

## Has Post Consolidation of Deposit Money Banks Affected the Real Sector?

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### Abstract

Deposit money banks (DMBs) are believed to be the engine for real economic growth. DMBs are expected to adequately cover the funding gap of the real sector by government resulting from market shocks, especially in developing countries like Nigeria. In this light, this paper examined the effect of post consolidation activities of Nigerian deposit money banks on real sector development. The interactive influences of the Real Sector Gross Domestic Product (RSGDP) and other post consolidation variables like Commercial Banks Deposit (CBD), Credit to Private Sector as a percentage of GDP (CPGDP), Number of Banks Branches (NBB), Commercial Banks Capital (CBC) and proxy of Political Stability (POL) were measured. Analyzing time series data ranging from 1981-2014, the econometric results obtained from co-integration test, unit root test, causality test, over parameterization model and error correction model (ECM) revealed the following: (1) the existence of a significant longrun relationship among the variables and three co-integrating relationships at 1% level of significance; (2) there is convergence of the variables from the short run to the long run though with relatively low speed of adjustment; (3) there is a significant negative relationship between RSGDP and banks' deposit, credit to the private sector and number of branches but positive relationship with banks' capital and political stability. The paper thus concludes that the post consolidation activities of Nigerian DMBs have not sufficiently supported sustainable real sector development in Nigeria.

**Keywords:** Deposit money banks; Post consolidation; Real sector; Gross domestic product; Central Bank of Nigeria

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### Introduction

Over the years it has been argued in financial literatures that the banking sector and by extension the financial market have been the oil that lubricates the wheel of economic activities, growth and development of a nation. Studies have shown that the stability, resilience and robustness of the economy of any nation can be mirrored through its financial markets of which the deposit money banks occupy a pride of place. The intermediation role which cannot be performed efficiently and effectively by individual savers (depositors/lenders) as a result of market inefficiencies gave credence to the establishment of deposit money banks and other financial intermediaries with the capacity to absorb the information and transaction costs associated with direct financing. As a result of its all important position in a

nation's economic landscape it became necessary for successive governments and financial regulators to beam their searchlight on deposit money banks with a view to constantly repositioning them to compete favourably in the international market as well as gear up investor's confidence in them. It is against this background that the banking sector in Nigerian has gone through important structural and institutional transformation over a very long period. Topmost on the blue print of the Structural Adjustment Programme (SAP) of the then government was a complete overhauling and liberalization of the financial market. As opined by [1], the Nigerian banking sector has transited through gradual but consistent consolidation through recapitalization, mergers and acquisitions which translated into very few banks owning and holding a higher percentage of the total asset of the banking industry in Nigeria. In his public address, the CBN Governor, [2]

reiterated that "the vision for Nigeria's deposit money bank is to be among the league of transformational banks in the world that are resilient, have a competitive edge as well as dependable. The envisaged model banking system in Nigeria must be trusted and relied upon by depositors and investors alike". The risks in banks heavily depending on public sector deposits are that the resource base of such bank will be weak and volatile. The implications are that such bank operations will be subject to swings and uncertainties in government revenue especially as it relates to shocks in the international oil market and exchange rate as currently experienced in Nigeria. It was on this premise that the Central Bank of Nigeria prescribed a minimum capital requirement of N25 billion for any bank to operate in Nigeria. The deposit money banks were expected to raise their capital either by injecting fresh funds or entering into merger/acquisition arrangements with other relatively smaller banks thereby leveraging on the economies of scale to reduce operational cost as well as compete favourably in both the domestic and international financial market. As a result of the consolidation programme initiated by CBN, the number of deposit money banks operating in Nigeria reduced from 89 to 25 and subsequently to 23 with the merger of First Atlantic Bank and Inland Bank to form Fin Bank Plc as well Stanbic and IBTC bank to form Stanbic-IBTC bank. The licensing of Citibank Nigeria Limited however increased the number of banks operating in Nigeria back to 24 banks. The basis for driving the consolidation process in Nigeria has been by government intervention through restructuring rather than allow the market forces to determine which banks can stand the taste of time [3]. Overtime, the problem of bank distress in Nigeria has always been efficiently and effectively resolved through consolidation [1].

