INTEREST RATE REFORMS AND FINANCIAL DEEPENING IN NIGERIA

Tomola Marshal Obamuyi, Adekunle Ajasin University
J. Adeniyi Demehin, Adekunle Ajasin University

ABSTRACT

This main objective of the paper is to examine the effect of interest rate reforms on financial deepening in Nigeria. The methodology adopted for the study includes cointegration and vector error correction models (VECM) to determine the long and short run dynamics of the model. The paper examines time series data from 1973 to 2009. The results indicate that there exists a long run relationship between financial deepening and interest rates. We also find that interest rate reform has a positive and significant effect on financial deepening in Nigeria. The results here suggest that policy makers enact measures that positively influence financial development, economic growth, liquidity reserve ratio, domestic savings/GDP ratio as well as reforms to ensure the efficiency and development of the financial system.

INTRODUCTION

Financial liberalization includes interest rate reform, reduction of credit control, free entry into the banking sector, autonomy to the banking sector, private participation in banking and liberalization of capital flows (Odhiambo and Akinboade, 2009). Interest rate reform, as a policy under financial sector liberalization, has occupied a central position in the liberalization process. The goal of interest rate reform is to achieve efficiency in the financial sector and engendering financial deepening. Nnanna and Dogo (1998) viewed financial deepening as a financial system which is largely free from financial repression. Under such a liberalized system, the market should determine the behavior of lenders and borrowers. Odhiambo and Akinboade (2009) defined financial deepening as the increase in relative size and role of the financial system in an economy.

In Nigeria, financial sector reforms began with the deregulation of interest rates in August 1987 (Ikhide and Alawode, 2001). Prior to this period, the financial system operated under financial regulation, and interest rates were repressed. According to McKinnon (1973) and Shaw (1973), financial repression arises mostly when a country imposes ceilings on deposit and lending rates at a low level relative to inflation. The resulting low or negative interest rates spreads discourage saving mobilization and channelling of mobilized savings through the financial system. This has a negative impact on the quantity and quality of investment and hence economic growth.

The main argument of McKinnon- Shaw (1973) was that an increase in the real interest rate may induce savers to save, which generates more investment. Therefore, the expectation of interest rate reform was to encourage domestic savings and make loanable funds available in the banking system. However, the "tunnel-like" structure of interest rates (Ojo, 1976) in Nigeria was capable of discouraging savings and retarding growth in view of the link between savings, investment and economic growth. The critical questions, therefore, are: Does interest rate reform has any positive effect on economic growth in Nigeria? Will deregulation of the financial system speed up capital accumulation and economic growth in the country?

The aim of this study is to determine the relationship between interest rate reforms and financial deepening in Nigeria, using the Vector Error Correction Model (VECM) on annual data from 1973 to 2009. The study tests whether there is any significant relationship between interest rate reforms and financial deepening in Nigeria. Interest rate reform and financial deepening were proxied by deposit rates and the monetization variable, broad money (M2)/GDP, respectively. The paper is relevant in view of the pivotal role played by interest rates in the saving-investment and growth relationship, as well as the need to provide capital for the private sector. The private sector is a catalyst in the development process. The motivation for this study is to provide both theoretical and empirical evidence on the relationship between interest rate reforms and financial deepening in Nigeria. The findings will provoke financial policies that will promote economic growth in the country.

The paper is organized as follows. Section 2 discusses the literature on the link between interest rate reforms and financial deepening. Section 3 presents the data and methodology used in the study. Section 4 is presents the results of the analysis, and Section 5 provides concluding comments.

