

## The Impact of Interest Rate Liberalization on Savings and Investment: Evidence from Nigeria

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### Abstract

The intellectual platform for financial liberalization in developing countries was provided by the seminar works of Mckinnon (1973) and Shaw (1973). They were of the view that interest rate liberalization causes interest rate to rise, thereby increasing savings and investment. This study took a careful look at the impact of interest rate liberalization on savings and investment in Nigeria. It covers the period 1976 to 1999. Simple linear regression technique was adopted using SPSS statistical software. The study reveals that interest rate liberalization had negative non significant impact on savings and negative significant impact on investment in Nigeria. Thus, interest rate liberalization, though a good policy, was counterproductive in Nigeria. This might probably be as a result of improper pace and sequencing. In determining the appropriate sequencing of interest rate liberalization, we recommend that the authorities need to distinguish not only between loan and deposit transactions but also between wholesale and retail transactions. Interest rates on wholesale transactions between sophisticated entities should be liberalized first, followed by lending rates and then deposit rates. This gradual approach safeguards the profitability of banks while allowing time for people and firms to adjust to liberalization.

**Keywords:** Interest Rate Liberalization, Savings, Investment, Nigeria

### 1.0 Introduction

The seminar works of McKinnon (1973) and Shaw (1973) attributed financial repression as the cause of the unsatisfactory growth performance of developing countries. They argued that countries characterized by financial repression; raising nominal interest rates relative to inflation would increase saving and the supply of investible resources in the economy. The productivity of investment also rises as these resources are channeled to projects that have higher rates of return. They argued further that financial repression arises mostly when a country imposes ceilings on nominal deposit and lending interest rates at a low level relative to inflation. The resulting low or negative real interest rates discourage savings mobilization and the channeling of the mobilized savings through the financial system. This has a negative impact on the quantity and quality of investment and hence on economic growth. Both McKinnon and Shaw advocated that financial liberalization was needed to remedy the problems caused by the financial repressive policies of developing countries.

Since the introduction of the financial liberalization concept in the 1970s, many countries such as Angola, Burundi, Congo, Cote d'Ivoire, Gambia, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Rwanda, Tanzania, Zambia, Zimbabwe, India, China, Turkey, etc. have made attempts at liberalizing their financial sectors by deregulating interest rates, eliminating or reducing credit controls, allowing free entry into the banking sector, giving autonomy to commercial banks, permitting private ownership of banks and liberalizing international capital flows. Odhiambo (2009) posits that of these six dimensions of financial liberalization, interest rate liberalization seems to have been the main center of attention.

According to Soyibo and Olayiwola (2000), the Nigerian economy witnessed financial repression in the early 1980s. There were rigid exchange and interest rate controls resulting in low direct investment. Funds were inadequate as there was a general lull in the economy. Monetary and credit aggregates moved rather sluggishly. Consequently, there was a persistent pressure on the financial sector, which in turn necessitated a liberalization of the financial system. The Nigerian government deregulated interest rate in 1987 as part of the Structural Adjustment Programme (SAP) policy package introduced in 1986. The official position then was that interest rate liberalization would among other things; enhance the provision of sufficient funds for investors, especially manufacturers, who are considered to be prime agents, and by implication, promoters of economic growth. However, in a dramatic policy reversal, the government in January, 1994 out-rightly introduced some measures of regulation into interest rate management. It was claimed that there were "wide variations and unnecessarily high interest rates" under the complete deregulation of interest rates (CBN, 2010).

The cap on interest rates introduced in 1994 was retained in 1995 with a minor modification to allow for flexibility. The cap stayed in place until it was lifted in October 1996. The lifting remained in force till 1997, thus enabling the pursuit of a flexible interest rate regime in which bank deposit and lending rates were largely determined by the forces of demand and supply for funds (Omole and Falokun, 1999).

This study is an attempt to contribute to existing literature on the impact of interest rate liberalization on savings and investment in Nigeria. The objective of the study is to determine the impact of interest rate liberalization on both savings and investment in Nigeria. The paper is divided into five sections. Section one is the introduction. Section two is a review of related literature. Section three presents our methodology. Section four contains the empirical analysis while section five shows our conclusion and recommendation.

