooling of savings, intermediation cost: $(1 - \emptyset)$ and the amount of such saving channeled into investment $(\emptyset s)$:

$$g_{t+1} = f((I/Y), (S/Y), HC, W, FD).$$
$$g_{t+1} = f(I, Y\ S, HC, W, FD). \qquad\qquad 3.14$$

In AK model, technology display positive long run per capita growth trend which depends also on the behavioral parameters of the model such as A and $\emptyset$. It equally introduces control variables such as savings, Investment and human capital. All affect macroeconomic performance of a nation. However, since in a stable financial state, savings equates Investment, it means that the two variables could be interchangeably used.

METHODOLOGY

Empirical Model Specification

Following Rousseau (1999), we specify a multivariate VAR model of the general form as follows:

$$V_t = \sum_{i-1}^{k} A_i V_{t-1} + \varepsilon_t \qquad\qquad 4.1$$

Where V_t represents vector of endogenous variables such that $Vt = Y_t, FSD_t, INV_t, DI_t$ and HC_t, A_t coefficient vector of all variables in model; V_{t-1} is vector of the lagged variables; and ε_t is the vector of stochastic error term. Y represents economic growth which was proxied by real gross domestic product growth rate. The measures financial sector development (FSD) were proxied using the following four variables, Banks branch network (NBB) as a measure of access to financial services, lending –deposit spread (LDR) as a measure of financial sector efficiency, liquidity ratio (LR) as a measure of financial institution stability and private sector credit (CPS) as measures of financial deepening. DI represents the discomfort index which is a measure of the economic condition or welfare obtained by summing the unemployment rate and the annual rate of inflation as defined by Arthur Okun (1899 – 1980).Investment (INV) proxied by gross capital formation and human capital (HC) proxied by government expenditure in education entered the model as control variables.

As stated earlier, equation 4.1 was estimated using VAR procedure with the assumption that the multivariate VAR model is stable. The condition of stability of a multivariate VAR model is that all the eigen values of the Πs have modulus less than one. Assuming a first order VAR without the drift term, hence,

$$y_t = \Pi_1 y_{t-1} + \mu_t \qquad\qquad 4.2$$

It can be simplified to $A(L)y_{t-1} + \mu_t \qquad 4.3$

With $A(L) = 1 - \Pi_1 L$ as the autoregressive polynomial, we can obtain the eigenvalues of Π_1 by solving the roots of the kth order characteristics polynomial equation given as

$$\left|\Pi_1 - vI\right| = 0 \qquad\qquad 4.4$$

Also, to obtain the responses of macroeconomic indicators to FSD, we computed impulse responses with the assumption that the magnitude of a shock on ε_{jt} corresponds to the root of the $\sum \varepsilon$ diagonal elements or to one standard deviation ε_j . As observed by Obi and Igbanugo (2016), a shock to the *j*-th variable does not only directly affect the *j*-th variable but is also transmitted to all of the other endogenous variables through the dynamic (lag) structure of the VAR. An impulse response function (IRF) traces the effect of a one-time shock to one of the innovations on current and future values of the endogenous variables.

From equation 4.1,

$$y_t = \Psi(B)\varepsilon_t = \sum_{j=0}^{\infty} \Psi_j \varepsilon_{t-j}$$ This will yield the structural form based on the orthogonalization such that

$$I = (I - \Gamma_j B_j)\Gamma(B)$$ since cov(ε_t) = $\sum$, then Ψ_j is the MA coefficients measuring the impulse response.

In other words, Ψ_{ij}, represents the response of variable y_j to unit impulse in variable y^*_j occurring *i-th* period ago. This follows the recursive Cholesky ordering scheme which is consistent with existing VAR literature Bańbura, Giannone, & Reichlin (2008).