LITERATURE REVIEW

The relationship between interest rate reforms and financial deepening has been recognized in the literature on finance and development, and can be traced to the McKinnon (1973) and Shaw (1973) hypotheses. McKinnon-Shaw (1973) argued that financial repression reduces the real rate of growth of the economy. Financial repression refers to government fixing interest rates and its adverse consequences on the financial sector and economy. One of the basic arguments of the McKinnon-Shaw model is an investment function that responds negatively to the effective real rate of interest and positively to the growth rate. The McKinnon-Shaw (1973) school of thought is financial liberalization exerts a positive effect on the rate of economic growth in both the short and medium term. This implies that interest rate reforms resulting from financial liberalization, as opposed to financial repression, increase savings into the banking system and investment through credit availability (Agenor and Montiel, 1996). As Ucer (1997) argues , positive real interest rates resulting from financial liberalization lead to financial deepening, or a higher level of intermediation, as demand for money, defined as savings and term deposits as well as checking accounts and other currency increases as the proportion to national income, which in turn, promotes growth. According to Ucer (1997), the important role played by interest rates in savings, investment and economic growth makes the removal of interest rate controls a centrepiece of the liberalization process.

Interest rates policy in Nigeria is discussed along the dividing period of pre-reform (1976-1985) and post-reform (1986-2009) periods. In order to compare the structure of interest rates between the sub-periods, Table 1 showed savings rate, maximum lending rate, savings-lending rate spread and the minimum rediscount rate to demonstrate the relationship among these four rates as the reform process progresses.

The period before 1986 was a period of financial repression, characterized by a highly regulated monetary policy environment in which policies of directed credits, interest rate ceiling and restrictive monetary expansion were the rule rather than the exception (Soyibo and Olayiwola, 2000). Although interest rate policy instruments remained fixed there were marginal increases. For instance, the savings rate was increased from 4% in 1975 to 9.5% in 1986, while the maximum lending rate rose from 9% to 12% within the same period.

For the reform period, savings and maximum lending rates were determined by market forces. During this time interest rates increased as envisaged. For instance, following the reform, the nominal savings and maximum lending rates rose from 9.5% and 12% in 1986 to 14% and 19.2% respectively in 1987. By 1990, the savings and maximum lending rates have rose to 18.8% and 27.7% respectively. This interest rate behavior confirms the study by Asamoah (2008) who found when financial markets are

highly liberalized, more financial institutions are started and competition sets in. This process gives rise to competitive interest rates, which are higher than pre-liberalization interest rate. The government intervened in 1991 and pegged the deposit and lending rates at 14% and 21% respectively. Unfortunately, between 1997 and 2006, the maximum lending rate did not show a significant reduction, with an average of 22%, despite the declining trend in the savings rate, averaging 5%.

Table 1: Trends in Selected Interest Rates in Nigeria, 1973 – 2009

Year	76	77	78	79	80	81	82	83	84	85
Savings Rate	4.0	4.0	5.0	5.0	6.0	6.0	7.5	7.5	9.5	9.5
Max. Lending Rate	10.0	6.0	11.0	11.0	9.5	10.0	11.75	11.5	13.0	11.75
Savings-Lending Rate spread	6.0	2.0	6.0	6.0	3.5	4.0	4.25	4.0	3.5	2.25
Min. Redis-count Rate	3.5	4.0	5.0	5.0	6.0	6.0	8.0	8.0	10.0	10.0
Year	**86**	**87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**
SavingsRate	9.5	14.0	14.5	16.4	18.8	14.29	16.1	16.66	13.50	12.61
Max. Lending Rate	12.0	19.20	17.6	24.6	27.7	20.8	31.2	36.09	21.00	20.79
Savings-Lending Rate spread	2.5	5.20	3.1	8.2	8.9	6.51	15.1	19.43	7.50	8.18
Min. Redis-count Rate	10.0	12.75	12.75	18.5	18.5	14.5	17.5	26.00	13.50	13.50
Year	**96**	**97**	**98**	**99**	**00**	**01**	**02**	**03**	**04**	**05**
Savings Rate	11.69	4.80	5.49	5.33	5.29	5.49	4.15	4.11	4.19	3.83
Max. Lending Rate	20.86	23.32	21.34	27.19	21.55	21.34	30.19	22.88	20.82	19.49
Savings-Lending Rate spread	9.17	18.52	15.85	21.86	16.26	15.85	26.04	18.77	16.63	15.66
Min. Redis-count Rate	13.50	13.5	14.31	18.00	13.50	14.31	19.00	15.75	15.00	13.00
Year	**06**	**07**	**08**	**09**						
Savings Rate	3.14	3.55	2.84	2.88						
Max. Lending Rate	18.70	18.36	18.70	22.90						
Savings-Lending Rate spread	15.56	14.81	15.86	20.02						
Min. Redis-count Rate	12.25	8.75	9.81	7.44						