### Statement of research problem

Credit to the real sector has been identified as the only means by which an economy can grow and improve the standard of living of its citizens. It is on this premise that the CBN directs its consolidation efforts at stabilizing the financial system which in turn is used as a platform for improving growth in the real sector of the economy. This is so because "for an economy to remain globally sustainable and competitive, it must create jobs continuously in order to reduce poverty, as well as increase and sustain quality education and state-of the arts infrastructural facilities for its citizenry" [4]. Evidence have shown that the deposit money banks in Nigeria have not been maximizing its full potentials in real sector development and economic growth despite the huge support and incentives extended to them by the federal government. Statistics suggests that Nigeria banks contribute very little to Gross National Product (GNP) chiefly because of its high interest rates on lending, making credits inaccessible to the real sector. While the growth rate of credit often changes, the actual credit to the economy has failed to reflect how much the banking sector has contributed to the Gross Domestic Product (GDP). Result of the NDIC annual statement [5] on sectorial distribution of credit between 2011-2014 shows that a total of 13.19% was allocated to manufacturing; real estate received 4.64%; construction got 4.69%, agriculture and forestry was allocated 3.96%, transportation and storage received 2.87%; capital market got 1.81%; power and energy was allocated 3.91%

while education received 0.69%. The total credit allocation of deposit money banks between 2011 and 2014 to the real sector of the economy was less than 50 percent of the total allocation for the period under review; this is a clear departure of what obtains in other climes. The position seems however a little different from the public sector funding projections. The capital expenditure portion of the 2016 budget was increased from N557 billion in 2015 to N1.8 trillion in 2016 culminating to about 30% of the total budget channeled to capital development with the aim of creating jobs and stimulating growth in the real sector. While this giant stride by the present government seems plausible, the reality that steers us in the face still remains that the parameters upon which the budget projections were made still remain a mirage. For instance, in 2015 budget, oil price was benchmarked at 53 dollar per barrel with production capacity of 2.28 million barrel/day at an exchange rate of N190 to 1US dollar. However 2016 budget estimated oil price at 38 dollar per barrel with oil production capacity of 2.2 million barrels per day at an official exchange rate of N197/dollar. The real price of oil and the exchange rate as at today is not something to cheer about. Also given the incessant vandalization and destruction of oil pipelines and equipment by militants it becomes pretty difficult to achieve optimum production capacity. It is expected that the funding gap of the real sector by government resulting from the market shocks already explained should be adequately covered by the deposit money banks. It is against this background that this study investigated the effect of post consolidation of deposit money banks on the real sector of the Nigerian economy. The big question that follows is "has post consolidation of deposit money banks affected the real sector in practical terms? The research objective is to investigate the capacity of post consolidation deposit money banks to adequately fund the real sector of the economy. The research hypothesis stated in its null form is "Post Consolidation of DMBs do not affect the real sector of the Nigerian economy".

### Literature Review

There are three (3) basic theories on the effect of banking consolidation on the economic development namely: (i) The Pro-Concentration Theories; (ii) Pro de-concentration Theories and (iii) Supply-leading Theories. However this study will focus mainly on the pro-concentration and pro de-concentration theories. According to the pro concentration theorists "the main objective of merger and acquisition among banks is to increase concentration and enhance efficiency thereby culminating to economies of large scale of production and cost reduction [6]. The implication is that when concentration is reduced in the banking market, competition will be increased among banks. Advocates of the "concentration-stability" approach opine that the big banks have potentials to diversify better so that the banking systems with a few highly consolidated banks will be more resilient than banking system characterized with many small banks. Evidence has shown that highly consolidated banking systems may enhance profits and reduce bank distress. Increased returns provide a protection against negative market swings and boost the market (sales) value of the bank; this will in turn reduce the temptations for bank employees to take excessive risk. In addition, a few highly consolidated banks are easier to regulate than many small banks,

