Recent Banking Reforms in Nigeria: Implications on Sectoral Credit Allocation and Economic Growth

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Abstract

Since 2004, the Central Bank of Nigeria (CBN) has embarked on several intensive banking sector reforms to strengthen the hitherto weak and fragmented banking sector to adequately perform its essential intermediately functions. This paper examines the implications of the reforms on sectoral credit allocations and economic growth, using both analytical and ordinary least squares estimating techniques. We find that despite the drastic reduction in the number of commercial banks during the reform period, credit allocated to the activity sectors (agriculture, mining & quarrying, manufacturing, communication, and oil and gas) improved. The coefficients of mining & quarrying and oil & gas are found to be statistically significant at 0.05 level. Our estimated model is not spurious, but implies that one (1) percent increase in credit allocation to the mining & quarrying subsector improved economic growth by about 52.4 percent, while a similar one (1) percent increase in credit allocation to the prioritized activity sectors, build and upgrade the economic performance by about 30.6 percent. We recommend that the CBN should continue with its banking sector reforms, encourage substantial credit allocation to the prioritized activity sectors, build and upgrade the economy's human capacity based on new challenges and opportunities, and synergize with other agencies and policies in the system to ensure sustainable economic growth.

Keywords: Bank reforms, Sectoral credit allocation, Economic Growth, Ordinary Least Squares

JEL Classification Code: C01, C32, O16, G17, G21, G28

1. Introduction

All over the world, the banking system plays fundamental roles in the growth and development of an economy, depending on the economic, political and the legal system within which the banks operate. As financial institutions, banks perform intermediation roles generally by mobilizing resources from the surplus units and channeling same to the deficit units for productive activities within an economy. The Deposit Money Banks (DMBs) through their credit policy act as lubricants and promote growth in different sectors of the economy paying attention to the priority sectors of the economy.

A theoretical literature exploring the nature of the correlation between the banking sector and economic growth suggests that the financial system could impact real economic performance by affecting the composition of savings (Bencivenga and Smith, 1991), and affecting the scope for credit rationing (Boyd and Smith, 1998).Studies by King and Levine (1993), Beck and Levine (2003), Driscoll (2004), Bayoumi and Melander (2008), and Akpansung and Babalola (2012) have confirmed that financial/banking sector development can foster economic growth, by raising saving, improving allocative efficiency of loanable funds, and promoting capital accumulation.

The ability of financial institutions to transfer financial resources from surplus idle sectors to deficit real sectors for investment, growth and development, makes financial intermediation a veritable process, and hence the need for periodic regulation of the financial sector. The ability of the Nigerian financial subsector to play its role was periodically punctuated by its vulnerability to systemic distress and macro-economic volatility, and policy fine tuning inevitability (Kama 2006).

The recent banking sector reforms in Nigeria are a component of the general financial sector reforms which started since 1986 during the Structural Adjustment Programme (SAP). Generally, banking sector reforms in Nigeria have been embarked upon to achieve market liberalization in order to promote efficiency in resource allocation; expansion of the savings mobilization base; promotion of investment and growth through market-based interest rates; improvement of the regulatory and surveillance framework; fostering healthy competition in the provision of services; and laying the basis for inflation control and economic growth (Omoruyi; 1991; CBN, 2004; and Balogun, 2007).

For the past three decades, the Nigerian banking sector has witnessed five distinct phases of banking sector reforms: i) During 1986 to 1993, when the banking industry was deregulated in order to allow for substantial private sector participation; ii) the re-regulation era of 1993-1998, following the deep financial distress; iii)the return of liberalization and the adoption of the universal banking model in 1999; iv) banking sector consolidation which commenced in 2004 which was meant to correct the structural and operational weaknesses that constrained the banks from efficiently playing the catalytic role of financial intermediation; and v) banking reform meant to substantially improve the banking infrastructure, strengthen the regulatory and supervisory framework, and address the issue of impaired capital and provision of structured finance through various initiatives, so as to provide cheap credit to the real sector, and financial accommodation for small and medium-scale enterprises (Anyanwu, 2010).

Nevertheless, prior to the 2004 recapitalisation policy, it was reported that a total of thirty five (35) licensed banks went into distress and were eventually liquidated. Out of these, thirteen (13) were commercial banks, eighteen (18) merchants banks, and one (1) cooperative bank (NDIC, 2004). More so, only 10 of the commercial banks were rated as sound, 51 were classified as unsatisfactory, 16 were rated as marginal, while another 10 were categorized as unsound (CBN, 2004).

