

Determinants of the Cost of Financial Intermediation in Nigeria's Pre-Consolidated and Post-Consolidated Banking Sector

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ABSTRACT

This study focuses on the determinants of the cost of financial intermediation in Nigeria's pre-consolidated and post-consolidated banking sector. It sought to assess the significance of the financial intermediation cost, and to suggest measures that could enhance economic growth in Nigeria. To achieve the objective of the research, some macroeconomic indicators in the Nigerian economy, using an ex-post facto research design was applied. The data were analyzed using the Ordinary Least Square (OLS) method. From the analysis, it was revealed that there was a significant relationship between credit to the private sector and gross domestic product in Nigeria. It was further discovered that there was a significant relationship between total deposit and gross domestic product in Nigeria. Interest rate was also found to have a significant effect on gross domestic product in Nigeria. Based on the findings, the study recommended that the Nigerian government should ensure that a component analysis of the real sector of the Nigerian economy be carried out, with a view of having a better understanding of the significant relationship between the loans to the private sector and the performance of the Nigerian economy through financial intermediation. Also, the Central Bank of Nigeria should adopt interest rate policy that will always boost the savings culture of the real sector. This can be achieved by increasing the interest rate paid to deposit made by individuals, local and foreign investors.

KEY WORDS: *Financial intermediation, consolidation, loanable funds, dishoarding.*

1.0 INTRODUCTION

Money as a store of value and medium of exchange, create different types of claims. Essentially, those who lend money, expect to be compensated for handling over their liquidity for a stated period of time to users of money. This compensation constitutes interest rates, which is often expressed as a rate per cent per annum (Nzotta, 2004). Financial intermediaries through the process of financial intermediation mobilize deposits from savers/depositors, and allocate credit facilities to borrowers/investors for economic productive investment. Economic development comprises of the activities of both the private and public sector, which need bank credit to expand and grow their businesses, but are constrained by the cost of bank credit facilities. However, increase in the cost of financial intermediation have adverse implications on the development of the Nigerian economy, as the private sector, which contributes a greater percentage to economic development

in Nigeria will primarily depend on bank credit as a source of financing their investment, due to the absence of a developed capital market (Nwite, 2014). This implies that the constant rise in interest rate or cost of financial intermediation discourages potential savings due to low returns on deposits. Thus, interest represents payments made by an individual, a firm or organization for money used or borrowed. It also constitutes the price for a loan or a measure of the percentage rate at which the current value of a debt grows over time, to equal the future payments. However, managing risk is an important function for business organizations dealing with money, which includes banks and non-bank institutions, thus, connoting the need for interest rate or cost of financial intermediation. (Obim, John & Orok, 2018).

Cost of financial intermediation is the gross difference between gross cost of loan paid by a borrower and the net return received by a saver or depositor. However, banks in the process of mobilizing and extending credit facilities (loans and advances) to both the private and public sectors of the economy incur financial intermediation cost. This is the financial resources provided by the banks (deposit money banks) to the non-financial private sectors. Bank credit to the private sector are extended in the forms of loans, purchases of non-equity securities, trade credits and other account receivables that establish a claim for repayments, which in turn, affects economic growth in Nigeria. Financial intermediation cost incurred by the banks in providing bank credit to the private sector businesses are transferred to borrowers and depositors as the spread between lending and deposit rates. This is because high lending rate is likely to discourage access to bank credit, while threaten the liquidity position of banks.

A financial intermediary is an institution that facilitates the channeling of funds between lenders and borrowers indirectly, that is, savers (lenders) give funds to an intermediation institution (such as a bank), and that institution gives those funds to spenders (borrowers). Andrew and Osuji (2013) state that financial intermediation involves the transformation of mobilized deposit liabilities by banks into bank assets or credits, such as loans and overdraft. This means that financial intermediation is the process of taking in money from depositors, and lending same to borrowers for investments, which in turn help the economy to grow. Efficient financial intermediation causes high level of employment generation and income, which invariably enhances the level of economic development.