so that regulation and control of such banks will be more effective in a consolidated banking system. The pro-deconcentration school of thought is of the view that concentration of banks will lead to increase in the risk of bank portfolios. The proponents also argue that consolidation will boost market monopoly thereby exposing financial conglomerates to political interference culminating to reduced efficiency and destabilization of the financial systems. As banks metamorphose into very big financial giants, they remain untouchable by regulators and may even couch, influence and redirect banking regulation and policies to their favour. On the other hand, stiff competition among banks may generate unhealthy rivalry leading to unhealthy banking environment; oligopoly and incontestability in the banking system may result to inefficiencies. In concentrated banking systems, highly consolidated and politically connected big banks may take advantage of their size to assume higher risk since they can depend on government to cushion the effects of adverse market shocks that may weaken their solvency or profitability. In the same vein, big, politically influential banks may assist in shaping the policies and regulations affecting banking activities in ways that support banks, but not necessarily in ways that boost the overall economy.

### Review of empirical literature

Montoriol-Garrige found that consolidation of banks have significant impact on loan interest rate in their study, "how bank mergers and acquisitions affect the average interest rates of firms". The result of their finding showed that there is a significant positive effect of mergers for borrowers who maintained their relationship with the post-consolidated bank. Going by the result, consolidated banks were found to have the capacity to reduce loan interest and benefit more from the gains of consolidation especially where such merger involves two larger deposit money banks from the borrower point of view. Badreldin and Kalhoefer [7] studied how Egyptian banks that went through consolidation process during the period 2002-2007 had performed. Their result revealed that not all banks that went through merger and acquisition significantly increased in performance and returns, especially when compared with their pre-consolidation period. The study therefore concludes that merger and acquisition may not be responsible for any significant increase in the returns of banks in the banking sector in Egypt. In Malaysia, the story was different according to the study conducted by, the study showed that through re-organization and integration, commercial banks in Malaysia expanded their business operations beyond the normal or traditional banking services. The big banks leveraged on the economics of scale with its resultant constant return to scale, which is an important tool in achieving refined management efficiency and a formidable productivity change of the banking sector. Okafor [8] used the t-test statistics to evaluate the significant difference in banks performance between the pre and post consolidation era. The result showed a remarkable improvement in the performance of Nigerian banks using assets size, deposit base and capital adequacy as variables. The study therefore concludes that profit and asset utilization efficiencies declined since the consolidation program me ended.

In Chile, according to the study undertaken by [9] after the banking

reform, it was found that increase in the rate of economic growth experienced in Chile was responsible for the improvement by 4.8% in the average productivity of the banking sector. In the survey carried out, the small banks fell among the greater number of inefficient banks and contributed little to the improvement in economic growth. The studies by [10], found that banks that changed their portfolio from securities to loan achieved lower equity ratio and acquired funds that were not insured because they are raised at a reduced rate. Berger [11], in his study showed that improvement in portfolio diversification is a major catalyst that encourage institutional investors to make additional high risk investments with high expected return without increasing equity holding. It was observed that 19.2% of the total assets in the banking system as at June, 2004 was accounted for by marginal and unsound banks with 17.2% of total deposit liabilities, while industry non-performing assets was 19.5% of the total loans and advances [12].

### Method of Analysis

The data analysis technique adopted consists of an approach designed to capture the short-run and long-run relationship between the dependent and independent variables without spurious influences. A correlation analysis was ran for the variables, thereafter the Unit Root Stationarity test carried out on all the variables using Phillips Perron (PP). The Ordinary Least Square (OLS) method was used to estimate the parameters and determine significance of variables and Johansen Co-integration was used to establish long run relationship among the variables. Error Correction Method (ECM) was also used to ascertain the speed of adjustment of the model. Granger Causality test was carried out to establish the direction of causality among the variables of interest. The E Views 7.0 software package was used for all the analysis in this study [13-15].