According to the then governor of Central Bank of Nigeria (CBN), Charles Soludo, the banking reform (the recapitalization policy) was meant to: (1) reposition the nation's banking industry for global competitiveness; (2) ensure a strong and reliable banking sector that will guarantee the safety of the depositors money; (3) play active development role in the nations' economy; (4) make the banks less dependent on public sector fund, and (5) be capable of financing the real sector (New Age Apri17, 2005). Generally, the reforms were anchored on four cardinal pillars, namely, enhancing the quality of banks, establishing financial stability, enabling healthy financial sector evolution, and ensuring that the financial sector contributes to the real economy.

Following the fourth phase of the reforms which began in 2004, banks were consolidated through mergers and acquisitions, raising the capital base from $\aleph 2$ billion (about US\$15 million) to a minimum of $\aleph 25$ billion (about US\$190 million), which reduced the number of banks to 25 from 89 in 2005 and later to 24 at the end of December 2007 with the merging of Stanbic Bank Plc and IBTC Bank to form Stanbic IBTC Bank Plc. The aggregate capital of the consolidated banks rose by 439.4 per cent between 2003 and 2009, while deposit level rose by 241.8 per cent.

However, by August 2009 it was found that the banks were not stable after all as hitherto envisioned. The Central bank of Nigeria (CBN) intervened again purportedly to save the banking industry from imminent collapse. Five Banks were identified for rescue as a result of poor capital adequacy, high risk assets, poor corporate governance tending towards CEOs corruption; erosion of share holders fund, high liquidity ratio and credit crises. Whereas the twenty five (25) banks that passed the recapitalization test were declared sound in 2005, by 2006, ten (10) were declared sound, five (5) satisfactory five (5) as marginal and five (5) unsound (CBN, 2006).

The other components of the recent banking sector reforms in Nigeria, according to (Sanusi, 2012), include the adoption of risk focused and rule-based regulatory framework; adoption of zero tolerance in regulatory framework in data/information rendition/reporting and infractions; strict enforcement of corporate governance principles in banking; expeditious process for rendition of returns by banks and other financial institutions through e-FASS; revision and updating of relevant laws for effective corporate governance; and ensuring greater transparency and accountability in the implementation of banking laws and regulation. Beyond the need to recapitalize the banks, the reforms focused on ensuring minimal reliance on public sector for funds, but rather relying on the private sector.

The adoption of risk focused and rule-based regulatory framework; adoption of zero tolerance in regulatory framework in data/information rendition/reporting and infractions; strict enforcement of corporate governance principles in banking; expeditious process for rendition of returns by banks and other financial institutions through e-FASS; revision and updating of relevant laws for effective corporate governance; and ensuring greater transparency and accountability in the implementation of banking laws and regulation (Sanusi, 2012).

However, a new set of problems were said to have emerged and threatened the financial system from 2008, following the global financial crisis. The surge in capital did not only put pressure on the availability of human capacity in the sector but it also led to margin loans and other high risk investments. Among other things, the balance sheet of banks became eroded to the extent that most of them remained for some time on 'life support' from the CBN. Interbank rates spiked as banks could borrow at any rate in order to remain afloat; the size of nonperforming loans enlarged; customer panic re-emerged and several unethical conducts among the managements of banks were revealed. These problems, according to Sanusi (2012) led to a new set of reforms, whose cardinal pillars encompassed: enhancing the quality of banks, establishing financial stability, enabling healthy financial sector evolution, and ensuring that the financial sector contributes to the real economy. The Central Bank of Nigeria equally articulated a blue print known as "*The Project Alpha Initiative*" for reforming the Nigerian financial system in general and the banking sector in particular following the 2008 global banking crisis. The reforms were meant to remove the inherent weaknesses and fragmentation of the financial system, integrate the various ad-hoc and piecemeal reforms and unleash the huge potential of the economy.

The impacts of these banking sector developments are claimed to be diverse: it enables banks to undertake funding of large projects, especially in infrastructure, and oil and gas sectors. Tables 1 and 2 show the impacts of the banking sector reforms on Deposit Money Bank (DMBs) Credit and Non-oil GDP and financial deepening indicators, respectively. This paper is therefore aimed at empirically analyzing how these banking reforms affect the allocation of credits to activity sectors of the economy and their relative impacts on economic growth in Nigeria.

