IMPLICATIONS OF FINANCIAL INTERMEDIATION COST ON ECONOMIC GROWTH IN NIGERIA.

Dr. Nwanne, T. F. I. Ph.D, HCIB

Department of Accounting/Finance, Faculty of Management and Social Sciences
Godfrey Okoye University, Enugu

ABSTRACT: *There is a growing concern as to whether the cost of financial intermediation is having commensurate beneficial implication on economic growth in Nigeria. The main objective of this study is to determine the implications of cost of financial intermediation on economic growth in Nigeria. The study made use of ordinary least square regression analysis. Results for ADF unit root tests show that all variables under consideration are I(1). The co-integration test also indicates long run relationship between cost of financial intermediation and economic growth in Nigeria. The study shows that total loan (TL) has significantly impacted on economic growth in Nigeria, that interest rate has significantly impacted positive on the growth of Nigerian economy and that the level of total deposit over the years has impacted negatively on economic growth in Nigeria. The policy implication is that improper management of financial intermediation cost may have caused several macroeconomic consequences in Nigerian economy and the framework for demonstrating its consequence in the real sector of economy. Hence, the issue of how total loan, interest rate and total deposit linked to the level of economic growth is of a great concern in Nigerian economic performance. We therefore recommend that Nigerian government should ensure that proper control and regulation should be guided the activities of the financial intermediations cost in order to achieve a sound financial system.*

KEYWORDS: Cost, Financial, Intermediation, Economic, Growth, Nigeria.

INTRODUCTION

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 financial intermediaries through the process of financial intermediation mobilize deposits from depositors/savers and allocate credit facilities to borrowers/investor for investments that will lead to economic growth. Private sector need bank credit to expand and grow their business but they are constrained by the high cost of bank credit. The banks in the process of mobilizing and extending credit facilities (loan and advances) to both 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 form 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 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. The persistence of rising magnitude of financial intermediation costs which has characterized the private sector credit in Nigeria

have adverse cost implications for both the banks as lender and the private sector as depositors/borrowers.

Idries (2010) viewed financial intermediation costs as the gross different between gross cost paid by a borrower and the net return received by a saver or depositor. Empirical studies such as Randal (1998) and Chirwa and Mlachila (2004) have shown that interest rate spread as a proxy for financial intermediation have been found to be higher in developing countries than in the developed countries. In Nigeria, interest rate spread has remained persistently high over the years growing from 3.55 in 2008 to 8.4% in 2012 (World Bank, 2013). Tigran (2012) using the methodology proposed by Randal (1998) decomposed financial intermediation costs into bank operational cost, loan loss provision costs and loan and advances.

The rising magnitude of financial intermediation costs have adverse implications on the growth of Nigerian economy because in the absences of developed capital market, the private sector which contributes a greater percentage to economic growth in Nigeria primarily depend on bank credit as a source of external financial for investments that will lead to economic growth. The implications of persistent rise in financial intermediation costs is that it discourages potential savings due to low returns on deposits and ultimately reduces lending activities and investment potential of investors as a result of high cost of funding (Ndung'u and Ngugi, 2000; Mahmood and Bilal, 2010). At bank industry level, financial intermediation as a percentage of gross domestic product (GDP) is used as a proxy for financial intermediation (Koivu, 2002) while at individual bank level it is proxied as loan and advances to total bank assets. The ratio of financial intermediation to gross domestic product (GDP) as a proxy grew significantly up to 59.4% in 2008 but dropped to 37.8% in 2009 and 35.6% in 2012 (World Bank, 2013 and CBN, 2009). The number of deposit money banks which extends credit to private sector for investment has reduced from 89 banks in 2004 to 20 banks in 2013 (CBN, 2014).

The Gross Domestic Product (GDP) is one of the primary indicators used to gauge the health of a country's economy. It represents the total dollar value of all goods and services produced over a specific time period - you can think of it as the size of the economy. Usually, GDP is expressed as a comparison to the previous quarter or year. For example, if the year-to-year GDP is up 3%, this is thought to mean that the economy has grown by 3% over the last year. The Gross Domestic Product (GDP) in Nigeria was worth 243.98 billion US dollars in 2011. The GDP value of Nigeria represents 0.39 percent of the world economy. GDP in Nigeria is reported by the World Bank. Historically, from 1961 until 2011, Nigeria GDP averaged 50.07 USD Billion reaching an all time high of 243.98 USD Billion in December of 2011 and a record low of 4.40 USD Billion in December of 1961. The gross domestic product (GDP) measures the national income and output for a given country's economy. The gross domestic product (GDP) is equal to the total expenditures for all final goods and services produced within the country in a stipulated period of time. GDP is expected to have positive impact on stock market returns in Nigeria (IMF, 2012). Despite the removal of restrictions militating against efficient financial intermediation through various financial reforms; interest spread has remained persistently high.