Data and Scope

The study used annual time series data covering 1970 to 2015. This is necessitated by the need to reflect long term relationship of the study variables. While capital market development variables are sourced from the Nigerian Stock Exchange (NSE) Fact-book, the financial development and macroeconomic variables were sourced from Central Bank of Nigeria Statistical Bulletin and Annual Report and Statement of Accounts, Office of the National Bureau of Statistics and World Bank Development Indicator (WDI).

ANALYSIS AND DISCUSSION OF RESULTS

Vector Autoregression (VAR) Estimation

Before estimating the VAR model, pre-estimation tests were carried to ascertain the stochastic behavior of the time series using Augumented Dicker-Fuller (ADF) test of unit root and multivariate Johansen test of cointegration. The results obtained (not presented here) shows that the time series are both integrated and cointegrated processes. Having verified that the variables met the stationarity requirement and convergence properties, the parameters of the model were estimated to ascertain the relative impact of each variable on GDP and discomfort index in Nigeria using vector autoregression (VAR). As earlier stated, VAR model is lag sensitive as such the Akaike Information Criterion (AIC) and Schwarz information criterion were used to determine the appropriate lag length of the model. The maximum lag length was therefore set at secondperiod. The extract of the result as estimated are shown in Table 1.

The value of R^2 shows that all the independent variables jointly accounted for about 99% and 80% of the systemic change in economic growth and discomfort index as measures of macroeconomic performance. The overall significance of the model as measured by F statistics

is significant at the 1% critical level for both equations, which implied that financial sector development (FSD) indicators under study do impact on economic growth and discomfort index (wellbeing). The standard error of the regression equations reveals that the associated problems with the empirical estimation techniques of this nature are minimized.

Table 1: Parameter Estimates of the Vector Autoregression (VAR) Model

Variables	Dependent Variables	
Explanatory Variables	LGDP	DISC
LCPS(-1)	-0.274207(-0.58234)	-9.898822(-0.35753)
LCPS(-2)	0.589467(1.29098)*	19.10657(0.71166)
LDR(-1)	0.003539(0.41685)	-0.060974(-0.12213)
LDR(-2)	-0.008578(-1.28644)*	-0.954847(-2.05687)
LGEXP(-1)	0.240246(1.26871)*	4.596555(0.41283)
LGEXP(-2)	0.148612(0.74970)	4.55965(0.39120)
LINV(-1)	0.077999(0.19939)	-5.724065(-0.24885)
LINV(-2)	0.003006(0.01117)	-3.316692(-0.20964)
LM2(-1)	-0.309014(-0.39865)	29.20973(0.64087])
LM2(-2)	-0.520344(-0.77702)	-35.97217(-0.91356)
LMCAP(-1)	0.168759(0.77980)	3.67877(0.28910)
LMCAP(-2)	0.197328(0.89242)	12.57305(0.96706)
LNBB(-1)	0.373482(0.59874)	22.00604(0.59998)
LNBB(-2)	-0.052196(-0.08929)	-15.97793(-0.46486)
LR(-1)	-0.0019(-0.20150)	-0.028273(-0.05100)
LR(-2)	0.004953(0.49208)	-1.005007(-1.69799)**
DISC(-1)	0.005081(0.91263)	0.189599(0.57914)
DISC(-2)	-0.002283(-1.59417)**	-0.432015(-1.91190)**
C	2.758308(0.46196)	338.7098(0.96477)
R-squared	0.996571	0.802115
S.E. equation	0.197596	11.61841
F-statistic	174.3889	2.432072
Log likelihood	23.37698	-111.0691

Note: t- values are in brackets; t-statistics in [ ] while Standard errors in ( );

*/**/*** Significant at the 10%, 5% and 1% levels; and Critical Values = 1.262, 1.64, and 2.14 respectively