However, the Nigerian banking sector has experienced a boom-and-bust cycle in the past 20 years. After Nigeria implemented the Structural Adjustment Programme (SAP) in 1986, and the Central Bank of Nigeria (CBN) deregulated the financial sector, new banks proliferated, mainly driven by attractive arbitrage opportunities in the foreign exchange market. But relative to the pre-deregulated period, financial intermediation never took off, and even declined in the 1980s and 1990s. With the bursting of the bubble during the early 1990s in a very volatile macroeconomic environment, Nigeria's banking was still characterized by a high degree of fragmentation and low levels of financial intermediation up to 2004. With increased banking concentration been detrimental to the spreads in pre-consolidated banking sector, thus, higher overhead costs led to increase of spreads, as well as cost of financial intermediation. For financial intermediation to aid development, there must be an efficient financial system. This means that financial intermediation mitigates the costs associated with information acquisition and the conduct of financial transactions through the level of lending rate and credit to private sector in accelerating development in an economy. Despite the removal of restrictions militating against efficient

financial intermediation through various financial reforms, lending rate has remained persistently high, while credit to private has remained low. Coincidentally, the specific objectives of this study are:

- i) To assess the effect of credit to private sector on gross domestic product in Nigeria;
- ii) To investigate the contribution of total deposit on gross domestic product in Nigeria;
- iii) To examine the effect of interest rate on gross domestic product in Nigeria.

For ease of comprehension, the study is structured into five sections. Section one is the introductory section, and delves into the general principles behind insurance and economic growth. Section two captures the theoretical considerations and literature review, while section three is the research methodology. In section four, data collected are presented, analyzed and interpreted for informed judgement. The remaining section of the study shows the summary of findings, conclusion and some managerial recommendations, derived from the discussions.

2.0 LITERATURE REVIEW AND THEORETICAL UNDERPINNINGS

2.1 THEORETICAL FRAMEWORK

There are various theories that governed the activities of cost of financial intermediation and economic growth. These approaches include the loanable funds theory, liquidity preference theory and the general equilibrium theory.

2.1.2 THE LOANABLE FUNDS THEORY

This theory, also called the classical theory, believes that interest rates are determined by the supply and demand for loanable funds. According to Jombo (2005), the loanable funds theory of interest rate determination state that the prevailing rates of interest at any one time represents an equilibrium price at which the demand for credit from those who prefer to have the goods now, will equal the supply of loanable funds to those who prefer to have the interest.

It involves the linking of interest rates with savings, dishoarding and bank money on the supply side. Generally, businessmen and investors demand for loanable funds to finance their productive activities. Usually, they would wish to finance the expansion of their factories, acquire new productive facilities, machinery and plant and other real assets. These investments increase the level of their output, and thus, sustain real growth in the economy, as measured by the gross domestic product (Nzotta, 2004). Households and individuals would also wish to meet their consumption needs. Here, they may sometimes demand for loanable funds to finance consumer goods. The government also demands for loanable funds to enable them finance their budget deficits. In situations where government expenditures in a given period exceed the revenues during the same period, a budget deficit usually results. This deficit situation sustains a demand for loanable funds by the government.

On the other hand, the monetary authorities influence the level of money supply in the economy, in an attempt to achieve various macroeconomic objectives. The control of money supply affects

the ability of banks to create new credits. Thus, the supply of loanable funds is constrained through this process. Households and businesses also supply loanable funds through their accumulated savings. These individuals and businesses represent surplus units. The surplus funds they possess are mobilized by financial intermediaries (banks and non-bank financial institutions) through an intermediation process. These funds are then channeled into productive avenues. Thus, these surplus units basically are the main sources of loanable funds in the financial markets.

2.1.2 THE LIQUIDITY PREFERENCE THEORY

The liquidity preference theory of interest rate determination was enunciated by Keynes. This theory seeks to explain the level of interest rates with regards to the interaction of two important factors:

- The supply of money.
- The desire of savers to hold their savings in cash or near cash - their liquidity preference.