The table shows the trends in the savings rate, maximum lending rate, savings-lending rate spread and minimum rediscount rate in Nigeria from 1973 to 2009. Note: Monetary Policy Rate (MPR) replaced Minimum. Rediscount Rate (MRR) with effect from December 11, 2006
*Source: CBN Statistical Bulletin, 2009*

The implications of the "tunnel-like" structure of interest rates and low savings rates are that savings will be discouraged, negatively affecting funds mobilization by the banks. This will in turn affect the amount of funds available for investment with a retarded influence on economic growth. On the other hand high lending rates are detrimental to productive investment and hence economic growth. As Soyibo and Olayiwola (2000) observe, borrowers with worthwhile investments may be discouraged from seeking loans and the quality of applicants could change adversely. Again, high lending interest rates could create a moral hazard where loan seekers borrow to escape bankruptcy rather than invest or finance working capital. Generally, behavior of the interest rate structure is such that there is a wide margin between savings and maximum lending rates, which may encourage speculative financial transactions.

As Edirisuriya(2008) suggested, a commonly used measure to evaluate benefit from financial sector reforms is the interest spread or interest margin of banking institutions. The interest spread is the difference between interest income and interest expenditure. Theoretically, interest margins decline with competition among banks.

Figure 1 reveals the interest margin of Nigerian banks, which marginally declined in 1985, then increased until 1992, before nose-diving to very low level of 1.6 per cent in 1993. The major reason for the decline in 1993 was competition among banks in the country. The number of banks in the country increased from a low level of 40 in 1985 to about 120 by 1993. Thereafter, the spread has steady increased, reaching a

peak of 24.6 per cent in 2002. Implication of the situation depicted by the interest rate spread is that interest rate reform has not improved bank efficiency. This is because the efficiency of a financial system is gauged by how quickly and cheaply the financial system is able to channel funds from surplus economic agents to the deficit agents for productive investments, while ensuring reasonable returns for the financial intermediaries.

Figure 1: Savings-Lending Rate in Nigeria, 1976 -2009
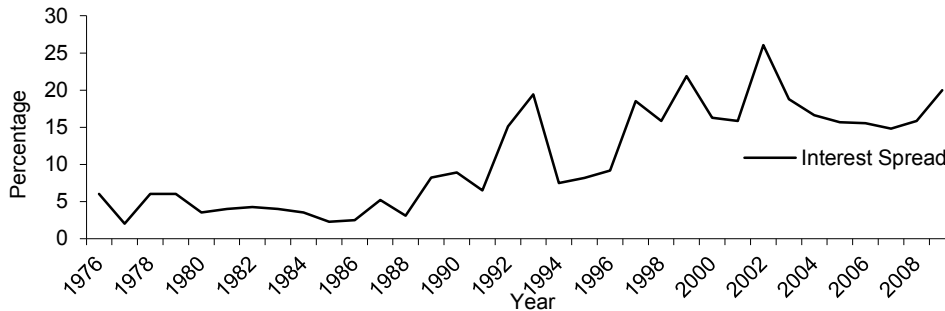

Interest margin of Nigerian banks, which marginally declined in 1985, then increased until 1992, before nose-diving to very low level of 1.6 per cent in 1993. The major reason for the decline in 1993 was competition among banks in the country. The number of banks in the country increased from a low level of 40 in 1985 to about 120 by 1993.

Outreville (1999) reported that the readily available traditional measures of financial deepening in developing countries are quantity indicators based on monetary and credit aggregates. The monetization variable, broad money (M2)/GDP, which measures the overall size of the financial intermediary sector, has an impact on financial deepening and is strongly correlated with both the level and rate of change of real GDP per capital. For instance, Outreville, (1999) observes that savings deposits increase as the financial system expands. In Nigeria, the indicator of financial development, M2/GDP, which measures the relative size of the financial sector has a rising trend since 1997. As Nanna and Dogo (1998) argue, freeing the financial system from repression through interest rate reforms, contributes to financial deepening, which Odhiambo and Akinboade(2009) postulate will increase the relative size and role of the financial system in the economy.