Source: *Researchers' estimation using Eviews 9.5 version.*

The estimation results on the impact of financial sector development (FSD) on economic growth (GDP) and discomfort index as a measure of macroeconomic performance were informative as explained below. All FSD indicators under study were seen to have significantly affected economic growth at different critical level in various lag periods. For instance, while credit to private sector (CPS),which symbolizes financial deepening, and plays the role of financial intermediaries in channeling funds to the investing public, affects economic growth (GDP) at 5% significant level in lag 2, number of banks branch network, which proxy access to financial service (NBB) was significant in lag1 at 5% critical level. Similarly, lending – deposits spread (LDR) which measures the efficiency of the financial sector in providing the financial intermediary roles and liquidity ratio (LR) which proxies the financial sector stability was also significant at 10% level in lag 1 and 2 respectively. This implied that the both variables positively contributed to economic growth (GDP) for the period under study. However, unlike NBB; bank credit to private sector (CPS), LR and LDR possess negative sign against the expected positive *apriori* expectations. This could be attributed to the high incidence of non-performing credits/loan and the inability of the banks to strengthen its risk management.

The overall inference in this regard is that both the financial sector and non - financial variables contribute to economic growth (GDP) though only moderately. It follows that financial sector development have not adequately impacted on growth (GDP) of the Nigerian economy. Financial instability, poor access to financial service and financial sector inefficiency which often translated into high lending rate distorts credits to productive sectors. Restrictive capital market listing requirement and unethical/sharp practices by the operators among other factors affects the sector's ability to support the real sector. This is similar to the position held by Esther, (2005), Odeniran and Udeaja, (2010), Edo, (2011).

The results regarding the impact of financial sector development (FSD) on economic welfare as measured by discomfort index (DISC) indicates that nearly all financial sector development (FSD) indicators under study (except NBB) were seen to significantly affect economic welfare "discomfort index" at different lag periods and critical levels but their overall effect was only moderate too. Financial deepening variable: credit to private sector (CPS) affects discomfort index at 10% critical level of significant only in lag 2 with negative sign "apriori expectations" This was expected because increase in bank credit (CPS) is likely to exact declining effect in discomfort index since it will help to create employment and perhaps check the combine effect of rising inflation and unemployment rate vice versa. In same vein, both leading – deposits spread (LDR) and financial sector stability measured by liquidity ratio (LR) were significant at 5% level in lag1 and 10% significant level in lag 2 respectively. Out of the four variables that significantly affect DISC, only the leading-deposits spread (LDR) possess the

positive apriori expectations. In other words, CPS, LR and NNB have the expected negative apriori expectations. Consequently, credit to private sector; efficiency and stability of the financial sector are capable of influencing the combined effect of inflation and unemployment rate (DISC) on the citizenry in the expected direction.

Results of Variance Decomposition

At this point, the relative contribution made by each variable toward economic growth and discomfort index as a measure of macroeconomic performance is further presented by analyzing the variance decomposition. Given that unrestricted VAR is recursitivity sensitive, cholesky ordering was applied in the estimation. Cholesky method explains how the variables are broken down into components of impact on each other in the VAR model.

Table 2: Parameter Estimates of Variance Decomposition of GDP

Period	Variance Decomposition of GDP Growth rate							
	S.E.	LGDP	LCPS	LDR	LGEXP	LINV	LNBB	LR	DISC
1	0.1978	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.30597	85.40	0.38	7.37	5.17	0.06	1.36	0.01	0.32
3	0.3599	84.38	0.39	5.82	5.92	1.47	1.60	0.09	0.34
4	0.4088	85.83	0.34	4.56	4.60	1.33	2.97	0.09	0.28
5	0.4551	85.24	1.06	3.69	3.82	1.19	4.47	0.23	0.30
6	0.4988	82.19	3.089	3.49	3.23	1.23	6.20	0.23	0.35
7	0.5367	79.77	3.78	3.49	3.11	1.39	7.94	0.19	0.33
8	0.5675	77.60	4.42	3.35	3.04	1.70	9.42	0.19	0.28
9	0.5955	75.83	4.96	3.60	2.77	2.67	9.69	0.22	0.27
10	0.6222	74.50	5.18	4.11	2.55	3.68	9.45	0.26	0.28

*SE *Standard error of variance*

Source: Researchers' estimation using Eviews 9.5 version.

