# Sectoral Allocation of Banks' Credit and Economic Growth in Nigeria

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**Abstract**

The study investigates the impact of sectoral allocation of Deposit Money Banks' loans and advances on economic growth in Nigeria during intensive regulation, deregulation and guided deregulation regimes. Regression analysis of the ordinary least square method is performed for each of the three regimes. The results show that only the credit allocated to government, personal and professional have significant positive contributions on economic growth during the intensive regulation. However, bank credits generally do not contribute significantly to economic growth during deregulation. Introduction of guided deregulation appears to be a success as commercial bank's loans and advances to production and other subsector are both positive and significant in determining growth. Based on the empirical findings, Nigerian deposit money banks should be more favourably disposed to extending more credits to production and other subsectors namely agriculture, manufacturing, mining and quarrying, real estate and construction, government, personal and professional at reasonable interest rate. Finally, monetary authorities should ensure the continuance of guided deregulation as opposed to intensive regulation or total deregulation.

**Keywords:** Deposit Money Banks; loans and advances; credit allocation; economic growth; deregulation.

## 1. Introduction

Economic development is aimed at improving the productive capacity of an economy by using available resources to reduce risks, eliminate bottleneck which could heighten costs and hinder investment. The important role of intermediation through bank financial intermediaries in promoting economic growth cannot be overemphasized. Financial

institutions notably banks act as middlemen between various sectors of the economy and by so doing stimulate high level of specialization, expertise, economies of scale and a conducive environment for the implementation of various economic policies of government (Sanusi, 2011).

Prior to financial sector reform in Nigeria, the repression of the sector was evident in interest rate control, credit ceiling, directed credit, high reserve requirement and other direct monetary control instruments. Argument against repression informs a comprehensive reform of financial sector in 1987 as a component of Structural Adjustment Policy in 1986. Deregulation regime lasted till 1995 and 1996 till date is termed guided deregulation regime. Whether intensive regulation, deregulation or guided deregulation; the likes of McKinnon (1973) and Shaw (1973) noted that the efficiency of financial intermediation is affected by regulatory regime at a point in time. Deregulation involves a regulatory framework that permits the development of competitive system where consumers are served at reasonable cost. In other words, it is believed that liberalization allows for a market driven intermediation which leads to competition and efficient allocation of credit to sectors that are better able to use it productively.

This study intends to determine the relative impact and significance of sectoral allocation of commercial bank's loans and advances to production, general commerce, services and other sectors on economic growth with reference to three regulatory regimes namely intensive regulation (1960-1985), deregulation (1986-1995) and guided deregulation (1996-2010) regimes. Ogege and Boloupremo (2014) in a similar study covered the period between 1973 and 2011 while Akujuobi and Chimaijemr (2012) examine credits to production sector only.

## 2. Literature Review

Many economists have stressed that banks as a major component of financial system, provide linkages for the different sectors in order to ensure the attainment of the macroeconomic objective of government. A bank is a financial intermediary that accepts deposit from customers and channels the amount mobilized to borrowers in the form of loans and advances. Bank credits represent the amount of loan and advances to individuals and organizations from banking system. Production sector as used is a generic name for organizations in agriculture, manufacturing, mining and quarrying, and real estate and construction. General commerce covers companies involved in bill discounting, domestic trade, import and export. Service sector comprises of public utilities, transport and communications and credit financial institutions while others consists of government, personal and professional and miscellaneous.

According to Schumpeter (1911), the role of financial intermediation is central to economic development. The financial intermediation role of the banking system affects the allocation of savings, thereby improving productivity, technical change and the rate of economic growth hence played a pivotal role in economic development (Sanusi, 2011). "The banker stands between those who wish to form new combinations and the possessors of productive means. He is essentially a phenomenon of development, though only when no central authority directs the social process. He makes possible the carrying out of new combinations, authorises people, in the name of the society as it were, to form them. He is the ephor of the exchange economy." (Schumpeter, 1934) as quoted in Sinha (2001). Financial intermediation theory first formalized by Goldsmith (1969), McKinnon (1973) and Shaw (1973), describes financial market as playing the central role in economic development. They attribute differences in economic growth experienced in different countries to the quality and quantity of services

provided by financial institutions. McKinnon argues that complimentarity exists between money and physical capital and it is manifest in money demand. Shaw argues that efficient financial intermediation consequent to financial deregulation stimulates incentive to save, as well as investment as a result of rising supply of credit (Nnanna, Englama and Odoko, 2004). Summarily, deregulation ensures competition and efficient allocation of credit to sectors that are better able to use it productively