### Error correction mechanism (ECM)

The ECM is a dynamic system with the characteristics that the deviation of the current state from its long run relationship will be fed into its short run dynamics. ECM is a category of multiple time series models that directly estimate the speed at which a dependent variable Y returns to equilibrium after a change in an independent variable X. ECM is a theoretically driven approach useful for estimating both short term and long term effects of one time series on another. The Error Correction Model for this study is specified below:

$$\Delta RSGDP_t = \beta_0 + \beta_1 CBD_{t-1} + \beta_2 CPGDP_{t-1} + \beta_3 CBB_{t-1} + \beta_4 CBCR_{t-1} + \beta_5 POL_{t-1} + \sum_{i=1}^p \beta_6 \Delta RSGDP_{t-i} + \sum_{i=0}^q \beta_7 \Delta CBD_{t-i} + \sum_{i=0}^q \beta_8 \Delta CPGDP_{t-i} + \sum_{i=0}^q \beta_9 \Delta CBB_{t-i} + \sum_{i=0}^q \beta_{10} \Delta POL_{t-i} + \beta_1 ECM_{t-1} + \varepsilon_t, \dots$$

Where:

RSGDP: is the real sector GDP which is the aggregate of agriculture and manufacturing sector output

CBD: Banks' deposit liability, banking sector recapitalisation is supposed to engender deposit mobilization meant for onward lending to the real sector.

CPGDP: Credit to the private sector as a percentage of GDP. This is expected to grow after the bank consolidation.

NBB: Number of banks' branches, as banks consolidate the number of bank branch is expected to increase to attend to the teaming population. If these branches are well sited it will facilitate real sector growth as a result of easy accessibility.

CBC: Banks' capital, this is the real focus of the bank consolidation exercise. With increase capital banks are expected to be able to enhance financial intermediation in the country.

POL: measure of political stability or instability (we used 1 for years of civil rule and 0 for years of military rule).

Where  $\Delta$  is the first-difference operator and  $\epsilon_t$  is a white-noise disturbance term.

Time series data range from 1981-2014.

## Empirical Results and Discussions

### Unit root results

The pre-testing result and the regression analysis of the variables are presented below (Table 1). The study utilized Phillips-Perron in the test for unit root as shown in Table 1 above. The Phillips-Perron test reveals that all the series except for LCPGDP was non-stationary at their levels. This indicates that LCPGDP was integrated at zero while other series LRSGDP, LCBD, LNBB and POL were not. This suggests the presence of a unit root in these series; hence the variables were differenced at first differencing to achieve a stationary trend process at order 1. Thus a co-integration test was employed to determine the existence of a long-run relationship among the variables included in the model equation and the result is shown in Table 2 below.

### Co-integration results

Since the over parameterized equation is not our main focus as we are more interested in the parsimonious model, we shall lay less emphasis in the interpretation of the above result (Table 3). The result of the over parameterized model above shows that included exogenous variables captures over 60 percent of the changes in real sector GDP as evidenced from the R-squared result. The model is found statistically different from zero with absence of autocorrelation. It could be observed here that the DMBs deposit lagged to period 3 has significant inverse relationship with real sector GDP. Hence it appears that banks' deposits does not encourage real sector GDP growth proxy of agriculture and manufacturing sector aggregate within the period considered in the study. Credit to the private sector as a percentage of GDP

and number of bank branches indicate a significant negative effect on real sector GDP. This further implies that despite the increase in credit to the private sector as a percentage of GDP it does not directly lead to a resultant increase in real sector output. Political stability provides significant evident in support of political atmosphere businesses operate under in the country. In other words the more stable the political system the higher the tendency for more real sector output. This confirms to economic expectation which suggest that a percentage increase in political stability increases the real sector output by 0.023962 leading to a corresponding increase in agriculture and manufacturing output (Table 4).