Financial intermediation is affected by profitability (Tigran, 2012), liquidity and other macroeconomic factors such as inflation rate, exchange rate and money market interest rate (Folawewo and Tenant, 2008; Idries, 2010; Tigran, 2012). The Nigerian government at various levels has come up with financial reform measures to address the issue of rising

magnitude of financial intermediation cost which have persisted despite policy reforms applied through the removal of credit ceiling, abolition of sectorial allocation of credit, financial liberalization policy, introduction of prudential regulation, bank capitalization, merger and acquisition and consolidation programmes. There has been serious concern on how such policies will increase the level of economic growth in Nigeria. Therefore, there is a growing concern as to whether the cost of financial intermediation is having commensurate beneficial implication on economic growth in Nigeria. The main objective of this study is to determine the implications of cost of financial intermediation on economic growth in Nigeria.

REVIEW OF RELATED LITERATURE

Empirical Studies

There has been lot of studies on cost of financial intermediation but very few of them focuses on economic growth. Haruna (2012) examined the determinants of cost of financial intermediation in Nigeria's Pre-consolidated banking sector using 13 banks quoted on the Nigerian Stock Exchange. Using interest rate spread as a proxy for financial intermediation cost and panel data regression models. It was found that operating expense and loan loss provision accounts for greater variation in commercial banks financial intermediation cost.

Hesse (2007) investigate financial intermediation cost in pre-consolidated banking sector in Nigeria over the period of 2000 to 2005 using unique bank-by-bank balance sheet and income statement and pooled ordinary least square regression model to evaluate quarterly data on all the 89 banks in Nigeria. it was found that larger banks incur lower overhead cost and holding of liquidity decreases interest spread while increased bank concentration has no effect on interest rate spread.

Beck and Hesse (2006) investigate why financial intermediation cost is high in Uganda using 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. The study also found that financial intermediation cost have no robust and economic significant relationship with foreign bank ownership, market structure and bank efficiency in Uganda.

Idries (2010) investigated the cost of financial intermediation in Jordan from 2000 to 2008 using 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.

Tigran (2012) examined financial intermediation cost in low income countries relative to emerging countries. The study found that concentrated market structure and lack of competition within the low income countries. Tonye and Andabai (2014) investigated the relationship between financial intermediation and economic growth in Nigeria from 1988 to 2013 using Error Correction Mechanism. It was observed that there is long run equilibrium between economic growth and financial intermediation. It also indicates 96% short run adjustment speed from long run disquilibrium.

Theoretical Framework

This study was guided by three theoretical frameworks namely; Dealership model, Concentration theory and Endogenous growth theory. The three theoretical frameworks are very essential because they offer useful explanations on how efficiency in cost of intermediation affects private sector credit delivery. In the dealership model, banks can transfer financial cost arising from interest rate risk on deposits and loans.

Concentration theory explains how few large dominant banks can use their market power to improve the intermediation efficiency of banks through economies of scale, cost reduction and reduction in credit risk. The endogenous growth theory offers useful link through which accumulated savings (deposits) held by banks are channeled to productive investments (through lending activities) for economic growth.

METHODOLOGY

Time series data (1999 to 2013). Regression equations specifying the impact of Cost of Financial intermediation on Economic Growth in Nigeria. Data source is purely Secondary. Quantitative data on research variables were generated on quarterly basis from secondary sources, namely: CBN Statistical Bulletin, International Financial Statistics, World Bank and OECD Account Data files.

Model Specification

We will adopt multiple linear regression model. The equation for multiple linear regression is given as follows: $Y = b_0 + b_1X_1 + b_2X_2 + --- + b_nX_n$ --- 1

Where; $Y =$ dependent variable, $b_0 =$ intercept term, $b_1, b_2 --- b_n =$ regression coefficients to be determined, $X_1, X_2 --- X_n =$ set of explanatory variables.