Toby and Peterside (2014) in a study covering 1980 to 2010 use descriptive and inferential statistics. The descriptive results show that Nigeria's commercial and merchant banks are more active in financing manufacturing than agriculture even though the later contribute more to GDP. Investigating intermediation role of banks on economic growth in Nigeria, Ogege and Boloupremo (2014) employ ADF, johansen cointegration and ECM. The study concludes that only credit allocated to production sector is having a significant positive effect on growth even though the report in table 3 shows the variable is not significant but credits to other sector is. Akujuobi and Chimaijemr (2012) examine the effect of commercial bank credit to the sub sectors of the production on growth between 1960 and 2008. The study confirms long run relationship and while credits to agriculture, forestry and fishery, manufacturing, mining and quarrying and real estate and construction are negative and insignificant, credit through the mining and quarrying sub-sector have significant positive contribution on growth. From the inferential results, it is evident that a significantly weak and strong correlation exists between commercial bank and merchant bank lending respectively and agricultural sector's contribution to GDP. Uzomba, Chukwu, Jumbo and Nwankwo (2014) investigate the impact and the determinants of Deposit Money Banks' loans and advances granted to agricultural sector in Nigeria from 1980 to 2011. Multiple OLS regression, Stationarity Test, Co-integration test, Parsimonious Error Correction Mechanism and Granger Causality Test are employed. The study concludes that there is positive impact of deposit money banks' loans and advances on the agricultural sector. Ebi and Emmanuel (2014) investigate the impact of commercial bank credit on Nigeria industrial subsectors between 1972 and 2012. Using Econometric Error Correction Model (ECM) and conclude that, an increased bank credit to industrial sector is significant in determining industrial sector growth in Nigeria. Yushau (2011) compare accessibility to financing by small entrepreneurs before and after the bank reform using primary and secondary sources. The study concludes that informal institutions are better able to meet the financial need of entrepreneurs than formal whose conditions are stiff.

Nwaeze, Michael and Nwabekee (2014) explore the extent to which financial intermediation impact on the economic growth in Nigeria during 1992 to 2011. Relying on Ordinary Least Squares (OLS) regression technique, they conclude that both total bank deposit and total bank credit exert a positive and significant impact on the economic growth in Nigeria for the period. Also, the values of GDP per capital (PCY), Financial Deepening (FSD), Interest Rate Spread (IRS) and negative influence of Real Interest Rate (RIR) and Inflation Rate (INFR) have positive influence on the size of private domestic savings while the lagged values of total private savings, private sector credit, public sector credit, interest rate spread and exchange rates relate positively with economic growth. Orji (2012) submits using Distributed Lag-Error Correction Model (DL-ECM) and Distributed Model. Ekpenyong and Acha (2011) examine the contribution of banks to economic growth using correlation analysis, regression, diagnostic tests, Augmented Dickey-Fuller test and cointegration. While Nigerian banks are not contributing significantly to economic growth, there is Positive and significant impact of private sector credit on growth. Obademi and Elumaro (2014) re-examine the financial

repression hypothesis in order to determine the impact and direction of causality between banks and economic growth during intensive regulation, deregulation and guided deregulation regime. Ordinary least square regression and Causality test conclude that banks have significant positive impact on growth in Nigeria especially during deregulation. Nevertheless, banks appear to be passive to growth in terms of causality. Nwakanma, Nnamdi, and Omojefe (2014) evaluate the long-run relationship and the directions of prevailing causality between bank credits to the private sector and the nation's economic growth. The study conclude based on the Autoregressive Distributed Lag Bound (ARDL) and Granger Causality that bank credits have significant long-run relationship with growth but without significant causality in any direction. Ogege and Shiro (2013) in a study covering 1974 to 2010 use co-integration and error correction model, discover a long-run relationship and conclude that commercial credits contribute positively to growth but it is significant in the long run. Shittu (2012) examines the impact of financial intermediation on economic growth in Nigeria between 1970 and 2010 using the unit root test and cointegration test and the error correction model. The paper concludes that financial intermediation notably deposit mobilisation is significant in determining economic growth in Nigeria. Nwaru and Okorontah (2014) investigate banks credit versus output and conclude that credit to the private sector is positive but insignificant and that real output causes financial development, but not vice versa. Mamman and Hashim (2014) examine the impact of bank lending on economic growth in Nigeria for the period 1987 to 2012. The study employs multiple regression models and concludes that bank lending is significant in determining growth. In a similar study from 1992 to 2012 using the same method, Yakubu and Affoi (2014) conclude that the commercial bank credit has significant positive impact on the economic growth in Nigerian.