Keynes explicitly rejected the postulations of the classical theory which posits that savings and investments are always equated by interest rates. He rather postulated:

- (a) That if no interest is payable on savings, then households are likely to hold their savings in cash.
- (b) That the higher the level of interest, the more people would be prepared to forgo liquidity, and thus, more loanable funds would be available. Here, interest rates are the reward for not holding cash.

It is apparent from the above that various households and income earners are faced with two important decisions; to consume or to save, and what form to hold savings (cash balances or bonds). Essentially, cash balances do not yield interest and has no risk, while bonds are associated with two basic risks; the risk of default and money rate risk. According to Woods (1980), money risk refers to risk that market yields may rise (bond prices fall), thereby causing bondholders to lose principal, if the bond has to be sold before maturity. In other words, Keynes believes that the price of bonds would usually rise, as interest rate fall, and fall, as interest rise. Also, not all savings will be directly invested so that the rate, which clears the bond market, will not necessarily establish equilibrium between savings and investments.

However, Keynes further posits that the determinants of interest rates will be found in the money market, and these are basically the supply of money and the also the demand for money. The supply of money is exogenously determined, while the demand for money depends on the three motives for holding money. These motives according to Keynes include:

- The transactions demand
- The precautionary demand
- The speculative demand

2.1.3 THE GENERAL EQUILIBRIUM THEORY

The general equilibrium approach is associated with the synthesis of the monetary and real sector as propounded by John Hicks. This model was popularized by Alvin Hansen, and later became known as the Hicks-Hansen synthesis (Nzotta, 2004).

The general equilibrium theory states that interest rates depend on the forces of both the monetary and real variables, and not on either of the two. Here, general equilibrium involves both the monetary sector, while savings and investments will be equal in the real sector. Thus, at equilibrium; Savings (S) = Investment (I) in the sector. On the other hand, Money Supply (MS) = Money Demanded (MD) in the monetary sector. Thus, at equilibrium, the monetary sector and the real sector must be at equilibrium. In other words, the equilibrium rate of interest will be one at which the above two conditions exist, and are satisfied simultaneously. This means that only a combination of the Keynesian and the Classical views will lead to the determination of the unique interest rate.

The Hick-Hansen synthesis is of the opinion that higher interest rates are associated with lower investments (I), and thus, lower incomes. Conversely, lower interest rates are associated with higher investments, and thus, higher incomes. Conceptually, the higher incomes generate higher savings (S) to match the higher investments. Thus, the Investment-Savings (IS) curve is a locus of points representing a combination of interest rates and income levels, all of which satisfy the income-expenditure equilibrium condition (savings and investment equilibrium) (Ojo, 1994).

2.2 NATURE AND CONCEPT OF FINANCIAL INTERMEDIATION

To ensure that investible funds are made available for economic activities, social and community services, both in the urban and rural areas, and the quest for overall development of the economy, informed the decision of financial system focusing more on financial intermediation. Financial intermediary is typically an institution that facilitates the channeling of funds between lenders and borrowers indirectly. That is, savers (lenders) give funds to a financial institution (such as a bank), and that institution gives more funds to spenders (borrowers). Gorton and Winton (2002) define financial intermediaries as firms that borrow consumers/savers, and lend same to companies that need resources for investment.

Financial intermediaries can be classified into institutional investors and pure intermediaries like investment banks and deposit money banks. Among all the financial intermediaries, banks are the major financial intermediaries that accept deposits and make loans directly to the borrowers (Quilym, 2012).

However, Mahmood and Bilal (2010) opined that the rising magnitude of financial intermediation have adverse implications on the growth of the Nigerian economy, because in the absence of a developed capital market, the private sector which contributes a greater percentage to economic growth in Nigeria will primarily depend on bank credit as a source of financing their investments which will lead to economic growth. This means that the constant rise of financial intermediation discourages potential savings due to low return on deposits, and ultimately reduces the lending activities and investment potential of investors as a result of high cost of funding (Ndungú & Ngugi, 2000)). Financial intermediation involves the transformation of mobilized deposit

liabilities by financial intermediaries such as banks into bank assets or credits, such as loan and overdraft. It is simply the process whereby financial intermediaries take in money from depositors, and lend same out to borrowers for investment and other economic development purposes (Andrew & Osuji, 2013). According to Acha (2011), financial intermediation is a system of channeling funds from lenders (surplus economic unit) to borrowers (deficit economic unit) through financial institutions.