Figure 2 shows that the M2/GDP ratio increased from 36.7 per cent just before the interest rate reform to a high level of 43.6 per cent in 2009. Figure 2 reveals that financial deepening and interest rates exhibited downward trends, especially between 1990 and 1997 as a result of the government policy of guided deregulation. This policy of financial repression has the tendency to discourage savings and inhibit financial development in a country. However, a full implementation of the liberalization policy thereafter led to rising deposit rates and increasing financial deepening in the country. This implies that interest rate reform has contributed to financial deepening, which in turn, contributed to economic growth by improving the productivity of investment.

From the foregoing literature review we deduce that financial reform leads to financial deepening, which encourages competitive interest rates and economic growth. This goal of this study is to investigate empirically this relationship, using most recent data in Nigeria.

Figure 2: Interest Rate and Financial Deepening in Nigeria, 1973-2009
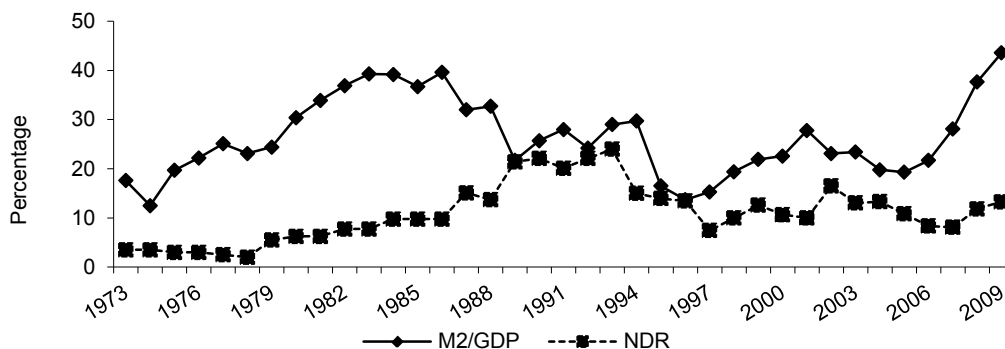
Note: M2/GDP means financial deepening and NDR represents bank deposit rate

DATA AND METHODOLOGY

The econometric analysis covered the period of 1973 - 2009. Data were obtained mainly from publications of the Central Bank of Nigeria, the Statistical Bulletin, Annual Reports and Financial Statements, Banking Supervision and Annual Reports, and supplemented with data from other secondary sources. Trend analysis was used to determine the relationship between interest rate reform and financial deepening. To assess the strength and robustness of the regression analyses, the study includes those variables that are associated with financial development (Greenwood and Smith, 1997; Outreville, 1999). Drawing from the earlier work of Boyd *et al.*(1996), Nnanna and Dogo(1998), Outreville(1999), Odhiambo and Akinboade(2009) and Cheang(2004), we conceptualize a modified model of measuring financial deepening. The financial deepening model for this study is specified as:

$$
\begin{aligned}
Financial\ Depth &= \beta_0 + \beta_1 Deposit\ Rate_t + \beta_2 Inflation_t + \beta_3 Lagged\ Value\ of\ Financial\ Depth \\
&+ \beta_4 Growth\ Rate + \beta_5 Savings/GDP\ Ratio_t + \beta_6 Exchange\ Rate_t + \beta_7 Liquidty\ Ratio_t \\
&+ \beta_8 Financial\ Shift_t + \varepsilon_t
\end{aligned}
$$

The study regressed the financial deepening variable(M2/GDP) on the nominal deposit rate(NDR), inflation rate(IFR), the lagged value of financial depth(M2/GDP$_{t-1}$), growth rate of gross domestic product(GRG), domestic savings/GDP ratio(SAV), exchange rate(EHR), liquidity reserve ratio(LRR) and shift in financial policy from regulation to deregulation of interest(FPS). Finally, ε_t is an error term, which is assumed to be independent and identically distributed with mean zero and constant variance and β_0, β_1 β_2 are parameters to be estimated.