Table 2 revealed that in the first period, GDP explains about 100% of its own forecast error variance. The contribution of GDP to its own shock in the remaining nine periods follows a decreasing trend while the contribution of financial sector indicators to GDP increases. For instance, in period two, the contributions of GDP, CPS, LDRGEXP, INV, NBB LR andDISC, were: 85.40%, 0.38%, 7.37%, 5.17%, 0.06%, 1.36%, 0.01%, and 0.32% respectively. In period seven, the relative contribution of the FSD indicator to GDP increases to about 20% as variation in GDP attributable to itself reduced to 79.77%. In period 10, the FSD variables contributions to GDP increased to about 25.5% with the following relative percentages: GDP, CPA, LDR GEXP,

INV, NBB LR and DISC: 74.50%, 5.18%, 4.11%, 2.55%, 3.68%, 9.45%,0.26% and 0.28% respectively.

Table 3: Parameter Estimates of Variance Decomposition of DISC

|	S.E.	LGDP	LCPS	LDR	LGEXP	LINV	LNBB	LR	DISC
					Variance Decomposition of Discomfort index				
1	11.618	39.23	0.26	22.91	10.57	8.18	1.92	0.003	16.87
2	12.951	42.26	2.024	18.50	10.24	6.58	3.30	0.003	17.09
3	15.305	34.14	9.73	17.28	7.83	11.49	4.96	1.17	13.11
4	17.977	25.27	7.94	21.03	12.72	9.04	4.44	1.47	18.09
5	20.376	19.67	11.73	16.68	14.31	9.04	8.73	1.22	18.62
6	21.187	19.06	12.00	16.96	14.53	8.99	9.33	1.55	17.58
7	21.706	18.90	11.50	16.62	14.49	9.48	8.90	1.54	18.58
8	22.513	17.92	11.17	15.45	13.66	10.51	9.70	1.88	17.92
9	23.228	16.85	10.51	15.53	14.21	10.54	10.59	2.03	17.75
10	23.435	16.65	10.33	16.17	13.96	10.43	10.49	2.06	17.17

*SE *Standard error of variance*

Source: Researchers' estimation using Eviews 9.5 version.

On the impact of financial sector development on discomfort index (DISC); the result of the variance decomposition as presented in the Table, revealed that in the first period, DISC explains only about 16.87% of its own forecast error variance. Conversely, variation in the combined effects of inflation and unemployment (discomfort index) on the citizenry in the period were stimulated by GDP (39.23%), LDR (22.91%), GEXP (10.57%), INV (8.18%), LR (0.03%), and CPS (0.26%). Thus, all the variables: Investment, Human capital and FDS indicators under study impose some level of effect on discomfort index in period 1. The contribution of DISC to its own shock in the remaining nine periods followed a relatively decreasing trend as the relative impact of financial sector indicators to DICS increases. For instance, in period 3, their relative impact of DISC GDP, CPA, LDR GEXP, INV, NBB and LR were: 13.11%,34.14%, 9.73%, 17.28%, 7.83%, 11.49%, 4.96% and 1.17% respectively. Also, in period six, the relative impacts of the FSD on discomfort index increases from about 43.9 % in period 1 to about 61.71% with CPS and LDR alone contributing about 29% of the variation in DISC. In same vein, the FSD variables relative impact on DISC increased to about 64.17% in period 8, with the following relative percentage: DISC, GDP, CPA, LDR GEXP, INV, NBB and LR: 17.92%,16.85%, 10.51%, 15.53%, 14.21%, 10.54%, 10.59% and 2.03% respectively. A careful look at the table

shows that the relative impact of each of the FSD variables increases as the period increases as there demonstrated increasing effect in nearly all the 10 periods. For instance, the relative impact of CPS to DISC increased from 0.26% to 11.73% and though declined to 10.33% for period 1, 5 and 10 respectively. Also, LDR and LBB relative impact for same periods were 22.91 %, 16.68%, 16.17% and 1.92%, 8.73%, 10.49% respectively.