Vear	Nominal Non-oil GDP	DMBs Total	Credit to Core		Credit to Core
1 cui	(Nhn) & Growth Rate	Credit (Mahn)	Private Sector (Mhn)	Total Credit/Non-oil	Private Sector/Non-
	(Noii) & Growin Rate	Cicuit (Noii)	Thvate Sector (Non)	GDP (%)	oil CDP (%)
2002	5 7 4 5 5	1 202 2	1 101 5		
2005	5,745.5	1,205.2	1,191.5	20.9	20.7
	(12.4%)				
2004	7,163.4	1,519.2	1,507.9	21.2	21.1
	(24.7%)				
2005	8,907.4	1991.1	1,950.4	22.4	21.9
	(24.4%)				
2006	11,581.7	2,524.3	2,556.9	21.8	22.1
	(30.0%)				
2007	13,124.3	4,820.7	4,969.0	36.7	37.9
	(13.3%)				
2008	15,198.6	7,799.4	7,909.8	51.3	52.0
	(15.8%)				
2009	17,376.1	8,912.1	9,895.8	51.3	57.0
	(14.3%)				
2010	19,478.99	8,326.3	9,333.9	42.5	47.7
	(12.10%)				
2011	22,124.86	na	13,670.37	na	na
	(13.58)				
2012*	25,539.48	na	14,485.88	na	na
	(15.43)				

Table 1: Deposit Money Bank (DMBs) Credit and Non-oil GDP

Note: * Figures are provisional

Source: Central Bank of Nigeria (Figures from 2003 - 2010 are cited in Sanusi, 2012)

Year	M2/GDP Ratio (%)	M2/Non- oil GDP Ratio (%)	CIC/M2 Ratio (%)	COB/M2 Ratio (%)	CIC/GDP Ratio (%)	CIC/Non- oil GDP Ratio (%)	COB/GDP Ratio (%)	COB/Non- oil GDP Ratio (%)
2003	23.4	34.6	25.3	20.8	5.9	8.7	4.9	8.7
2004	19.8	31.6	24.1	20.3	4.8	7.6	4.0	7.6
2005	19.3	31.6	22.8	20.0	4.4	7.2	3.9	7.2
2006	21.7	34.8	19.4	16.2	4.2	6.7	3.5	6.7
2007	28.1	44.3	16.5	12.7	4.7	7.3	3.6	7.3
2008	37.7	60.3	12.6	9.7	4.8	7.6	3.7	7.6
2009	43.4	62.0	11.0	8.6	4.8	6.8	3.7	6.8
2010	39.5	58.7	12.0	9.4	4.7	7.0	3.7	7.0
2011	35.6	60.1	11.8	9.4	4.2	7.1	3.3	5.6
2012	38.2	60.6	10.5	8.4	4.0	6.4	3.2	5.1

Note: M2 = broad money stock (end period); GDP at current basic prices; CIC = currency in circulation (end period); COB = currency outside banks (end period)

Source: Central Bank of Nigeria (Cited in Sanusi, 2012)

This study is arranged in five sections. After this introduction, section 2 reviews the relevant literature and discusses the theoretical framework. Section 3 presents analytical framework and model specification, while the empirical result is presented and analyzed in section 4. Section 5 summarizes and concludes the study.

2.0 Literature Review

2.1 Theoretical Framework

This study rests on the theoretical linkage between financial development, which is appropriated from banking reforms, and economic growth, as it was rightly established by various authors (Schumpeter, 1912; Goldsmith, 1969; McKinnon 1973; Shaw, 1973; Fry, 1988; and Pagano, 1993). A good number of authors have had coincidence findings that banking reforms-financial development through financial deepening and intermediation had positive effect on economic growth.

Banking reforms can be referred to as regular or irregular interception in rules and regulations guiding the operation of financial institution, toward attainment of international best standard, and sufficient backing of economic growth and development in a country. Many inextricable factors may warrant reform in the sector, but majorly prompted with hope of regulating milieu of macroeconomic variables. In addition, it is generally recognized that need to deepen the financial sector and its reposition for growth equally propelled banking sector reform.

Narrowly, the essentials of sound banking system can be viewed as liquidity and profitability. Crowther as cited in Jhingan (2004) pointed out that, "The secret of successful banking is to distribute resources between the various forms of assets in such a way as to get a sound balance between liquidity and profitability, so that there is cash (on hand or quickly realizable) to meet every claim, and at the same time enough income for the bank to pay its way and earn profits for its shareholders." Other benefits that go with banking reforms are: i). Safety of depositors' values; ii). Stability of operation; iii). Elasticity with respect to loan facility; iv). Efficient reserve management; and iv). Expansion, which is a *sine-qua-non* to deposits mobilization and credit facilities availability (Jhingan 2004, p. 90).

The rationale behind banking reforms in Nigeria was for achievement of macroeconomic goals of price stability, full employment, high economic growth and internal and external balances. However, the recent reform was expected to play actual role in financial intermediation, financial stability and confidence in the system (CBN, 2012). The backdrop of correcting structural and operational weakness in the year 2004, which was the fourth phase of banking reform in Nigeria, was the revitalization of financial intermediation in the sector. The recent reforms centered on providing cheap credit to the real sector, and financial accommodation for Small & Medium Scale Enterprises (Anyanwu, 2010).