The statistical evidence from the R-squared result suggests that 55.67 percent of the changes in real sector output could be explained by the joint variation in the included exogenous variables of the model. The null hypothesis of the entire model statistical equivalent to zero significance cannot be accepted as evidenced from the F-statistic (3.588899) significant at 1 percent level. The presence of auto-co relational effect cannot be established with the model given the satisfactory evidence from the Durbin Watson statistic (1.623675) as shown above.

Analysis of the parsimonious shows that all the variables except for the lagged value of real sector GDP indicates significant relationship with real sector output. DMBs deposit provides significant result in support of an indirect relationship with real sector output and thus do not conform to a priori expectation. A percentage increase in DMBs' deposit shows a retarded effect of 0.026289 percent on real sector output. There is significant evidence in support of a direct relationship between commercial bank capital lagged to period one and real sector output. A critical investigation of the empirical result shows that a percentage increase in DMBs' capital will lead to a corresponding 0.07268 percentage increase in real sector output; unfortunately the banks are not using the capital to generate enough deposit for onward lending to the manufacturing and the agriculture sectors. The above result on DMBs' capital is positively signed and conforms to a priori expectations. The evidence from the estimated co-efficient of current credit to the private sector as a percentage of GDP indicates a significant impact on real sector output. Statistics shows that this variable had been on the increase until very recently. This could be further explained by the reason that increases in credit to the private sector as a percentage of GDP improved the agriculture and manufacturing sector output as shown in the statistics in recent time. The

Table 1 Phillips-Perron (Pp) unit root result.

Variables	PP Statistic		5% Critical value		Remark (Levels)	Remark (1 <sup>st</sup> Differencing)
	Level	1 <sup>st</sup> Difference	Level	1 <sup>st</sup> Difference		
LRSGDP	-0.370400	-4.436615	-2.960411	-2.963972	I(1)	I(1)
LCBD	-2.335208	-12.60065	-2.960411	-2.963972	I(1)	I(1)
LCPGDP	-3.080091	-12.19024	-2.960411	-2.963972	I(0)	I(1)
LNBB	-1.983839	-7.445611	-2.960411	-2.963972	I(1)	I(1)
LCBC	-0.359272	-4.821654	-2.960411	-2.963972	I(1)	I(1)
POL	-1.832072	-4.800978	-2.960411	-2.963972	I(1)	I(1)

Source; Authors' computation 2016

**Table 2** Johansen co integration result for impact of bank consolidation variables on real sector output model.

Unrestricted co Integration Rank Test (trace)				
Series: Lrsgdp Lcbd Lcpgdp Lcnbb Lcbc Pol				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.903858	239.3685	159.5297	0.0000
At most 1*	0.871698	169.1107	125.6154	0.0000
At most 2*	0.773455	107.5095	95.75366	0.0061
At most 3	0.519552	62.96517	69.81889	0.1558
At most 4	0.410375	40.97409	47.85613	0.1895
At most 5	0.343763	25.12605	29.79707	0.1570
At most 6	0.291540	12.48904	15.49471	0.1349
At most 7	0.069134	2.149201	3.841466	0.1426
Trace test indicates 3 co integrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Co Integration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.903858	70.25779	52.36261	0.0003
At most 1*	0.871698	61.60117	46.23142	0.0006
At most 2*	0.773455	44.54438	40.07757	0.0147
At most 3	0.519552	21.99108	33.87687	0.6083
At most 4	0.410375	15.84804	27.58434	0.6786
At most 5	0.343763	12.63701	21.13162	0.4862
At most 6	0.291540	10.33984	14.26460	0.1906
At most 7	0.069134	2.149201	3.841466	0.1426
Max-eigenvalue test indicates 3 co integrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level. **MacKinnon-Haug-Michelis (1999) p-values				