Results and Analysis of Impulse Response Functions

In this study, the cholesky one standard deviation innovations is used to examine the impulse response analysis of the system. In other words, it provides explanation on how economic growth and discomfort index individually respond overtime to a shock in respective financial sector development "FSD" variables under study.

Response of LGDP to LCPS

Response of LGDP to LR
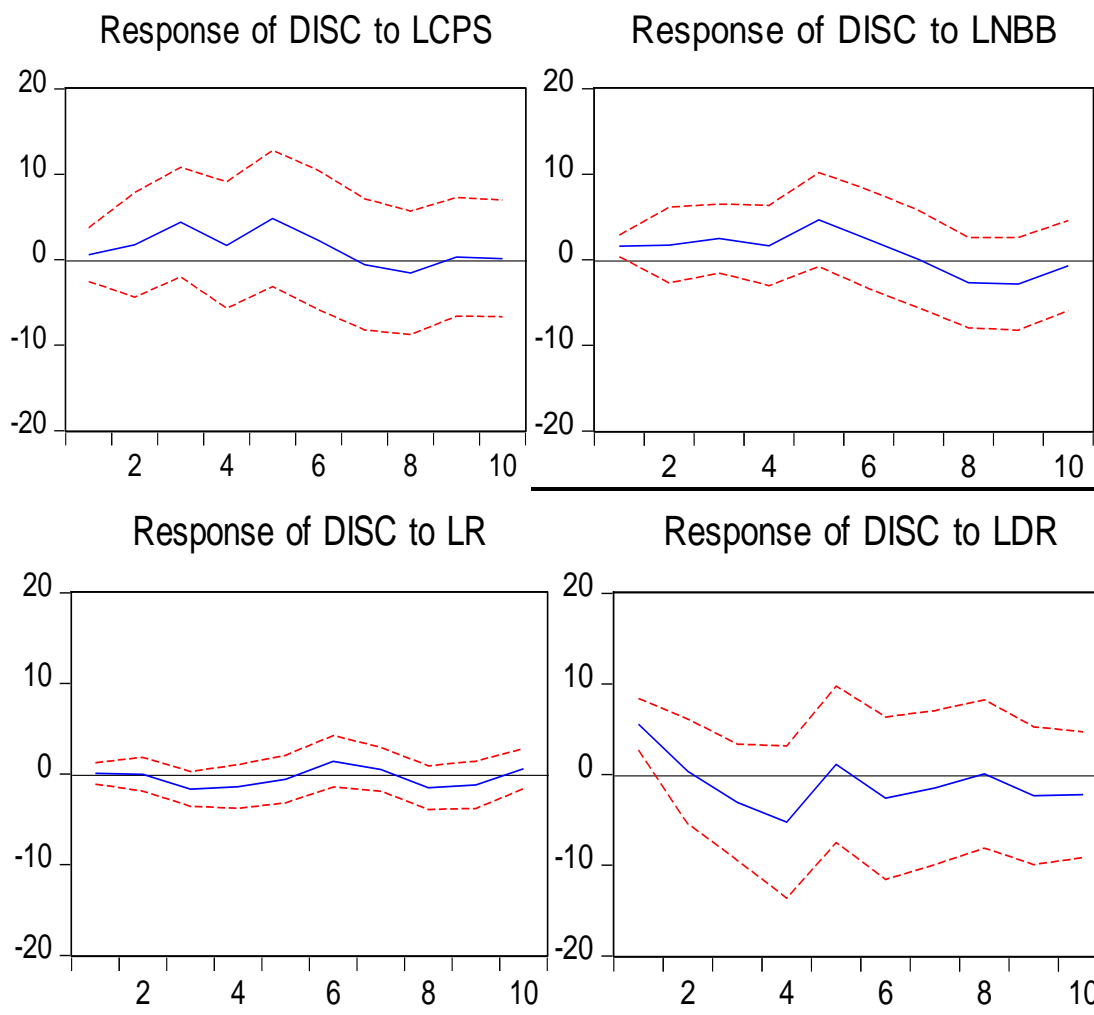
Response of LGDP to LDR