The initiatives designed towards increment in credit allocation to the real sector were spelt out thus: Two Hundred Billion Naira (N200bn) for Commercial Agricultural Credit Scheme (CACS), which was funded through the issuance of FGN bond by Debt Management Office (DMO) in two equal tranches worth the said amount altogether. The scheme was to promote commercial agricultural enterprises and small-scale farmers, the interest rate of which was benched on single digit. In addition, Five Hundred Billion Naira (N500bn) was assigned as the development bond, towards enhanced financing of the real sector and infrastructure projects. Out of this fund, Three Hundred Billion naira (N300bn) was earmarked for Power/Infrastructure projects, while the balance of Two Hundred Billion naira (N200bn) went into refinancing/restructuring of banks' existing loans to manufacturers/Small and Medium Enterprises (SMEs).

Furthermore, Two Hundred Billion Naira (N200bn) was assigned for Small and Medium-Scale Enterprises Guarantee Scheme (SMECGS) aimed at promoting access to credit by SMEs in the country (Anyanwu, 2010). Sanusi (2011) did not mince words when he asserted that banking reforms are undertaken to strengthen and reposition the banking industry to enable it contribute meaningfully to the development of the real sector through its intermediation process, as intermediation reduces information, transaction and monitoring costs.

2.2 Conceptual Framework

The graphical representation in figure 1 presents idea of the latest reforms in the banking sector. The arrow-head line from the Economic growth hits Bank reform and vice-versa. This implies that either of the two can warrant each other, that is, banking reform can be embarked on because there is economic growth or because the country wants to witness economic growth. Volumes of literature buttressed the fact that the causality between banking reform or financial development and economic growth is bi-directional.



Fig. 1: Graphical Representation of Authors' Perception of the Latest Banking Reforms in Nigeria

More so, some of the pronounced targeted reforms in the sector are the items in the box next to the bank reform box in the diagram. Simply, as it applies to Nigeria during the 4th and 5th phases of banking reforms in Nigeria.

The aim of which is to facilitate financial intermediation and deepening. As Choong and Chan (2011) rightly opined from their analysis of Geweke (1984), financial deepening promotes economic growth, and simultaneously, economic growth propels financial development. Likewise, the duo asserted that financial deepening contributes more to the causal relationship in the developing countries than in the industrial countries. Financial intermediation serves as channels to allocate savings.

Many researchers as cited in Choong and Chan (2011) harmoniously agreed that financial development and economic growth is based on the ability of financial intermediaries to correct market failure emanating from informational problems, production externalities the role of banking sector policies and stock market capitalization. The results of which would subsequently translate to economic growth.

Despite the fact that the number of commercial banks in the country has reduced drastically, the sector could retain reasonable asset values and have stability in credit extensions, ultimately, facilitating its role of financial intermediation. As household deposits level improves considerably over time, likewise, financial deepening as the above table exhibits.

Year	*Number	Total bank assets	Total credits	Deposits from	*Financial deepeni	ng
	of banks	(% of GDP)	(% of GDP)	households (%	(M_2/GDP) (%)	(CPS/GDP) (%)
				of GDP)		
2004	89	33	13	7	19	12
2005	25	31	14	9	18	13
2006	25	39	14	9	20	12
2007	24	53	23	13	25	18
2008	24	66	32	17	33	28
2009	24	71	36	23	38	37
2010	24	51	23	18	32	30
2011	24	52	20	17	33	28
2012	21	53	20	20	34	36

Source: Authors' calculation except the asterisked columns, which are extracted from CBN (2012).

2.3. Sectoral Credit Allocation

Sectoral allocation of bank credit is often meant to stimulate the productive sectors (agriculture, industry/manufacturing) and consequently lead to increased economic growth in the country (Akpansung and Babalola, 2012). Available data shows that the overall domestic credit to the economy has been increasing within the period of banking reforms. For instance, it increased substantially from \$2.5b to \$7.7b between 2006 and 2010, as indicated in Table 4. Generally, priority sectors such as agriculture and solid minerals received less domestic credit than other sectors (NBS, 2012).