We re-specify the model to capture the objectives of our study. $GDP_t = \beta_0 + \beta_1 INTR_t + \beta_2 TL_t + \beta_3 TD_t + \beta_4 INF_t + U_t$ ---2

Where; $GDP_t =$ Economic Growth as a proxy for Gross Domestic Product (dependent variable), $INTR_t =$ Interest Rate, $TL_t =$ Total Loan, $TD_t =$ Total deposit, and $U_t =$ Error term.

Descriptive statistics of the Unit Root Test

The Augmented Dickey-Fuller (ADF) and the Philips Peron Test formulae were employed to test for stationarity or the existence of unit roots in the data. It was found that all the variables are integrated of order one 1(1). The test results are as presented below:

TABLE1: Augmented Dickey Fuller Unit Root Test

Trend and Intercept

Series	ADF Test Statistic	5% CV	10% CV	Order	Remarks
GDP	-4.392113	-4.3535	-3.6280	1(1)	Stationary
TL	-3.427212	-4.3535	-3.6280	1(1)	Stationary
INTR	-4.749506	-4.3535	-3.6280	1(1)	Stationary
TD	-6.861396	-4.3535	-3.6280	1(1)	Stationary

Source: (E-view, 2015)

Descriptive statistics on the Johansen Co integration Test

In order to ascertain the significant implications of cost of financial intermediation on economic growth in Nigeria, there is need to co-integrate the time series integraeted of the same order. Firstly, the summary of the Johansen Co-integration Test is shown in the Table below. The model with lag 1 was chosen with the linear deterministic test assumption.

Johansen co-integration test for the series; GDP, TL, INTR and TD

Table 3: Co-integration Test

Eigenvalue	Likelihood Ratio	5 percent critical value	1 percent critical value	Hypothesized No. of CE(s)
0.837456	173.5530	94.15	103.18	None **
0.814236	105.1017	68.52	76.07	At most 1 **
0.763195	100.1824	47.21	54.46	At most 2 **
0.649218	61.71912	29.68	35.65	At most 3 **

Source: (E-view, 2015)

Ordinary Least Square (OLS)

The existence of long-run cointrgrating equilibrium, provides for short fluctuations. In order to straighten out or absolve these fluctuations, we applied ordinary least square which was chosen on account of its ability to predict long term financial dynamics with impressive precision and its popularity in previous empirical work.

As noted, the OLS is meant to tie the short-run dynamics of the cointegrating equations to their long-run static dispositions and it is used to test the speed of adjustment from the short-run equilibrium to the long-run equilibrium. Below is the OLS test for the given data:

Table 3: ORDINARY LEAST SQUARE (OLS) RESULT.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	-981092	0.236436	-4.93349	0.0000
GDP(-2)	0.675289	0.225321	-394134	0.0000
C	184744.9	17321.52	10.66563	0.0000
TL	-0.338486	0.304760	0.454409	0.0000
INTR	3.908339	2.861955	0.537157	0.0000
TD	-7.012376	5.318238	-0.280498	0.0000
R-squared	0.944414	Mean dependent var	289195.4	
Adjusted R-squared	0.894909	S.D. dependent var	153059.8	
S.E. of regression	69316.14	Akaike info criterion	25.35392	
Sum squared resid	1.06E+11	Schwarz criterion	25.72757	
Log likelihood	-372.3088	Hannan-Quinn criter.	25.47346	
F-statistic	17.05725	Durbin-Watson stat	1.488472	
Prob(F-statistic)	0.000000			

Source: Authors Computation Using Eviews 7.0 Version

The OLS estimate reveals that, the level of economic growth influenced by not only the independent variables. The lag (past) value of financial intermediation cost influences the level of economic growth in Nigeria in the current period. Economic growth in previous period tends to reduce the size in the proceeding period (the negative coefficient of return on assets (GDP) at one period lag and two period lags) i.e. -0.98 and -0.67 respectively.

Total loan (TL) and total deposit (TD) have negative influence on the economic growth in Nigeria. Although, the coefficient of interest rate was significant judging from the standard error and the t-statistic. This means that during regime of high interest rate, Nigerian economic growth tends to reduce to compare during the period of low interest rate.