Response of LGDP to LNBB
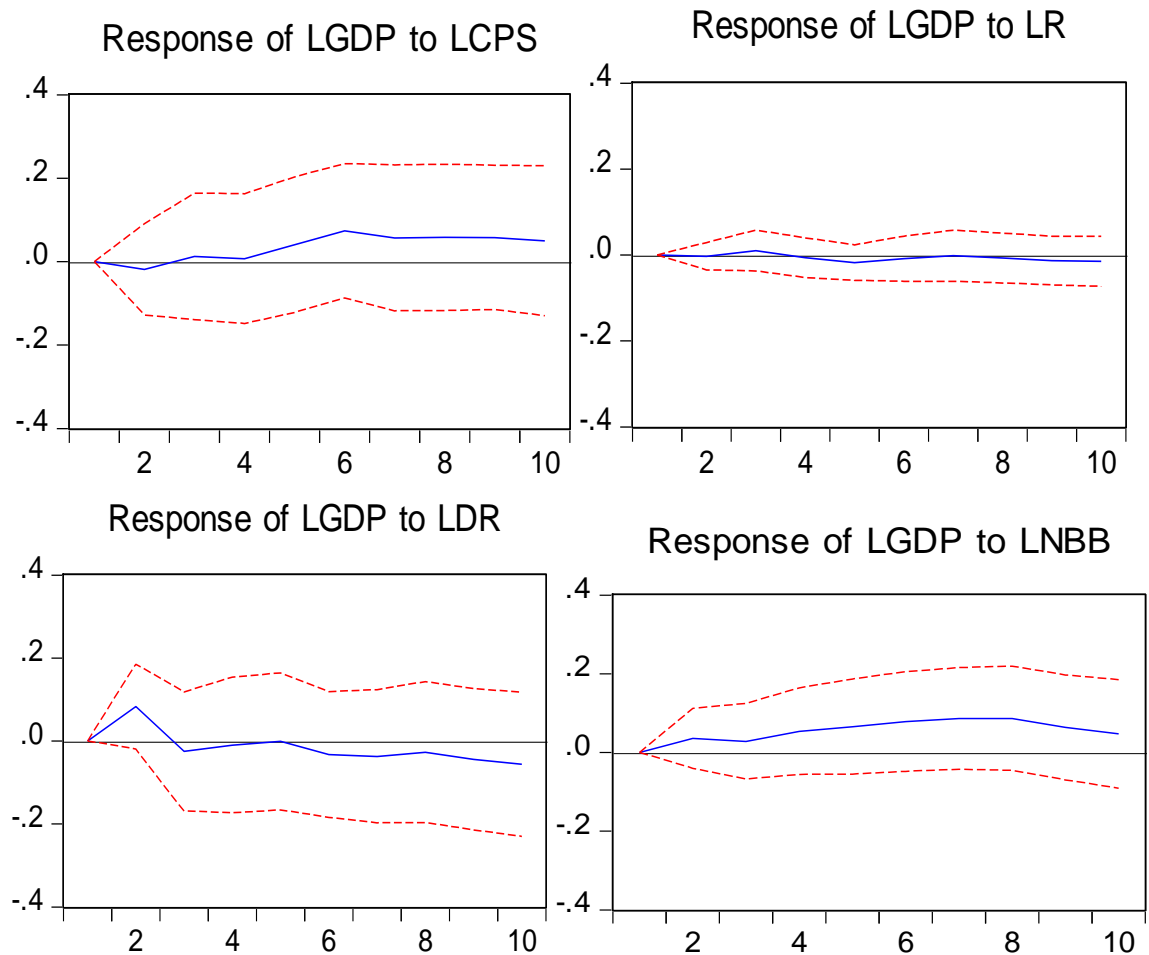
Figure 4: Impulse Response Function (IRF) of GDP to Cholesky One Standard Deviation Innovations
Source: Researchers' estimation using Eviews 9.5 version