## 3. Research Method
### 3.1 Data and Data Sources
This study covers a period of fifty-two years divided into three regulatory regimes namely intensive regulation (1960-1985), deregulation (1986-1995) and guided deregulation (1996-2010) regime. Data used for this study were obtained from bulletin published by the Central Bank of Nigeria. The explained variable which is the economic growth is proxy by gross domestic product, while the explanatory variables are commercial bank credit to production, general commerce, service and other sectors.

### 3.2 Estimation Technique
The ordinary least square regression technique is used to estimate the impact of banks credit allocation on economic growth with the aid of E-view 7 statistical package. Three different regressions are performed for each of the three regimes under consideration. The statistical significance of the regression model and the reliability of the predictors were determined using F-test and standard error test.

### 3.3 Model Specification
This study adopts Ogege and Boloupremo (2014) model. The regression model is specified as follows:
$$RGDP = f(PROD_t, COMM_t, SERV_t, OTHE_t, U) \dots\dots\dots\dots\dots\dots\dots\dots (I)$$
Presenting equation 1 in explicit form:
$$RGDP = \beta_0 + \beta_1 PROD_t + \beta_2 COMM_t + \beta_3 SERV_t + \beta_4 OTHE_t + U \dots\dots\dots (2)$$
Where:

RGDP    = gross domestic product
PROD    = commercial banks loans and advances to production sector
COMM = commercial banks loans and advances to general commerce
SERV = commercial banks loans and advances to services
OTHE = commercial banks loans and advances to others
U = stochastic error term
$\beta_0$ = constant and $\beta_{1-4}$ = coefficients of explanatory variables
t = time series
f = functional relationship

### 3.4 Expected Results

$\beta_{1-4} > 0$. We expect that the relationship between gross domestic product and commercial bank credit to production, general commerce, service and other sectors be positive. The signs of the estimated coefficients are thus expected to be greater than zero respectively.

### 4. Findings

Ordinary least square regression in table 4.1 shows that PROD, SERV and OTHE have positive impact on RGDP while COMM has negative effect. Putting all other variables aside, a unit rise in PROD, SERV and OTHE brings about 16.01169, 84.14861 and 9.214851 units rise in RGDP respectively while a unit rise in COMM leads to 38.10981 units fall in RGDP. None of the explanatory variables is statistically significant with the exception of OTHE. The variables however give about 93% explanation for fluctuation in RGDP and the model is fit considering the low probability value of F-statistic.

Table 4.1:
Regression Result for Intensive Regulation Regime (1960-1985)

| Variable | Coefficient | Std. Error | t-statistic | Prob. |
|----------|-------------|------------|-------------|-------|
| C | 1810.413 | 8882.256 | 0.203824 | 0.8405 |
| PROD | 16.01169 | 22.83181 | 0.701289 | 0.4908 |
| COMM | -38.10981 | 56.81613 | -0.670757 | 0.5097 |
| SERV | 84.14861 | 54.64827 | 1.539822 | 0.1385 |
| OTHE | 9.214851 | 2.712631 | 3.397016 | 0.0027 |

$R^2 = 0.9402$, Adj. $R^2 = 0.9288$, F-stat. = 83.56 (0.000000)

During deregulation, it can be seen from Ordinary least square regression in table 4.2 that PROD, SERV and OTHE maintain positive relationship with RGDP while COMM maintains its negative relationship. Putting all other variables aside, a unit increase in PROD, SERV and OTHE brings about 1.117201, 14.86486 and 1.076503 units increase in RGDP respectively while a unit rise in COMM leads to 2.623469 units reduction in RGDP. Putting the entire explanatory variable constant, a unit increase in other variables other than they leads to 199159.0 units increase in RGDP. None of the explanatory variables is significant in explaining RGDP during in deregulation regime and they can only explain 25.25% of the changes in RGDP. Also, the model is not fit statistically considering very high F-statistic probability.