A priori expectation was that deposit rate, financial deepening lagged once, gross domestic product, savings to GDP, and financial reform are positively related to financial deepening, while inflation rate, exchange rate and liquidity reserve ratio are negatively related to financial deepening. The deposit rate was included to capture the effect of interest rate reform on financial deepening. The inclusion of inflation was to capture the effect of inflation on the various components of money. The exchange rate variable was included because exchange rate regime constitutes a major issue regarding monetary stability, which is required for financial stability. The liquidity reserve ratio measures the level of liquidity in banks. A declining liquidity reserve ratio is usually associated with increasing lending activities as a result of reform processes. Haslag and Koo(1999) investigated the relationship between financial repression measures and the level of financial development. They found that countries with high reserve ratios tend to be countries that have less developed financial systems. A dummy variable was included to incidate the financial situation, in which 0 indicates a period of financial regulation and 1 for financial deregulation.

To avoid spurious regression, which results from the regression of two or more non-stationary time series data, the time series properties of all the variables were ascertained. This implies the time series have to be detrended before any sensible regression analysis can be performed. In other words, time series analysis was carried out to examine the data for stationarity or non-stationarity problems, using Augmented Dickey-Fuller (ADF) and Phillips-Perron (P-P) tests. The next step was to establish whether the non-stationary variables were cointegrated. The Johansen was used test to confirm the existence of a long run equilibrium relationship between variables. If cointegration is established, an Error Correction Model is specified to present short run dynamics while preserving the long run equilibrium relationship.

EMPIRICAL RESULTS

The econometric analysis was performed using Stata 10. Dickey Fuller test and Phillips-Perron (P-P) tests were used to test the stationarity of each of the variables and its order of integration. The tests examined the null hypothesis that the specified variable has a unit root against the alternative hypothesis that the variable is stationary. The tests were performed with various combinations of lag lengths (up to 4) and inclusion and exclusion of a constant in the Autoregressive equations (AR).

Table 2: Test of Order of Intergration or Unit Root Test

Series	Order of Integration
Growth Rate	I(0)
Financial Depth	I(1)
Exchange Rate	I(1)
Deposit Rate	I(1)
Inflation Rate	I(0)
Liquidity Ratio	I(0)
Savings/GDP ratio	I(1)

The table shows the variables used for the model. The variables include: financial deepening; nominal deposit rate, inflation rate; gross domestic product; domestic savings/GDP ratio; exchange rate; liquidity reserve ratio; and shift in financial policy from regulation to deregulation of interest. I(0) means stationary at levels, while I(1) means stationary at first difference.

The results of the Augmented Dickey-Fuller(ADF) and Phillips-Perron (P-P) in Table 2 show that only the growth rate of gross domestic product, inflation rate and liquidity reserve ratio variables were stationary in their level forms. The other variables, financial development(M2/GDP), exchange rate, deposit rate and domestic savings to GDP were stationary at their first difference implying they are integrated of order one.

Since the study deals with a multivariate case, it uses the Vector Error Correction Model (VECM). The study transformed of some of the variables to get a reasonable model. Specifically, M2/GDP and SAV were squared. The VAR (Vector Auto-regressive) model was estimated to determine the optimal lag. The VAR table is not presented since it has been established that there are variables that are integrated of order 1. Once cointegration is tested and confirmed, then the optimal lag order of the variable was selected by using either Likelihood Ratio(LR) test, Final Prediction Error (FPE), Akaike Information Criterion (AIC) or Hanna and Quinn Information Criterion (HQIC) or the Schwarz Bayesian Criterion (SBIC). The decision for this study was made based on the Likelihood ratio (LR) test. From Table 3 the Likelihood Ratio test shows that the optimal lag length is 3.