With regards to the response of GDP to CPS, a one-unit shock in CPS led to initial slight decline of GDP below its equilibrium until period 3 and 4, when it cuts the equilibrium and rise slightly above it for the rest of the period. It could be said then that the response of GDP to CPS is not very significant which could be attributed to huge value of non- performing loan in the banking sector. Furthermore, the response of GDP to LDR, shows that a one-unit shock in LDR led to marginal positive jump above its equilibrium line till period 2 when it began to fall, cuts the line in period 3. It returns to the equilibrium between period 5 and 6 and starts falling gain. It remains below the line and did not return to equilibrium level. Also, the response of GDP to a shock in NBB reveals a slight positive effect on former (GDP) as it remains nearly perpetual above its equilibrium level rising steadily until period 9 when it began to drop but did not torch the

equilibrium line. This implied that increased leading - deposit ratio could contribute to economic growth significantly. Conversely, the response of GDP to a shock in LR shows that the former (GDP) remains perpetually around its equilibrium as it fluctuates slightly about its equilibrium line.

On the other hand, the response of DISC to CPS is very significant which could be attributed to the fact that credit to private sector could result to increased investment, production and job creation. In fact, from the result, a one-unit shock in CPS led to initial positive effect on DISC as its rises steadily above equilibrium level until period 3, when it began to fall sharply, cuts the equilibrium level in period 7. It thereafter fell below equilibrium and began rises positively, then returns to equilibrium level in period 10. Furthermore, discomfort index response to a shock in LR reveals a negligible effect on the former (DISC) as it remains on the equilibrium line until period 2, when it began slightly to fluctuate around its equilibrium level throughout the rest of the period. The response of DISC to a unit shock in LDR and NBB were very pronounced. In other words, the response of DISC to LDR, shows that a one-unit shock in LDR led to sharply steady declined in the former (DISC), cutting its equilibrium line in period 2, reaches its minimum in period 4, when it began to rise until it returns back to equilibrium level in period 5. It furthers rise slightly and fell below equilibrium between period 7 and 10. Similarly, the response of DISC to a shock in NBB shows an initial positive effect on DISC as it rises slowly until period 5 when it got to its peak, began to drop steadily and cuts its equilibrium level in period 7. It remains below its equilibrium level for the rest of the periods. The continuous decline also implied that improved bank branch network and financial sector efficiency were likely to result in reduced effects of inflation and high unemployment in Nigeria. This implied also that increased leading - deposit ratio could contribute to discomfort index. Conversely, the response of DISC to a shock in LR shows that the former (DISC) remains perpetually around its equilibrium as it fluctuates slightly about it equilibrium line. It suggests that liquidity ratio affects LR on the level of economic welfare is very not significant.

POLICY IMPLICATIONS AND CONCLUSION

The research findings revealed that the contribution of financial sector development (FSD) to economic growth (GDP) and discomfort index in Nigeria was only moderate, as some of the key financial sector indicators used as independent variables were not statistically significant. While financial sector development (FSD) indicators such as number of banks branch network (NNB) and credit to private sector (CPS) were found to have significantly affected the nation's economic growth: GDP; liquidity ratio (LR) and leading – deposits ratio used in the study possess only marginal impacts on GDP. The outcome is not unconnected to the glaring and obvious challenges facing the financial sector in Nigeria, such as the under-developed,

rudimentary and shallow nature of the financial markets, inadequate financial instruments, policy inconsistencies, poor corporate governance etc. Also, the significance contribution of credit to private sector (CPS) and bank branch network to GDP was in accordance with economic theory and are in terms with most past studies findings such as Agbakhese (2012) and Somoye (2006). The ability of the financial market to support the real sector does not only manifest in the sector's capacity as evident in the quality and size of the banks' balance sheet but also in the ability of the citizenry to access financial services measured here by number of banks branch network (NBB) as well as the quality and volume of credit (CPS) advance in the economy. Increased access to financial services assists in pooling savings from the public and channels same to the investing sector, which in turn propels increased output and creates employment opportunities. In same vein, the activities of the financial regulators are equally key.