## 2.0 Review of Related Literature

According to Ojo (2001), interest rates are defined as the rental payments for the use of credit by borrowers or the return for parting with liquidity by lenders. An interest rate is a price and like other prices, it performs a rationing function by allocating the limited supply of financial resources among the numerous competing demands for such resources. The Institute of Chartered Accountants of Nigeria (2009), saw interest as the price one pays for money in the financial markets. It is that vital factor that is used to quantify the time value of money. In recent years, many developing and transition countries have allowed market forces to play a greater role in their economies. In the financial sector, this means liberalizing interest rates so that they are allowed to be set by the market, and developing financial markets so that credit can be allocated more efficiently.

In August, 1987; the Central Bank of Nigeria (CBN) liberalized the interest rate regime and adopted the policy of fixing only its minimum rediscount rate to indicate the desired direction of interest rate. This was modified in 1989, when the CBN issued further directives on the required spreads between deposit and lending rates. In 1991, the government prescribed a maximum margin between each bank's average cost of funds and its maximum lending rates. Later, the CBN prescribed savings deposit rate and a maximum lending rate. Partial deregulation was, however, restored in 1992 when financial institutions were required to only maintain a specified spread between their average cost of funds and maximum lending rates.

The removal of the maximum lending rate ceiling in 1993 saw interest rates rising to unprecedented levels in sympathy with rising inflation rate which rendered banks' high lending rates negative in real terms. In 1994, direct interest rate controls were restored. As these and other controls introduced in 1994 and 1995 had negative economic effects, total deregulation of interest rates was again adopted in October, 1996, (CBN 2010). The econometric evidence on the basic M-S postulation that higher interest rates following liberalization will engender higher savings has been mixed, mirroring the theoretical ambiguity of the impact of interest rate changes on saving. Fry (1978) found that although higher interest rates in Nepal following liberalization triggered a change in the composition of the money stock - currency fell relative to deposits; there was a sharp contraction in both private sector demand for credit and the volume of investment. However, using pooled time-series data to estimate national savings functions for fourteen (14) Asian developing countries, Fry (1988) found that the real deposit rate of interest exerts a positive and significant effect on national savings.

Giovannini (1983) estimated regressions similar to Fry's (1988), coming up with contrasting results. Using data from the 1960s and 1970s for seven Asian countries, he found no real interest rate effect on savings. On the argument that traditional savings equations may not reveal the response of aggregate saving to the interest rate, Giovannini (1985) supplemented 'Keynesian-type' savings functions with estimates of the inter-temporal elasticity of substitution in consumption. Using annual data for 18 developing countries, it was found that only in 5 cases did consumption respond significantly to changes in interest rates.

Mwega and Ngola (1991) used Kenyan data to test the relationships between interest rates and financial and non-financial saving. Their results reveal that the real deposit rate has an insignificant influence on both financial and non-financial saving in Kenya. They also found that higher interest rates constrict the demand for credit, suggesting that a policy of interest rate liberalization might be stag-inflationary in its effects.

Turtelboom (1991) has provided reasons for one to be skeptical about the impact of interest rates on saving in Africa. He examined the experience of five African countries (Gambia, Ghana, Kenya, Malawi, and Nigeria) with interest rate liberalization. It was revealed that despite substantial progress made in reforming their financial systems, liberalization only partially affected the level and variability of interest rates in these countries. This behavior of interest rates was attributed to the underdevelopment of financial markets and the oligopolistic structure of the banking industry which kept interest rate spreads wide through the collusive behavior of the dominating banks.

Seck and El Nil (1993) also tested some causal relationships implied in the McKinnon-Shaw thesis for a sample of African countries. Using pooled cross-section and time-series data for 30 countries, the following results were obtained: i) the real deposit rate has a positive and significant impact on economic growth; ii) foreign savings and domestic financial savings both have a strong positive impact on investment; iii) interest rates have a negative impact on investment; and iv) the deposit rate positively influenced financial savings.

Using both times series and cross-sectional data for a large sample of industrial and developing countries, Masson, et al, (1998) also found that the real interest rate had a small and insignificant effect in estimated saving functions. Separating panels of industrial and developing countries revealed a negative and insignificant effect in developing countries but a positive and significant (but not robust) effect for industrial countries. The authors attributed this disparate effect to the different levels of financial development in industrial versus developing countries as well as possible instability in the saving function due to financial liberalization in the developing countries.