2.3 EMPIRICAL REVIEW

It has been realized that very few studies have been done on interest rate policy and economic growth. Significant of such studies are those of Tonye and Andabai (2014), who examined the relationship between financial intermediation and economic growth in Nigeria. Using the error correction model, the study discovered that there is a long run relationship between financial intermediation and economic growth.

Also, Haruna (2012) investigates the determinants of cost of financial intermediation in Nigeria's pre-consolidated banking sector using 13 banks quoted on the Nigerian Stock Exchange. Applying the panel data regression models, the study showed that operating expense and loan loss provision accounts for greater variation in commercial banks financial intermediation cost.

Moreover, Idries (2010) investigated the cost of financial intermediation in Jordan from 2000 to 2008. The study made use of random effects estimation approach. The study indicates that high and increasing financial intermediation cost are derived from efficiency level, complimented by capital adequacy ratio and loan to total asset ratio.

In addition, Beck and Hesse (2006) investigated why financial intermediation cost is high in Uganda. The study made use of a unique bank level data set on the Uganda banking system over the period 1999 to 2005. The study found that bank level characteristics, such as bank size, operating costs and composition of loan portfolio affects financial intermediation cost. Also, the study showed that financial intermediation costs have no robust and economic significant relationship with foreign bank ownership, market structure and bank efficiency in Uganda.

3.0 METHODOLOGY

The design used for this study is the ex-post facto research design. The choice of design is based on the fact it does not provide the study an opportunity to control the variables; mainly they have already occurred and cannot be manipulated. The data for this analysis are mostly from secondary sources. This is evidently true as data were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin.

The primary objective of this study is to estimate the determinants of the cost of financial intermediation in Nigeria's pre-consolidated banking sector. To achieve this, the Ordinary Least Square (OLS) multiple regression statistical method is used to estimate the model. The model is given as;

$$\text{GDP} = f(\text{CPS}, \text{TD}, \text{INTR})$$

Where;

GDP = Gross Domestic Product

CPS = Credit to private sector

TD = Total deposit

INTR = Interest rate

$$\text{GDP} = b_0 + b_1\text{CPS} + b_2\text{TD} + b_3\text{INTR} + U$$

Where;

b_0 = Constant term

$b_1 - b_3$ = Parameters to be estimated

U = Stochastic error term

4.0 DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

Table 1: The regression results of the cost of financial intermediation in Nigeria's pre-consolidated banking sector

Dependent Variable: LGDP

Variable	Coefficient	Std Error	T-statistic	Probability
C	11.15815	0.785639	14.02413	0.0000
LCPS	3.162536	2.851874	1.108932	0.0737
LTD	1.620174	2.632803	0.615379	0.4012
LINTR	29.83839	12.87838	2.316936	0.0290

R-squared 0.898179
Adj. R-squared 0.876580
SER 611523.1
F-stat 41.58525
DW stat 2.6692

From the above result, it could be deduced that if all the independent variables are held constant, the Nigeria Economy will stand at 0.876580. Again, the result showed that all macroeconomic indicators have positive relationship with the Nigeria economy as the parameters entered the model with positive sign. Implying that a one per cent increase in credit to the private sector, total deposit and interest rate resulted in 3.162536, 1.620174 and 29.83839 respectively in the growth of the economy.

The goodness of fit of the model is indicated by the adjusted R^2 value of 0.876580 or 87.6 per cent, indicating that the model fits the data well. The total variation in the observed behavior of the Nigeria economy is jointly predicted by the variation in credit to the private sector, total deposit and interest rate, up to 87.6 per cent, the remaining 12.4 per cent is accounted for by the stochastic error term.