Table 4.2:
Regression Result for Deregulation regime (1986-1995)

| Variable | Coefficient | Std. Error | t-statistic | Prob. |
|---|---|---|---|---|
| C | 199159.0 | 32202.99 | 6.184487 | 0.0016 |
| PROD | 1.117201 | 4.893261 | 0.228314 | 0.8284 |
| COMM | -2.623469 | 18.39212 | -0.142641 | 0.8921 |
| SERV | 14.86486 | 21.00217 | 0.707777 | 0.5107 |
| OTHE | 1.076503 | 3.336694 | 0.322626 | 0.7600 |

$R^2$ = 0.5847, Adj. $R^2$ = 0.2525, F-stat. = 1.7599 (0.2736)

In the guided deregulation era, Ordinary least square regression in table 4.3 reveals that PROD and OTHE maintain positive relationship with RGDP while COMM and SERV have negative relationship with RGDP. Putting all other variables aside, a unit increase in PROD and OTHE brings about 0.213638 and 0.019247 units increase in RGDP respectively while a unit rise in COMM and SERV leads to 0.072852 and 0.098303 units decline in RGDP respectively. Putting all the explanatory variable constant, a unit increase in other variables other than they leads to 319787.0 units increase in RGDP. C and PROD have statistically significant impact on RGDP considering very low probability value. SERV and OTHE are equally significant at 10% probability while COMM is not significant. Adjusted $R^2$ is relatively high showing that about 92% of the variation in RGDP can be explained by PROD, COMM, SERV and OTHE. The overall model is also statistically significant considering F-statistic 45.50 with a probability value 0.00000.

Table 4.3:
Regression Result for Guided Deregulation Regime (1996-2012)

| Variable | Coefficient | Std. Error | t-statistic | Prob. |
|---|---|---|---|---|
| C | 319787.0 | 22021.72 | 14.52144 | 0.0000 |
| PROD | 0.213638 | 0.033878 | 6.306024 | 0.0001 |
| COMM | -0.072852 | 0.091438 | -0.796731 | 0.4425 |
| SERV | -0.098303 | 0.047959 | -2.049722 | 0.0650 |
| OTHE | 0.019247 | 0.010024 | 1.920006 | 0.0812 |

$R^2$ = 0.94301, Adj. $R^2$ = 0.922287, F-stat. = 45.50441(0.00000)

## 5. Discussion and Recommendation

In the pre-deregulation, there was large presence of government in the financial system. Most of the banks were government owned and concentrate in the financing of government projects. Banks are favourably disposed to loans and advances to preferred sectors of the economy. Little wonder why the credit allocated to government, personal and professional and miscellaneous is the only one having significant positive contribution on economic growth during this regime

In the early period of deregulation (1987-1991), the allocation of credit to private sector improved relative to public sector but the wide divergence between saving and lending rate discourage saving, prevents borrowing, and lower investment and growth. Free entry leads to rising number of banks majority of which were undercapitalized and competition could not keep interest within reasonable limit. This period is also characterized by bank distress in the

1990s, inflation and macro economic instability; hence bank credit could not contribute significantly to economic growth.

Considering the role of banks in the development of every economy through the mobilization of resources for productive investments, no government across the world could afford to leave the sector entirely to market force. Ojo (2010) noted that banks would operate in a highly inflationary manner if they were free of official control. Introduction of guided deregulation appears to be a success as commercial bank's loans and advances to production subsectors and credit allocated to other subsector do not only have positive but significant impact on growth. This is in consonance with the expected results and consistent with the findings of Ogege and Bloupremo (2014). It is surprising that credit to general commerce which covers companies involved in bill discounting, domestic trade, import and export as well as Service sector which comprises of public utilities, transport and communications are having negative impact on growth. This is at variance with the *a priori* expectation. Many of the companies in these sectors are either owned by foreigners and the indigenous firms cannot compete favourably with the foreign firms.

Based on the empirical findings, Nigerian deposit money banks should be more favourably disposed to extending more credits to production subsectors namely agriculture, manufacturing, mining, quarrying, real estate and construction. Also credit allocated to other subsector namely government, personal, professional at reasonable interest rate. Government should also provide enabling environment for companies in general commerce and service sector. Finally, monetary authorities should ensure the continuance of guided deregulation as opposed to intensive regulation or deregulation.

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