	2006	2007	2008	2009	2010
1. Total Credit (Million Naira)	2,524,297.90	4,820,695.72	7,799,400.11	8,912,143.04,	7,706,403.43
a. Priority Sectors	552,059.92	1,194,418.84	1,961,288.48	2,365,760.36	2,338,952.30
Agriculture (Million Naira)	21,286.19	149,578.92	106,353.85	135,701.30	128.405.95
Solid Minerals (Million Naira)	176,148.95	490,712.89	846,942.84	1,190,731.58	1,178,098.64
Exports (Million Naira)	32,119.28	66,551.07	75,192.33	45,870.47	44,806.72
Manufacturing (Million Naira)	322,505.50	487,575.96	932,799.45	993,457.00	987,640.99
b. Less Preferred Sectors	-	1,895,913.94	3,215,992.25	4,411,511.31	3,686,185.47
c. Others (Million Naira)	1,972,237.98	1,730,362.94	2,622,119.38	2,134,871.36	1,681,292.66
2. Loan to Small Scale Enterpris (Million Naira)	4,892.25	41,100.44	13,512.20	16,366.49	12,550.33
3. Loans to Rural Customers (Million Naira)	2,537.30	27,263.53	46,521.48	15,590.50	16,555.98

Table 4: Credit to Domestic Economy, 2006 – 2010

Source: Central Bank of Nigeria (Cited in National Bureau of Statistics, 2011)

The growth rates of the sectoral real GDP are shown in Table 5. Agricultural output has grown steadily, albeit at a decreasing rate, while the growth rate in the mining and quarry sub-sector has more than doubled. Growth in manufacturing output and communications are also commendable (Sanusi, 2011).

Sectors	2003	2004	2005	2006	2007	2008	2009	2010*
Agriculture	6.98	6.29	7.06	7.40	7.19	6.27	5.88	5.74
Min. & Quarry	5.49	17.68	9.53	10.27	12.75	12.77	12.09	12.29
Manufacturing	5.66	11.90	9.61	9.39	9.57	8.89	7.85	7.64
Communication	23.82	55.79	29.60	33.66	33.84	34.02	34.18	34.47
Oil & Gas	23.90	3.30	0.50	-4.51	-4.54	-6.19	0.45	4.56
Others	3.40	23.61	9.80	11.03	11.22	10.65	9.18	9.13

 Table 5: Growth Rate of Sectoral Real GDP (%)

Note: * Figures are provisional

Source: National Bureau of Statistics (Cited in Sanusi, 2011)

2.4 Empirical Review

Most extant studies globally and within the national boundaries on the brink of this study found positive relationship between economic growth and sectoral credit allocation, which springs from banking reforms. These are few among many others:

Valev (n.d.) investigates the relationship between bank credit and investment and growth in the real economy, using panel data from the 14 economic sectors. Then, the study found that there is correlation between credit extensions and economic performance. Considering the second set of analysis using data from three (3) core sectors of the real sector, the study equally found positive relationship between bank credit and investment, which would subsequently translate to economic growth.

Ayadi *et al* (2013) explore the relationship between financial sector development and economic growth across the Mediterranean, using data covering the period of 1985 - 2009. The study found that credit to the private sector and bank deposits are negatively associated with growth, which in the authors' opinion, portend deficiencies in credit allocation in the region and suggest weak financial regulation and supervision.

Abou-Zeinab (2013) reviews patterns of bank credit allocation and economic growth in Sweden over the period of 1736 - 2012, and found that banking system exhibits tendency of reallocating bank credit toward service and trade activities for onward economic growth in the country.

The results of Granger causality test and estimated regression models conducted by Akpansung and Babalola (2012) indicate that private sector credit impacts positively on economic growth in Nigeria over the period 1970-2008. The study established that lending rate impedes growth, and recommends the need for more financial market development that favours more credit to the private sector to stimulate economic growth.

Bhusal (2012) investigates the impact of policy reforms on financial development and economic growth in Nepal, using exogenous break test, and time series data ranging from 1965 to 2009. The study could not establish positive relationship between bank domestic credit and economic growth. The study suggests that the finding might be due to some problems which inhibit the banking sector in the country, such as inadequate expansion of commercial banks and their branches in the rural non-monetized sector, non-performing loans that discouraged credit allocation, among others.

Were *et al* (2012) investigate the impact of access to bank credit on the economic performance of key economic sectors using sectoral panel data for Kenya. The study found a positive relationship between bank credit access and sectoral gross domestic product measured as real value added. Also, they found that provision of private sector credit to key economic sectors of the economy holds great potential to promoting sectoral economic growth. The study emphasizes on financial deepening and intermediation, as of utmost importance in providing real sector with credit facilities.

Fafchamps and Schundeln (2011) investigate whether firm expansion is affected by local financial development in Moroccan manufacturing enterprises from 1998 to 2003, using regression analysis test. The study found that local bank availability is robustly associated with faster growth for small and medium size firms in sectors with growth opportunities. Avinash and Mitchell-Ryan (2009) investigate the impact of the sectoral distribution of commercial bank credit on economic growth and development in Trinidad and Tobago. The study employs Vector Error Correction Model to ascertain the relationship that exists between credit and investment. The study found that credit and growth tends to demonstrate a demand following relationship, while further analysis revealed a 'supply leading relationship between credit and growth within key sectors of the non-oil economy.