The overall significance of the model was also tested using the ANOVA or F-Statistic. Here, the high significance of the F-Statistic value of 41.58525 confirms that the high predictability of the model did not occur by chance; it actually confirmed that the model fitted the data well. We also tested for the presence of auto correlation in the residual of the model, since the calculated DW value of 2.6692 does not lie within 4-dw, at 5% level of significance, we conclude that the model is free from the correlation of its residual.

In order to test the hypotheses, the following decision rule is specified.

Decision rule

The decision rule is to reject the hypothesis if the t-calculated is $>$ t-table, and accept the null hypothesis if the t-calculated is $<$ t-table.

RESULT OF HYPOTHESIS ONE

T-calculated for CPS = 1.108932
T-critical = 2.048

Based on these results and the decision rule, the null hypothesis was upheld and the alternate was rejected. It was concluded that there is an insignificant relationship between credit to the private sector and gross domestic product in Nigeria.

RESULT OF HYPOTHESIS TWO

T-calculated for TD = 0.615379
T-critical = 2.048

Based on these results and the decision rule, the null hypothesis was upheld and the alternate was rejected. It was concluded that there is an insignificant relationship between total deposit and gross domestic product in Nigeria.

RESULT OF HYPOTHESIS THREE

T-calculated for INTR = 2.316936
T-critical = 2.048

Based on these results and the decision rule, the null hypothesis was rejected and the alternate was upheld. It was concluded that there is a significant relationship between interest rate and gross domestic product in Nigeria.

Table 2: The regression results of the cost of financial intermediation in Nigeria's post-consolidated banking sector

Dependent Variable: LGDP

Variable	Coefficient	Std Error	T-statistic	Probability
C	9.115815	0.958649	9.509022	0.0000
LCPS	14.62536	1.908947	7.661480	0.0000
LTD	9.620174	2.033502	4.730840	0.0002
LINTR	7.183839	1.458489	4.925535	0.0001

R-squared	0.915159
Adj. R-squared	0.903560
SER	56.95838
F-stat	76.86548
DW stat	2.5969

From the above result, it could be deduced that if all the independent variables are held constant, the Nigeria economy will stand at 0.915159. Again, the result showed that all macroeconomic indicators have positive relationship with the Nigeria economy as the parameters entered the model with positive sign. Implying that a one per cent increase in credit to the private sector, total deposit and interest rate resulted in 14.62536, 9.620174 and 7.183839 respectively in the growth of the economy.

The goodness of fit of the model is indicated by the adjusted R^2 value of 0.903560 or 90.3 per cent, indicating that the model fits the data well. The total variation in the observed behavior of the Nigeria economy is jointly predicted by the variation in credit to the private sector, total deposit and interest rate, up to 90.3 per cent, the remaining 9.7 per cent is accounted for by the stochastic error term.

The overall significance of the model was also tested using the ANOVA or F-Statistic. Here, the high significance of the F-Statistic value of 76.86548 confirms that the high predictability of the model did not occur by chance; it actually confirmed that the model fitted the data well. We also tested for the presence of auto correlation in the residual of the model, since the calculated DW value of 2.5969 does not lie within 4-dw, at 5% level of significance, we conclude that the model is free from the correlation of its residual.

In order to test the hypotheses, the following decision rule is specified.

Decision rule

The decision rule is to reject the hypothesis if the t-calculated is $>$ t-table, and accept the null hypothesis if the t-calculated is $<$ t-table.

RESULT OF HYPOTHESIS ONE

$$\begin{aligned} \text{T-calculated for CPS} &= 7.661480 \\ \text{T-critical} &= 2.048 \end{aligned}$$

Based on these results and the decision rule, the null hypothesis was rejected and the alternate was upheld. It was concluded that there is a significant relationship between credit to the private sector and gross domestic product in Nigeria.

RESULT OF HYPOTHESIS TWO

$$\begin{aligned} \text{T-calculated for TD} &= 4.730840 \\ \text{T-critical} &= 2.048 \end{aligned}$$

Based on these results and the decision rule, the null hypothesis was rejected and the alternate was upheld. It was concluded that there is a significant relationship between total deposit and gross domestic product in Nigeria.