**Table 3** Over Parameterized Model Result Dependent Variable: D(Rsgdp).

Dependent Variable: D(RSGDP)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LRSGBP(-1)	-0.0271	0.03655	-0.7427	0.4678
LCBD	-0.0198	0.01172	-1.6926	0.1088
LCBD(-3)	-0.0414	0.01548	-2.6745	0.016
LCBC	0.01771	0.04524	0.3914	0.7004
LCPGDP	0.03646	0.03898	0.93547	0.3626
LCPGDP(-1)	-0.0768	0.07744	-0.9917	0.3353
LNBB	0.11476	0.11434	1.00368	0.3296
LNBB(-1)	-3.904	1.03318	-3.7786	0.0015
POL	0.02396	0.0089	2.69188	0.0154
ECM(-1)	-0.0527	0.01759	-2.9974	0.0081
C	14.1727	3.72296	3.80683	0.0014
R-squared	0.6024			
Adjusted R-squared	0.36851			
F-statistic	2.57563			
Prob(F-statistic)	0.04142			
Durbin-Watson stat	1.66326			

Source; Authors' computation 2016

increase credit to the private sector therefore increases the performance of the real sector in return. Further evidence from credit to the private sector as a percentage of GDP for the previous years had not supported real sector growth in the manufacturing and the agriculture sector, hence suggesting a significant inverse

**Table 4** Parsimonious model for impact of bank consolidation var. on real sector o/put.

Dependent Variable: D(LRSGBP)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LRSGBP(-1))	0.08172	0.15953	0.51224	0.6141
LCBD	-0.0263	0.00931	-2.8246	0.0105
D(LCBC(-1))	0.07268	0.03617	2.00932	0.0582
LCPGDP	0.07937	0.04351	1.82423	0.0831
LCPGDP(-4)	-0.1116	0.04558	-2.4482	0.0237
LNBB	-2.0289	0.76372	-2.6566	0.0151
ECM(-1)	-0.0281	0.01636	-1.7151	0.1018
C	7.75326	2.7388	2.8309	0.0103
R-squared	0.55676			
Adjusted R-squared	0.40163			
F-statistic	3.5889			
Prob (F-statistic)	0.01152			
Durbin-Watson stat	1.62368			

relationship between credits to the private sector lagged to the fourth period and real sector output significant at 5 percent level. A closer observation of co-efficient estimates of number of bank branch suggests an indirect relationship with real sector output. This implies that a percent increase in number of bank branch shows retarded effect of 2.028893 percent on real sector output thus do not show significant support for real sector growth over

the period of the study. This also implies that the banks' branches are not well sited or not efficiently run to support real sector output and growth. These are areas of concern for policy makers to ensure that bank branches are sited to engender real sector growth in the country. The significance of the error correction term in both the over parameterized model and the parsimonious model suggests that the variables are co-integrated and reveals a relatively low speed of adjustment (2.8 percent) of the short-run dynamics and long-run behavior of real sector growth (RSGDP) and the bank post consolidation variables for the parsimonious model.

## Conclusion and Policy Implication

The paper examined the effect of Deposit Money Banks in Nigeria post consolidation activities on the growth of the real sector

economy. The results established in the paper from econometric analyses do not support any resultant real economic growth from the post consolidation activities of the bank. Most of the results do not conform to a priori expectations which imply that the banks need to do more than just consolidate to meet the required capital or evolve as bigger banks. The positive relationship between Real Sector GDP (RSGDP) and banks' capital (CBD) suggests that greater increase in real sector output is achievable if the banks judiciously use their capital. Hence it is recommended that the banks should use their capital to generate enough deposits and lend more to the real sector i.e. onward lending to the manufacturing and the agriculture sectors. Thus, there will be higher percentage of the real sector credit to GDP and consequently the desired effect on the growth of the real economy would be achieved.

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