In recent time, the Nigeria banks have been carrying some level of high toxic assets in their balance sheets and the capital market investors had indeed lost a great deal of their investments in the financial market, but most of the activities of the regulators: Securities and exchange commission, CBN and asset management company of Nigeria (AMCON) which includes bank bailout and capital adequacy drive have helped to ensure that the sector continuously plays the financial intermediary role, aimed at supporting the real sector. Liquidity ratio is a vital monetary tool in the hands of the regulators in regulating the financial sector and could be used to propel growth in real GDP as revealed by the study findings.

However, contrarily to economic theories, liquidity ratio and leading - deposits spread was not just statistically insignificant with regard to their impacts on GDP, but like credit to private sector (CPS) possess negative sign against the expected positive apriori expectations. This implied that greater portion of total deposit mobilized by the DMBs were not properly used to finance the real sector activities and thus does not translate to positive impact on economic growth. It equally suggests financial sector instability. Liquidity ratio connotes the state of financial stability and implies the sector's ability to meet their financial obligation as there fall due. Ideally, bank credit to private sector should results to increased investment, which in turn could bring about increased output and GDP. The negative contribution of bank credit to private sector (CPS) and leading – deposits spread (LDR) could also be attributed to the high incidence of marginal/ non-performing credits resulting mainly from loan granted to individuals and organizations on political basis rather than economic consideration among other reasons. It could also be attributed to the inability of the banks to strengthen its risk management. The finding in this regards was not only inconsistent with economic theories but also with the findings of a few earlier studies like Ajakaiye, (2002), Nnanna, (2005) and Bologu, (2007), who reported that private sector credit significantly affects GDP in Nigeria. Conversely, our findings

like that of Bayreau and Debray, (2003) in China, Micheal, (2012) in Nigeria revealed that credit extended by banking sector has negative impact on economic growth when it is poorly channeled. The variations in the reports documented by various studies could be as a result of scope of the studies and/or the estimation techniques. While some are long run others covers only a short period of time. Besides, is could also be attributed to the recent actions of CBN that compel banks to write off the bad loan being carried in their books and sold the marginally performing ones to AMCON at a very highly discounted value. More so, the marginal performance of the financial institution could be linked to unstable macroeconomic environment, over spring effect of the unethical/sharp practices by the operators and inconsistency in both the money and capital market policies that has made the entire financial market a high risk one. The riskiness, bottlenecks and the inconsistence in the market, make it relatively difficult for investors to continually support the sector.

From the foregoing, we recommend as follows. First, there is urgent need to increase bank credit to the private sector. Such credit should be granted based on economic rather that political consideration and at one-digit interest rate as to encourage borrowing. This could be achieved by making policies that will positively change banks' lending behavior and preferences. Government interference should be minimized to prevent crowding out effects. Second, all the nation's banks should be mandated to enlist the services of Credit Search Bureau, that could assist to check the incidence of growing non- performing credit/loan and put to check a situation where same group of individuals owe the banks and refuses to pay back with impunity. The establishment of the Asset Management Company of Nigeria (AMCON) aimed at reducing the burden of the non-performing assets of banks is a good development in the right direction, as it enhances the ability of banks to extend credit to the economy since their balance sheet will house only sound assets and liabilities. In addition, we recommend that further studies be carried out to ascertain the implication of financial sector development for financial service patronage. This is necessary since the benefits of financial sector development may not be realised if the proportion of non-banking public is above certain thresholds.

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