Nazmi (2005) studies the impact of deregulation and financial deepening on the real sector, using general equilibrium model to analyze data from four (4) Latin America countries, for the period covering 1960 – 1995. The study found that deregulation and a more developed banking sector prompt firms to increase the capital intensity of production, mostly, portends rapid economic growth.

Toby and Peterside (2014) in their study analysed the role of banks in financing the agriculture and manufacturing sectors in Nigeria for the period of 1981-2010. The study found that increment in availability of credit to those sectors, which are inclusive in the real sector of the economy, has potential of increasing Gross Domestic Products (GDP). Thereby, the study recommended mandatory credit allocation to real sector of the economy.

Abubakar and Gani (2013) in their study on impact of banking sector development on economic growth, using Vector Error Correction Modelling (VECM) with data covering the period of 1970 - 2010, found a negative relationship between credit to the private sector and economic growth, due to unfavourable feat of credit going into real sector. The study emphasized on financial deepening towards real sector.

Imoughele et al (2013) carried out a study on the impact of commercial bank credit accessibility and sectoral output performance in Nigeria economy for period of 1986 to 2010, using OLS techniques. The study found that cumulative supply and demand for credit in the previous period has direct and significant impact on the growth of agriculture, manufacturing and the service sector output. The study attributed the development to the importance of credit facility as an input in the production process and persistent inflow to the manufacturing, agriculture and services sectors. The study further encourage continuous credit accessibility in a deregulated financial market economy as it has the capacity to induce the national real sector outputs, which would subsequently result to economic growth and development./ Obilor (2013) empirically investigated the impact of commercial banks' credit to agricultural sector under the Agricultural Credit Guarantee Scheme Fund in Nigeria. The study found that joint action of commercial banks credit to the agricultural sector, agricultural credit guarantee loan by purpose, government financial allocation to agricultural sector and agricultural products prices are significant factors that can influence agricultural production in the country. The study recommends that farmers should be encouraged to be applying for loans from participating banks to enhance agricultural activities and productivity.

Ikenna (2012) studied the long and short run impact of financial deregulation and the possibility of a credit crunch in the real sector, using Autoregressive Distributed Lag (ARDL), and time series data ranging from 1970 - 2009. The study found that deregulating the Nigerian financial system had an adverse effect on the credit allocation to the real sector in the long run and in the short run. The study suggested mandatory credit allocation even in the long run as of utmost necessity as it had started with the latest banking reform.

Omankhanlen (2012) examined the financial sector reforms and its effect on the Nigerian economy from 1980 – 2008, using OLS method. Financial intermediation was found to be necessary condition for stimulating investment, raising productive capacity and fostering economic growth.

Fadare (2010) investigated the effect of banking sector reforms on economic growth in Nigeria over the period of 1999 – 2009, using OLS regression technique. The study found that interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate, size of banking sector, capital and cash reserve ratios account for a very high proportion of the variation in economic growth in the country.

Tomola et al (2010) investigated the effect of bank lending and economic growth on the manufacturing output in Nigeria, using time series data covering the period of 36 years. They also employed co-integration and vector error correction model (VECM) techniques to analyse the data. It was found that manufacturing capacity utilization and bank lending rates significantly affect manufacturing output in Nigeria. The study recommended that policies that would foster investment friendly lending and borrowing by the financial institutions should be put in place by the appropriate authority.

Nwanyanwu (2009) investigated the role of bank credit in economic growth of Nigeria. The study found that bank credit did not exhibit positive relationship towards economic growth. The study claimed that this was due to apathy exhibited in lending to the private sector for productive purposes. The study recommended that the regulating body such as Central Bank of Nigeria (CBN) should adopt a direct credit control that will be beneficial to the real sector of the economy, which is the latest reform in the banking sector, where there is mandatory credit allocation to critical sectors of the economy.