Hanson (2001) compared the repression and liberalization experiences of India and Indonesia to illustrate how different approaches to liberalization can result in different outcomes. Although both countries were pushed to liberalize interest rates and credit allocation following balance of payment problems, Indonesia undertook rapid liberalization of interest rates and softened bank entry with little improvement in regulation and supervision. In contrast, India undertook more gradual liberalization and was careful to improve regulation and supervision significantly. Deposit mobilization increased in both countries and the expansion of private banks in Indonesia increased credit access to a wider group of borrowers who appear to have used the resources more efficiently. Bank lending to the public sector remained large in India and the expansion in private sector credit came from non-bank financial intermediaries and the capital market. Growth increased in both countries following interest rate liberalization. Hanson found evidence that the productivity of investment also improved. The lack of strong supervision in Indonesia eventually resulted in serious banking problems, especially among small banks that entered with little capital.

Phylaktis (1997) however notes that despite the trauma associated with liberalization, by the early 1990s, Chile was at the most advanced stage in the process compared to other Latin American countries and was poised to resume sustainable growth. Nominal and real interest rates were however at high levels despite substantial capital inflows, as the demand for credit remained high. According to him, the key lessons to learn from Chile's experience with financial liberalization include: i) the order of liberalization is crucial and it is important to stabilize the economy before embarking on financial liberalization; ii) there should be a gradual liberalization of the external accounts and foreign exchange restrictions in order to avoid a possible increase in the stock of foreign debt; and iii) liberalizing interest rates without improving banking supervision creates moral hazard, with banks extending risky loans at high interest rates, in the expectation that deposit insurance will cover the losses.

### **3.0 Methodology**

The *ex-post facto* research design was adopted to enable the researchers make use of secondary data to determine the cause-effect relationship of interest rates liberalization and savings, as well as investment in Nigeria. The variables were observed over the period, 1976 to 1999. The assessment period were divided into two: Pre-Liberalization era (1976-1987) and Post-Liberalization era (1988-1999).

The scope for this study covered the Deposit Money Banks (DMBs) in Nigeria during these periods. The choice for DMBs is based on the fact that they are directly involved in savings mobilization and lending than the other institutions and has savings mobilization and lending as their major function. This study therefore adopts the simple linear regression against the works of Mckinnon (1973); Shaw (1973); Fry (1980) and Giovannini (1985). Onwumere (2009) stated the general simple linear regression model as follows:

$$Y = b_0 + b_1X_1 + \mu \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad (1)$$

where Y is a function of K independent variable which is in the form of X and  $\mu$  is an error term.

Based on the above, our models for this study are specified as follows:

**Model 1:** This model shall test the impact of liberalized deposit rates on savings in Nigeria. The model is stated thus;

$$ASR_t = a_0 + a_1RDR_t + \mu_t \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad (2)$$

where:  $ASR_t$  = Aggregate Savings rate at time t;  $RDR_t$  = Real Deposit Rates;  $\mu_t$  = Random error term.

**Model 2:** The model shall test the impact of liberalized lending rates on investment in Nigeria. It is stated thus;

$$AIR_t = b_0 + b_1RLR_t + \mu_t \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad - \quad (3)$$

where:  $AIR_t$  = Investment rate at time t;  $RLR_t$  = Real Lending Rates;  $\mu_t$  = Random error term.

#### 4.0 Analysis of Results

**Table 4.1: Summary of SPSS Result of the Impact of Deposit Rate on Savings for the Two Eras**

**Table 4.1.1 Pre-Liberalization Era (1976-1987)**

Model	R	R Square	Unstandardized Coefficients		t	Beta	Durbin Watson
			B	Std Error			
1	0.276 <sup>a</sup>	0.076	-	-	.910	.276	1.797
Constant	-	-	-27.101	20.864	-	-	-
RDR	-	-	2.188	2.405	-	-	-

Source: Researchers' SPSS Computation

As indicated from table 4.1.1 above, deposit rate had a positive non-significant impact on savings. This is indicated by real deposit rate coefficient (2.188) and t-value (0.910). The correlation coefficient as indicated by (R) reveals that there was a positive correlation between deposit rate and savings for the period (beta coefficient of the independent variable = 0.276). The Durbin Watson (d) test statistic is 1.797.