The figures from the OLS also reveal that, the coefficient estimates of the constant and explanatory variables have alternated their signs as against the expectation. This shows exactly what is needed to be done in order to absolve the short-run dynamics of relationship between dependent and independent variables. Again, the significance of OLS holds that a positive and statistical significant ordinary least square model coefficient is a necessary condition for the variables to be cointegrated in the model. In this case, the ordinary least square coefficient is 184744.9. The positive sign of the coefficient satisfies one condition while the fact that 184744.9 are different from zero satisfies the second condition of statistical significance. The coefficient reveals that the speed of adjusted between the short-run and long-run realities of the cointegrating equations is high every year. Also, the computed R^2 value of 0.944414 which is the coefficient of multiple determinations, indicates that our model satisfies the requirements for goodness of it. The value shows that 94.44% of the total variations in economic growth (GDP) are adequately explained by changes in total loan (TL), interest rate (INTR) and total deposit (TD).

Furthermore, the joint influence of the explanatory variables on the dependent variable is statistically significant. This is also confirmed by the F-probability which is statistically zero. Equally, the Durbin Watson is 1.488472, using 5% level of significance, 3 explanatory variables and 13 observations, the tabulated Durbin Watson statistics for lower and upper limit are 1.863776 and 2.080708 respectively.

Finally, since the calculated Durbin Watson statistics is greater than the upper limit, there is no evidence of the presence of the first order serial correlation or autocorrelation in the model. The results of the study have support for the hypotheses that financial intermediation cost has a significant impact on economic growth in Nigeria.

TEST OF HYPOTHESES

The results from ordinary least square in **table 3** above is used in testing the three hypotheses set in this study. The statistics adopted in doing this include the OLS coefficients paired with the arising F-statistics and the respective probability value of F-statistics. This is in line with the finding of Dougherty (1997) that the F-test assesses whether individual contributions of the explanatory variables are significant and can as well be used as a basis for testing the hypothesis on the relationship between the dependent variable and each of the exogenous and controlled variables.

Statistics Test

The test statistics as indicated above include:

1. The size and sign of the beta coefficient.

2. The size of the t-statistic

Level of Significance:

H_0 is accepted at 5% level of significance and H_1 is therefore rejected

Decision Rule

The alternative hypothesis is rejected as the computed value lies outside confidence interval at 5% level of significance.

Results:

In testing the above hypothesis, beta Coefficient and T-statistics is employed, because, it helps to ascertain the joint influence of the independent variables on the dependent variable. Using 5% level of significance at 4 degrees of freedom (K-1) and 13 observations, tabulated t-statistics becomes 2.65. However, the calculated F-statistics is 1.95 (Table 3 above).

From the table 3 above, coefficient of total loan (TL) is 0.338486 and the t-statistics is 0.454409. 0.454409 lies within the critical region of $\pm$ 2.65 and H_0 is therefore rejected and alternative hypothesis is accepted with the conclusion that total loan (TL) has significantly impacted on economic growth in Nigeria. This means that total loan will contribute to the growth of Nigerian economy but because of low coefficient of total loan (0.338486 which represent 33.85%). Total loan contributes only 33.85% to economic growth in Nigeria. Theory predicts positive effect of total loan on economic growth and our result confirm with the theory. This approach is relevant and disagreed that total loan is found to be insignificant in both cases and cannot have effect on economic growth as describe by some researchers.

Result:

Judging from the sign and size of the coefficient (3.908339) and probability value of 0.0000, we reject the null (Ho) and accept the alternative (H1), on the basis that there is significant effect of interest rate on economic growth in Nigeria.

From the **table 3** above, the coefficient of interest rate is 3.908339 while t-statistic is 1.040742. 1.040742 lies within the critical region of ± 2.65 (@ 5% level of significance) and H_0 are therefore rejected. Based on this result, we reject the null hypothesis and accept the alternative hypothesis and conclude that interest rate has significantly impacted positive on the growth of Nigerian economy.

Results:

As shown in table 3 above, the results indicate that the estimated coefficient of -7.012376 suggesting that, holding other variables constant, if total deposit goes up by one percent, Nigerian economy will increase by an average of 0.012 percent in the long run.

The P-value of leverage ratio is 0.9919 at second differencing. Thus the variable is significant at 10%. Given our chosen level of significance (5%), the result indicates a very high significant coefficient of -7.012376 and thus counter null hypothesis that the level of total deposit over the years has not impacted positive on economic growth in Nigeria. We conclude that the level of total deposit over the years has impacted negatively on economic growth in Nigeria. The negative sign means that an increase in total deposit will help to contribute meaningfully on the growth of Nigerian economy.