3. Analytical Methodology

Under the ongoing reforms in the banking sector, the Central Bank of Nigeria is adopting a direct and mandatory credit allocation to critical sectors of the economy that have direct impact on the real sector of the economy. Consequently, an assessment of the implication of the reforms on sectoral credit allocations and hence economic growth is anchored on a time-series data collected from 2004 to 2012, compiled from various issues of the Central Bank of Nigeria (CBN) Annual Reports and Statistical Bulletins, National Bureau of Statistics (NBS), and other relevant sources. The data required includes credit allocations to different activity sectors of the Nigerian economy and real gross domestic product during the specified period. Thus, using log transformation we specify that:

 $lnRGDP_{t} = \alpha_{0} + \alpha_{1} lnAGR_{t} + \alpha_{2} lnMIQ_{t} + \alpha_{3} lnMFT_{t} + \alpha_{4} lnCOMN_{t} + \alpha_{5} lnOLG_{t} + \varepsilon_{t}$ (1)

Where:

 $lnRGDP_t$ = Natural log of Real Gross Domestic Product, a proxy for economic growth; $lnAGR_t$ = Natural log of credit allocation to Agricultural activities; $lnMIQ_t$ = Natural log of credit allocation to Mining & Quarrying sub-sector; $lnMFT_t$ = Natural log of credit allocation to the Manufacturing sub-sector; $lnCOMN_t$ = Natural log of credit allocation to the Communication sub-sector; lnOLG = Natural log of credit allocation to the Oil and Gas sub-sector; ε_t = White noise error term, with the usual stochastic assumptions.

The Ordinary Least Square (OLS) technique was employed to obtain the numerical estimates of the coefficients of the equation. The OLS technique was used because Gauss-Markov theorem indicates that the least squares technique provides the best linear unbiased estimator, with which straight line trend equations could be estimated. This version of the straight line trend model has been used by Omole (1993) and Adam (1998) and Iganiga (2010), with good results to conduct a financial appraisal of the Nigerian financial market. The resulting estimated model was assessed based on both economic and statistical/econometric inferences.

A priori Expectation: $\alpha_0 > 0$, $\alpha_1 > 0$, $\alpha_2 > 0$, $\alpha_3 > 0$, $\alpha_4 > 0$, $\alpha_5 > 0$

4. Empirical Findings and Analysis

The behavior and characteristics of the time-series data were first examined by plotting the variables against time. They are displayed in Figure 2: Credit allocation to the different activity sectors are found to have increased and/or decreased over the years.



4.1 Summary Statistics

The summary statistics of the dependent and independent variables used in the study are shown on Table 6. The least sectoral credit allocation during the period of the study (2004 - 2012) was for agricultural activities. It averaged N139.699 billion and varied between N48.5600 and N316.360 billion with a standard deviation of about 91.8851. This was followed by sectoral credit allocation to manufacturing sub-sector, which averaged N739.219 billion and varied between N332.110 and N1068.34 billion. The highest sectoral allocation went to Oil and Gas sub-sector, with a mean allocation of N1310.97 billion, varying between N277.530 billion and N2116.63.

Summary Statistics, using the observations 2004 - 2012						
Variable	Mean	Median	Minimum	Maximum		
AGR	139.699	128.410	48.5600	316.360		
MIQ	814.259	846.940	131.060	1771.49		
MFT	739.219	932.800	332.110	1068.34		
CMN	839.164	821.020	375.730	1304.85		
OLG	1310.97	1574.71	277.530	2116.63		
GDP	689998.	672203.	527576.	888893.		
Variable AGR	Std. Dev. 91,8851	C.V. 0.657737	Skewness 0.880238	Ex. kurtosis -0.404656		
MIQ	583.400	0.716479	0.196766	-1.26470		
MFT	323.227	0.437254	-0.239836	-1.81203		
CMN	363.993	0.433756	-0.0550324	-1.44701		
OLG	710.175	0.541719	-0.383411	-1.44343		
GDP	124331.	0.180190	0.284392	-1.17295		

The correlation matrixes of the variables used in the study are shown in Table 7. It shows that all the variables are positively correlated with real gross domestic product. This implies that credit allocation to the different activity sectors during the banking sector reform period generally improved Nigeria's economic performance.

Correlation coefficients, using the observations 2004 - 2012 5% critical value (two-tailed) = 0.6664 for n = 9								
AGR	MIQ	MFT	CMN	OLG	GDP			
1.0000	0.8703	0.7270	0.6190	0.5164	0.9036	AGR		
	1.0000	0.9490	0.5941	0.8029	0.9747	MIQ		
		1.0000	0.6697	0.9054	0.9127	MFT		
			1.0000	0.7288	0.6155	CMN		
				1.0000	0.7333	OLG		
					1.0000	GDP		