Table 3: VAR Model Estimating the Optimal Lag

Lag	LL	LR	DF	P	AIC	HQIC	SBIC
0	-1116.9				66.175	66.397	66.534
1	-933.08	376.67	64	0	59.123	60.225	62.355
2	-833.28	199.61	64	0	57.017	59099	32.122
3	-673.57	319.41*	64	0	51.387*	54.45*	60.365

The table shows the variance auto-regressive model used for estimating the optimal lag. LR means Likelihood Ratio, FPE (Final Error of Prediction), AIC (Akaike Information Criterion), HQIC (Hanna and Quinn Information Criterion) and the SBIC (Schwarz Bayesian Criterion). "" indicates significance of the test*

Once the lag order has been determined, the long run and short run coefficients of the model are estimated. The study proceeded to establish the long-run cointegrating relationship among the variables by using the Johansen cointegrating test. The results in Table 4 reporte the trace and maximum eigenvalue statistics showing that the null-hypothesis of no-cointegrating vector linking financial deepening and its determinants is rejected at the 5 per cent level of significance.

Table 4: Johansen Maximum Likelihood Cointegration Test Results

Rank Max VAlue	Parms	LL	Eigenvalue	Trace Statistic	5% Critical
0	136	-871.96		396.77	156
1	151	-809.86	0.974	272.57	124.24
2	164	-762.92	0.937	178.70	94.15
3	175	-728.68	0.867	110.23	68.52
4	184	-701.51	0.798	55.873	47.21
5	191	-687.84	0.553	28.53*	29.68
6	196	-680.47	0.352	13.79	15.41
7	199	-673.82	0.323	0.504	3.76
8	200	-673.57	0.147		

The table shows that at most, five cointegrating relationships exist among financial deepening and its determinants, indicating a unique long run relationship. "" indicates significance of the test*

The trace test statistics reveal that there are, at most, five cointegrating relationships among financial deepening and its determinants. Since the trace statistics takes into account the smallest eigenvalues, it possesses more power than the maximum eigenvalue statistics. Johansen and Juselius (1990) cited in Owoye and Onafowora (2007) recommend the use of trace statistics when there is a conflict between the two statistics. The conclusion drawn from the results is that there exists a unique long run relationship between financial deepening (M2/GDP) and its determinants, nominal deposit rate, inflation rate, the lagged value of financial depth, gross domestic product, domestic savings/GDP ratio, exchange rate, liquidity reserve ratio and shift in financial policy from regulation to deregulation of interest.

In the short run, deviations from this relationship could occur due to shocks to any of the variables. Therefore, Soyibo and Olayiwola (2000) suggest that the short-run interactions and adjustment to long-run equilibrium are important because of the policy implications. As shown in Table 5, the vector error correction model (VECM) was applied to analyse the short-run dynamics. The model is significant at 1% level as shown by the chi squared statistic. The R-squared is equally impressive at 76.86%.

The analysis in Table 5 indicates that the error correction co-efficient is significant implying a long run equilibrium relationship between financial deepening, interest rates and other independent variables. The co-efficient of the long run relationship is negative and significant meaning that when there is a shock in the system, it returns to equilibrium. The error correction term has the expected negative sign and is significant. The absolute value of the coefficient of the error-correction term (ECM_{t-1}) indicates that about 210 per cent of disequilibrium in financial deepening is offset by short-run adjustment in each year. Lagged difference of the financial development variable (M2/GDP) enters the model and is significant at the 5% level meaning that financial development (M2/GDP) is auto regressive. The results also indicate the first lags of gross domestic product, liquidity reserve ratio, domestic savings/GDP ratio and shift in

financial policy from regulation to deregulation of interest variables are significant at the 5% level. In addition the 2nd lag difference of domestic savings/GDP ratio, shift in financial policy from regulation to deregulation of interest and gross domestic product are also significant at 10%, 10% and 1% levels respectively. This is evidence of granger causality.