From the above, it appears that improper management of financial intermediation cost may have caused several macroeconomic consequences in Nigerian economy and the framework for demonstrating its consequence in the real sector of economy is been revealed. Hence, the issue of how total loan, interest rate and total deposit linked to the level of economic growth is of a great concern in Nigerian economic performance. This is shown as the three independent variables shows significant effect with economic growth in Nigeria.

CONCLUSION

This study contributes to the literature on the implications of financial intermediation cost on economic growth in Nigeria by using ordinary least square estimate. This study set three objectives and actually achieved them. From the research findings, the study concludes that there is long run relationship between total loan, interest rate, total deposit and economic growth in Nigeria.

From the test of the hypothesis, it was derived that our null hypothesis were not true and therefore rejected while the alternatives were accepted. The key problem set to be address on this study is to ascertain the implications of financial intermediation cost on economic growth in Nigeria. From the research findings, the results obtained from this study support both theoretical and empirical evidence that financial intermediation cost has impacted positively on the growth of Nigerian economy.

RECOMMENDATIONS

From the finding of this study, the following recommendations were made:

1. Nigerian government should ensure that proper control and regulation should be guided the activities of the financial intermediations cost in order to achieve a sound financial system.
2. Central Bank of Nigeria should check mate banks from possessing excess liquidity that would ensure the prevention of inflation in the economy.
3. There should be a regulatory frame work that will enable the financial institutions to channel their resources to the most viable sector of the economy.
4. Adequate machinery should also be put in place to ensure the level of compliance as regards to the rules and regulations of the industry.

REFERENCES

Beck, t. and Hesse, H. (2006), Bank Efficiency, Ownership and Market Structure: Why are Interest Rate Spread so high in Uganda? Department of economics, University of Oxford, discussion Paper Series No 277.

CBN (2009), Central Bank of Nigeria Statistical Bulletin.

CBN (2014), Central Bank of Nigeria Economic Review.

Chirwa, E. W. and Mlachila, M. (2004), Financial Reforms and Interest Rate Spreads in the Commercial Banking System in Malawi. *IMF Staff Paper,* 51(1): 96-122.

Folawewo, A. O. and Tennant, D. (2008), Determinants of Interest Rate Spread in Sub-Saharan African Countries: A Dynamic Panel Analysis. 13th Annual African Econometrics Society, Pretoria, South Africa.

Haruna, M. A. (2012), Determinants of Cost of Financial Intermediation in Nigeria Pre-Consolidated Banking Sector. *International Journal of Advanced research in Management and Social Sciences, 1(2):* 180-194

Hesse, H. (2007), Financial Intermediation in the Pre-Consolidated Banking Sector in Nigeria. *World Bank Policy research Paper, 4267: 1-36*

Idries, M. A. (2010), Cost of Financial Intermediation in the Banking Sector of Jordan. *International Research Journal of Finance and Economics, Issue 56: 7-21.*

IMF (2012), Regional Economic Outlook: Sub-Saharan Africa, World Economic and Financial Surveys. *International Monetary Fund, Washington DC.*

Koivu, T. (2012), Does Efficient Banking Sector Accelerate Economic Growth in Transition Countries? Discussion Paper 14, Bank of Finland institute for economies in Transition (BOFIT).

Mahmood, H. and Bilal, K. (2010), What drives interest Rate Spreads of Commercial banks in Pakistan? Empirical Evidence Based on Panel Data. *BSP Research Bulletin, 6(2): 15-36*

Ndung'u, N. and Ngugi, r. W. (2000), Banking Sector Interest Rate Spread in Kenya, Kenya Institute for public Policy Research and Analysis, *Discussion Paper, No 5.*

Randall, R. (1998), Interest Rate Spreads in the Eastern Caribbean, *IMF Working Paper, No 59*

Tigran, P. (2012), Financial Intermediation cost in Low-Income Countries: The Role of Regulatory, Institutional and Macroeconomic Factors. *IMF Working Paper, No 140: 1-34*

Tonye, O. and Andabai, P. W. (2014), The Relationship between Financial Intermediation and Economic Growth in Nigeria from 1988 to 2013. *Mediterranean Journal of Social Sciences, 5(17): 19-29*

World Bank (2013), World Bank Data Estimates.