RESULT OF HYPOTHESIS THREE

T-calculated for INTR = 4.925535
T-critical = 2.048

Based on these results and the decision rule, the null hypothesis was rejected and the alternate was upheld. It was concluded that there is a significant relationship between interest rate and gross domestic product in Nigeria.

The study empirically examined the determinants of cost of financial intermediation in Nigeria's pre-consolidated and post-consolidated banking in Nigeria. Based on the analysis of the results, the study revealed that an insignificant relationship exists between credit to the private sector and economic growth in the pre-consolidated banking sector, while a significant relationship between was revealed between credit to the private sector and economic growth in the post-consolidated banking sector. This by implication means that increase in credit granted to the private sector will simultaneously lead to a corresponding increase in economic growth. This finding is supported by the findings of Nwite (2014) which establishes that loans granted to the private sector of the economy have significant effect in both the short-run and long-run period of economic development in Nigeria.

The study also revealed that total deposit has an insignificant effect on economic growth in the pre-consolidated banking sector, and a significant effect on economic growth in the post-consolidated banking sector. This by implication indicates that an increase in total deposit will make more funds available for lending to investors, which will certainly lead to a corresponding increase in economic growth. This finding is in line with the view of Nwanne (2015) that total deposit contributes positively and significantly to the development and growth of the Nigeria economy.

Another major finding of the study revealed that there is an insignificant relationship between interest and economic growth in Nigeria in the pre-consolidated banking sector, while a significant effect existed in the post-consolidated banking sector. This finding is in line with the findings obtained by Udoka & Anyingang (2012) which established that there is a direct relationship between interest rate and economic growth in Nigeria.

5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

This study was carried out to evaluate the determinants of cost of financial intermediation in Nigeria's pre-consolidated banking sector. In order to validate the work, theoretical and empirical literature, relevant to the subject matter were reviewed. The ordinary least squared (OLS) was adopted to examine the performance of macroeconomic variables in Nigeria. Consequently, the following findings were made.

- i) There is an insignificant, but a positive relationship between credit to the private sector and gross domestic product in Nigeria in the pre-consolidated banking sector, while a significant relationship existed between credit to the private sector and gross domestic product in Nigeria in the post-consolidated banking sector.
- ii) Total deposit has an insignificant impact on gross domestic product in Nigeria in the pre-consolidated banking sector, and a significant impact in the post-consolidated banking sector.
- iii) There is an insignificant relationship between interest rate and gross domestic product in Nigeria in the pre-consolidated banking sector, and a significant relationship in the post-consolidated banking sector.

Conclusively, the interest rate is a key determinant in the financial intermediation process. Thus, to ensure that investible funds are made available for economic activities, as well as the quest to develop the economy, informed decision of financial system focusing more on financial intermediation is necessary. This is evident, as the study had examined the determinants of cost of financial intermediation in Nigeria's pre-consolidated and post-consolidated banking sector of interest rate, and the result showed that interest rate is a determinant of economic growth, as measured by gross domestic product. This implies that decrease in the cost of financial intermediation will encourage lending by the banks, and borrowing by the investible public, and hereby inducing economic growth.

RECOMMENDATIONS

In view of the above summary of findings, the following are recommended.

- i) The Nigerian government should ensure that a component analysis of the real sector of the Nigerian economy be carried out, with a view of having a better understanding of the significant relationship between the loans to the private sector and the performance of the Nigerian economy through financial intermediation.
- ii) The Central Bank of Nigeria should adopt interest rate policy that will always boost the savings culture of the real sector. This can be achieved by increasing the interest rate paid to deposit made by individuals, local and foreign investors.
- iii) Efficient awareness should be created among the banking populace, as well as among the non-banking populace, so as to mobilize more deposits within the banking system.
- iv) There should be a regulatory framework that will enable financial institutions to channel their resources to the most viable sector of the economy, so as to increase the level of economic development.
- v) Adequate machinery should be put in place to ensure the level of compliance as regards to the rules and regulations of the industry.

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