Table 5: Regression Results of the Chi-squared Statistics and Model Parameters

Equation	Parms	RMSE	R-sq	chi2	P>chi2
D_Financial Depth2	18	189.51	0.7686	53.13896	0.0002
		Coefficient	**Std. Err**	**z**	**P>z**
Error Correction Modelt-1					
Lag value of ECM		-2.10119	0.757616	-2.77	0.006*
Financial Depth^2					
Lag value of fin. Depth		1.9007	0.831	2.29	0.022*
Second lag value of fin. depth		0.180176	0.625589	0.29	0.773
Deposit Rate					
Lag value of deposit rate		18.40889 -	17.30942	1.06	0.288
Second lag value of deposit rate		7.48689	14.2574	-0.53	0.599
Inflation Rate					
Lag value of inflation rate		-2.75952	2.764221	-1	0.318
Second lag value of inflation rate		1.240543	2.526251	0.49	0.623
Growth Rate of GDP					
Lag value of growth rate		86.2035	35.11679	2.45	0.014*
Second lag value of growth rate		40.79866	15.91789	2.56	0.01*
Saving/gross domestic ratio					
Lag value of saving/GDP ratio		-137.226	83.97778	-1.63	0.102
Second lag value of saving/GDP ratio		-38.0428	75.09875	-0.51	0.612
Exchange rate^2					
Lag value of exchange rate		-0.07531	0.043049	-1.75	0.08*
Second lag value of exchange rate		-0.07256	0.040094	-1.81	0.07*
Liquidity ratio					
Lag value of liquidity ratio		-20.9972	6.956709	-3.02	0.003*
Second lag value of liquidity ratio		-0.64625	6.204856	-0.1	0.917
Financial Shift in Policy					
Lag value of financial shift		-491.486	418.955	-1.17	0.241
Second lag value of financial shift		767.6252	423.7548	1.81	0.07*
Constant		85.70848	42.4977	2.02	0.044*

*The table shows the regression results, Chi-squared Statistics and Model Parameters. The table is separated into row segments. The regressor appears first followed by the lagged difference and the second lagged difference. The table shows the variables with the dependent variable on top (D_Financial Depth2 i.e. first difference of squared M2/GDP). The dependent variable is financial deepening, while the independent variables are nominal deposit rate, inflation rate; lagged value of financial depth; gross domestic product; domestic savings/GDP ratio; exchange rate; liquidity reserve ratio; and shift in financial policy from regulation to deregulation of interest. ECMt-1: is the error correction parameter. The variables marked with * are significant.*

The study went further to conduct a Lagrange-multiplier autocorrelation test on the residuals. The Table 6 results show the null hypothesis of no autocorrelation is accepted at 5% at both lags.

Table 6: Lagrange-multiplier autocorrelation test

Lag	Chi2	DF	Prob>chi2
1	73.20	64	0.2016
2	70.47	64	0.2701

This table shows the test for no autocorrelation in the error terms

CONCLUDING COMMENTS

This study empirically investigates the effect of interest rate reforms on financial deepening in Nigeria, using time series data from 1973 - 2009. Interest rates are expected to play a pivotal role in the saving-investment –growth relationship, as well as ensuring the provision of the needed capital for the private sector, which are a catalyst in the development process. The motivation for this study, therefore, is to provide both theoretical and empirical evidence on the significant relationship between interest rate

reforms and financial deepening in Nigeria. Most previous studies are theoretical.

The methodology adopted for the study includes the cointegration and vector error correction model (VECM) to determine the long and short run dynamics of the model. Financial deepening was proxied by the monetization rate (M2/GDP), which measures the relative size and role of the financial system in the economy, while the interest rate reform was proxied by the deposit rate. The study regressed the financial deepening variable (M2/GDP) on the nominal deposit rate, inflation rate, the lagged value of financial depth, growth rate of gross domestic product, domestic savings/GDP ratio, exchange rate, liquidity reserve ratio and shift in financial policy from regulation to deregulation of interest.

The results indicate that there exists a long run relationship between financial deepening and interest rates. It was also demonstrated that interest rate reform has a positive and significant effect on financial deepening in Nigeria. The findings corroborate the work of Asamoah (2008) that financial reforms lead to competition in the financial markets, thereby raising interest rates to encourage savings and making funds available for investment. This process ultimately leads to economic growth.

Based on the findings, the study recommended that policy makers influence financial development, economic growth, liquidity reserve ratio, domestic savings/GDP ratio, and conduct financial reforms to ensure the efficiency and development of the financial system. The findings will provoke financial policies that will promote economic growth in the country. Future research on the effect of financial reforms on economic deepening should take into consideration the magnitude of the effect and the level of democratization in the country.