**Table 4.1.2 Post- Liberalization Era 1988-1999**

Model	R	R Square	Unstandardized Coefficients		t	Beta	Durbin Watson
			B	Std Error			
1	0.068 <sup>a</sup>	0.005	-	-	-.215	-.068	0.975
Constant	-	-	-14.398	25.165	-	-	-
RDR	-	-	-.901	4.197	-	-	-

Source: Researchers' SPSS Computation

As indicated from table 4.1.2 above, deposit rate had a negative non-significant impact on savings. This is indicated by real deposit rate coefficient (-0.901) and t-value (-0.215). The correlation coefficient as indicated by (R) reveals that there was a negative correlation between deposit rate and savings for the period (beta coefficient of the independent variable = -0.068).

**TABLE 4.2: Summary of SPSS Result of the Impact of Lending Rate on Investment for the Three Eras**

**Table 4.2.1 Pre-Liberalization Era 1976-1987**

Model	R	R Square	Unstandardized Coefficients		t	Beta	Durbin Watson
			B	Std Error			

1	0.256 <sup>a</sup>	0.065	-	-	.837	.256	1.259
Constant	-	-	21.822	1.655	-	-	-
RLR	-	-	.119	.143	-	-	-

Source: Researchers' SPSS Computation

As indicated from table 4.2.1 above, lending rate had a positive non-significant impact on investment. This is indicated by real lending rate coefficient (0.119) and t-value (0.837). The correlation coefficient as indicated by (R) reveals that there was also a positive correlation between lending rate and investment for the period (beta coefficient of the independent variable = 0.256). The Durbin Watson (d) test statistic is 1.259.

**Table 4.2.2 Post-Liberalization Era 1988-1999**

Model	R	R Square	Unstandardized Coefficients		t	Beta	Durbin Watson
			B	Std Error			
1	0.625 <sup>a</sup>	0.390	-	-	-2.529	-.625	1.756
Constant	-	-	13.607	1.777	-	-	-
RLR	-	-	-.183	.072	-	-	-

Source: Researchers' SPSS Computation

As indicated from table 4.2.2, lending rate had a negative significant impact on investment during the post-liberalization era in Nigeria. This is indicated by real lending rate coefficient (-0.183) and t-value (-2.529). The correlation coefficient as indicated by (R) reveals that there was also a negative correlation between lending rate and investment for the period (beta coefficient of the independent variable = -0.625). The Durbin Watson (d) test statistic is 1.756.

## 5.0 Conclusion and Recommendation

The objective of this study was to assess the impact of interest rate liberalization on savings and investment in Nigeria. Accordingly, it dwells on theoretical and empirical review of the financial sector reform of 1986 in Nigeria. Findings from the study shows that deposit rate liberalization had a negative non significant impact on savings in Nigeria. The study also reveals that liberalized lending rate had a negative significant impact on investment. Thus, interest rate liberalization had a negative non significant impact on savings and negative significant impact on investment. Hence, high interest rate following liberalization did not cause savings and investment to increase in Nigeria. The result therefore fails to support the McKinnon-Shaw postulation that interest rate liberalization will cause interest rate to rise, thereby increasing savings and investment. Hence, there was a failure of the policy package as it did not produce the expected result in Nigeria (see Mwegu and Ngola, 1991 and Masson et al, 1998). This failure may have been as a result of improper pace and sequencing of the policy package.

In view of the financial liberalization theory, interest rate liberalization is not a bad idea if proper pace and sequencing is taken. Thus, we recommend that, in determining the appropriate sequencing of interest rate liberalization in Nigeria, the authorities need to distinguish not only between loan and deposit transactions but also between wholesale and retail transactions. Interest rates on wholesale transactions between sophisticated entities should be liberalized first, followed by lending rates and last, deposit rates. This gradual approach safeguards the profitability of banks while allowing time for people and firms to adjust to liberalization. Sequencing in which interbank market rates are liberalized first, followed by lending rates, and, last, by deposit rates stems from a desire to treat financially sophisticated entities, that is, financial institutions and government agencies, differently from those with less financial awareness - business enterprises and the general public. Because the interbank market rate does not affect the public directly, its liberalization has the least political and social exposure. Korea, Malaysia, and Turkey adopted this sequencing. China also followed this model, to allow time for the learning process – deposit rates will be liberalized last to give the general public time to get used to a new way of setting rates.

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