Table 7: Correlation Matrix of the Variables

Source: Authors' computation

4.4 Empirical Results

The regression results based on Ordinary Least Square (OLS) estimating technique is shown in Table 8. It shows that the coefficients of the intercept term, mining & quarrying, and communication are rightly signed (positive); while those of agriculture, manufacturing and oil & gas are wrongly signed (negative). However, the coefficients of mining & quarrying and oil & gas are found to be statistically significant at 0.05 level, as adjudged by their p-values of 0.06371 and 0.09228, respectively. The implication here is that within the recent banking sector reforms period, a one (1) percent increase in credit allocation to the mining & quarrying subsector improved economic growth by about 0.524398 (or 52.4) percent, while a similar one (1) percent increase in credit allocation to the oil & gas subsector retarded economic performance by about 30.6 percent. The result further shows that about 98.4 percent of the variations in the country's gross domestic product were accounted for by the credit allocation to the various activity sectors included in the study. The goodness of fit of the regression remained robust and low even after adjusting for degree of freedom (df) as indicated by the adjusted R² (0.958037), implying that the actual impact of the explanatory variables on economic growth was 95.8 percent.

The F-statistic (37.52857) indicates that the parameters are jointly significant at one (1) percent level as indicated by its probability value (0.006608). This further confirms the significance of the goodness of fit (R^2) of the model,

as high values of F- statistics would suggest significant relationship between economic growth and the included activity subsectors of the economy. The Durbin – Watson statistics of 1.976450 (\approx 2.000) indicates that there is somewhat no problem of autocorrelation.

The fact that the computed Durbin-Watson statistic (1.976450) in Table 5 is greater than R^2 value (0.984264) indicates that the model is not spurious or nonsensical and hence can be used for policy decisions. The Log-likelihood for GDP was -98.9626 while p-value was highest for variable, excluding the constant.

	- -	<i></i>		
Variable	Coefficient	Std. Error	t-ratio	p-value
Const	13.3606	0.647623	20.6301	0.00025***
logAGR _t	-0.106271	0.0974437	-1.0906	0.35521
logMIQ _t	0.524398	0.182298	2.8766	0.06371*
logMFT _t	-0.190179	0.169593	-1.1214	0.34379
logCOMN _t	0.0919024	0.0910626	1.0092	0.38721
$logOLG_t$	-0.306316	0.125402	-2.4427	0.09228*
Mean dependent var	13.43012		S.D. dependent var	0.179349
Sum squared resid	0.004049		S.E. of regression	0.036740
R-squared	0.984264		Adjusted R-squared	0.958037
F(5, 3)	37.52857		P-value(F)	0.006608
Log-likelihood	21.90843		Akaike criterion	-31.81686
Schwarz criterion -30.63351		Hannan-Quinn	-34.37052	
Rho	-0.088939		Durbin-Watson	1.976450

Table 8: Regression Results

Method: OLS, using observations 2004-2012 (T = 9) Dependent variable: Log RGDP

(*), (***) indicate statistical significance at 0.05 and 0.01 levels respectively

5. Summary and Conclusions

This study has examined the implication of the recent and ongoing banking sector reforms in Nigeria on sectoral credit allocations and hence economic growth using time-series data collected from 2004 to 2012. Despite the fact that the number of commercial banks in the country reduced drastically during the period, the banking sector retained reasonable asset values and extended credits to the various activity sectors in the Nigerian economy, ultimately, facilitating its role of financial intermediation. Household deposits level and financial deepening also improved considerably over the specified period.

Credit allocation to the activity sectors (agriculture, mining & quarrying, manufacturing, communication, and oil and gas) are found to have increased during the banking sector reforms period with the least being for agricultural activities, which averaged \$139.699 billion and varied between \$48.5600 and \$316.360 billion. The highest sectoral allocation went to Oil and Gas sub-sector, with a mean allocation of \$1310.97 billion, varying between \$277.530 billion and \$2116.63. Credit allocations to the different activity sectors during the banking sector reform period generally improved Nigeria's economic performance.

The Ordinary Least Square (OLS) technique was employed to obtain the numerical estimates of the coefficients of the regressed equation. The coefficients of mining & quarrying and oil & gas are found to be statistically significant at 0.05 level. One (1) percent increase in credit allocation to the mining & quarrying subsector improved economic growth by about 52.4 percent, while a similar one (1) percent increase in credit allocation to the oil & gas subsector retarded economic performance by about 30.6 percent. Generally, about 98.4 percent of the variations in the country's gross domestic products were accounted for by the credit allocation to the various activity sectors included in the study. The estimated model was not spurious or nonsensical and hence can be used for policy decisions.

On the basis of our findings, we recommend that the Central Bank of Nigeria should continue with its banking sector reforms and encourage substantial credit allocation to the prioritized activity sectors. Particularly, the small scale enterprises and the rural businesses should be supported with more credit, to help promote employment generation. The economy's human capacity should be built and upgraded based on new challenges and opportunities, while other agencies and policies in the system should be closely synergized and coordinated. These would ultimately boost rural areas and ensure sustainable economic growth and development in the country.

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