REFERENCES

Agenor, P. and Montiel, P.(1996), *Development Macroeconomics*, Princeton University Press

Asamoah, G. N.(2008), The Impact of the financial Sector Reforms on Savings, Investments and Growth of Gross domestic Product(GDP) in Ghana, *International Business & Economic Research Journal* 7(10), 73 – 84.

Boyd, J. H., R. Levine and Smith (1996), 'Inflation and financial performance', *Working Paper* 573D. Minneapolis, Federal Reserve Board Minneapolis, October.

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

Cheang, N.(2004), Financial Stability and Economic Growth in Macao' Available at http://www.amcm.gov.mo/publication/quarterly/Apr2004/Financial%20Stability_en.pdf, assessed on April, 2011

Edirisuriya, P.(2008), Effects of Financial Sectors in SRI Lanka: Evidence from the Banking Sector, *Asia Pacific Journal of Finance and Banking Research* 1(1)

Greenwood J. and B. D. Smith, (1997), Financial Markets in development and the development of financial markets", *Journal of Economic Dynamics and Control*, 21, January: 145-181

Haslag, J. H. and Koo, J.(1999), Financial repression, financial development and economic growth, *Working Papers* 99-02, Federal Reserve Bank of Dallas, Available at http://ideas.repec.org/p/fip/feddwp/99-02.html. Aassessed on 6th April,2011

Ikhide, S. I. and Alawode, A. A. (2001), Financial Sector Reforms, Microeconomic Instability and the

Order of Economic Liberation: The Evidence from Nigeria, *African Economic Research Paper 112*: ISBN 9966-944-53-2

Johansen, S. and Juselins, K. (1990), Maximum Likelihood Estimation and Influence on Cointegration with Application to Demand for Money, *Oxford Bulletin of Economics and Statistics.*

Mckinnon, R.I. (1973), *Money and Capital in Economic Development*,   Washington, D.C.: Brookings Institutiion.

Nnanna, O. J. and Dogo, Mela (1998) Structural Reform, Monetary Policy and Financial Deepening: The Nigerian Experience*, Economic and Financial Review* 36(2), 1-29

Odhiambo, N.M. and Akinboade, O.A. (2009), Interest-Rate Reforms and Financial Deepening in Botswana: An Empirical Investigation, *Economic Notes*, 38(1/2): 97-116

Ojo, J.A.T. (1976), *The Nigerian Financial System*, University of Wales Press, Cardiff.

Outreville, J. F. (1999) Financial Development, Human Capital and Political Stability, UNCTAD/OSG/DP/142. Availability at www.unctad.org/templates/download.asp?docid=204&lang=1 Accessed on 6th April, 2011.

Owoye, O.and Onafowora, O. A. (2007), M2 Targeting, Money Demand, and Real GDP Growth in Nigeria: Do Rules Apply? *Journal of Business and Public Affairs,* 1(2)*,* Oxford University Press.

Shaw, E. (1973), *Financial Deepening in Economic Development*, New York:

Soyibo, A. and Olayiwola K. (2000), Interest Rate Policy and the Promotion of Savings Investment and Resource Mobilisation in Nigeria, *Research Report 24*, Development Policy Centre, Ibadan.

Ucer, E. M. (1997), Notes on Financial Liberalisation: A Background Notes prepared for an EDI Seminar on Microeconomic Management: New Methods and Current Policy issues' Nairobi, Kenya and Ankara, Turkey. Available at www.econ.chula.ac.th/public/members/sothitorn/liberalization_1.pdf Accessed on 6th April, 2011.

ACKNOWLEDGEMENTS

BIOGRAPHY

Dr. T. M. Obamuyi is a Senior Lecturer in the Department of Banking and Finance, Adekunle Ajasin University, Akungba-Akoko, Ondo State, Nigeria. E-mail: tomolaobamuyi@yahoo.co.uk

J. A Demehin is a Lecturer in the Department of Banking and Finance, Adekunle Ajasin University, Akungba-Akoko, Ondo State, Nigeria. Email: demehinaderyi@yahoo.co.uk