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INTEREST RATE LIBERALIZATION IN DEVELOPING COUNTRIES: THE ALGERIAN EXPERIENCE

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Abstract: In the second half of the 1980s, several developing countries abandoned financial repression regime and instead introduced interest rates liberalization as framework for the conduct of monetary policy. In this paper, we analyzed the Algerian experience. The conclusion from the analysis is that Algerian public banks still need more financial restructuring, but the key challenge lies in restructuring their operations to make them attractive to private sector. The public bank should be privatized and continue enhancing banking supervision and implementing structural reforms to develop and promote diversification of financial market.

Keywords: Interest Rate Liberalization, Developing Countries, Algeria, financial repression, Financial Liberalization.

Introduction

The relation between interest rate and growth is an old and controversial question in economics. Many economists have argued that, with other things given, countries that have "liberalized" their financial sectors, and have reduced their impediments to international capital will outperform those countries that have failed to do so. The World Bank and the International Monetary Fund have, in fact, endorsed this view; they routinely condition funds to their member countries on the implementation of interest rates liberalization policy.

However, throughout the years a number of authors have expressed great skepticism about the theoretical and empirical validity of this proposition. The debate on the relationship between interest rate policy and economic growth has attained new heights as a result of both the Third World debt crisis and of the attempts at reforming the Eastern European economies. A large number of experts have argued that the most efficient way for highly indebted countries to get over the crisis is to "grow out of it". Furthermore, they have pointed out that the only

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way for this to happen is for these economies to rapidly embrace market-oriented reforms, including the liberalization of their interest rate. Although this view is becoming increasingly popular, it is still opposed by a number of economists, especially with the emergence of a new generation of growth models based on the roles of economies of scale, human capital accumulation and endogenous technological progress.

It is a widely accepted idea that the interest rate matters for the process of economic development. In fact, this is the interest rate where a large part of an economy's savings are intermediated towards productive investment purposes. Since the rate of capital accumulation is a fundamental determinant of long-term growth, the optimal of the interest rate where the allocation of savings to investment projects occurs is potentially important for the long-term performance of an economy.

In the earlier literature on the subject, McKinnon [1973] and Shaw [1973] posited that the removal of interest rates ceilings which prevent the competitive operations in the market for funds will be beneficial to developing countries. With higher interest rate comes higher savings and investments which contribute to economic growth.

The paper has three sections. Section I reviews the economic literature on interest rate liberalization policy. Section II presents the structure of interest rate in Algeria before 1990s. Section III provides an overview of Algeria's financial deregulatory process since the early 1990s and investigates the effects of interest rate liberalization on the structure of the banking system and some financial indicators.

I. Theoretical Framework of Interest Rate Liberalization

A high economic growth in conjunction with positive real interest rates is the central objective of macroeconomic policy, and is one of the dimensions of financial liberalization which has occupied a central position in the process of economic development in developing countries. Not surprisingly, the question of the existence and nature of the link between high real deposit rate on overall savings, investment and growth has been the subject of considerable interest for economists and policymakers alike, over the last four decades.

Until the early 1970s, it was generally believed that low interest rates on bank loans and deposits would promote investment spending and growth, a notion consistent with the Keynesian and neo-classical analyses[1] where the interest rate is part of the cost of capital. This prompted many countries to impose interest rate

[1] - Lazaros E. Molho, Interest Rates, Saving, and Investment in Developing Countries, A Re-examination of the McKinnon-Shaw Hypotheses, Staff Papers - International Monetary Fund, vol.33 N0. 1. March 1986, p 90.

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ceilings at below market-clearing levels, is based on the following theoretical framework and analytical: [2]

First, the government needs to impose anti usury laws thereby intervening in the free determination of interest rates, because lowering the interest rate could increase the expected quality of borrowers, and this effect would be even greater if it were assumed that the government had some positive selection capabilities.[3]

Second, the control strict (supervision) and prudential regulation of the banking system would give the monetary authorities a better control over the money supply and inflation.

Third, the governments knew better than markets or private banks, what the optimal allocation of savings was or what kind of investments were more or less desirable from a social perspective.

Fourth, financial repression was identified with interest rates below market rates which reduced the costs of servicing government debts. It also increases firm equity because it reduces the cost of capital, leading to investments with higher expected returns.

McKinnon [1973] and Shaw [1973] challenged the economic growth argument, however, arguing instead that high yielding instruments may be crowded out of the market by distortions introduced by financial repression, creating a false preference for capital intensive investment, and discouraging savings. They argued that raising interest rates to market-clearing level increases the amount people are willing to hold as financial assets by decreasing the holdings of non-financial assets such as cash, gold, commodities, land, etc. Thereby, the domestic financial system is able to extend more loans to the investors and hence the equilibrium rate of investment increases. This effect is further enhanced if the cost of intermediation by banks is kept low by having a competitive banking structure and minimum taxation on financial intermediation.

Because low interest rates are insufficient to generate savings, and even reduce savings especially if substitution effects dominate the income effect for households, as well as increasing the desired level of investment but they also reduced the actual level of investment, owing to the reduction in savings.[4] As that below equilibrium interest rates lead to capital flight, thereby reducing the

[2] - Nouriel Roubini and Xavier Sala-i-Martin, Financial repression and economic growth, Journal of Development Economics, 39/1992, p 7
[3] - Joseph E. Stiglitz, The Role of the State in Financial Markets, The International Bank for Reconstruction, The World Bank, 1994, p 40.
[4] - Ishan Kapur, Interest Rate Liberalization: Some Lessons from Africa, IMF, Working Paper, 91/121, December 1991, p 3.

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availability of savings for domestic investment. Generally, according to MacKinnon this policy distorts the economy in five ways: [5]

First, low interest rates produce a bias in favor of current consumption and against future consumption. Therefore, they may reduce saving below the socially optimum level. This leads to reducing the flow of loanable funds through the organized banking system, forcing potential borrowers to rely more on self finance.

Second, Interest rates on the truncated flow of bank lending vary arbitrarily from one class of favored or disfavored borrower to another, as well as the potential lenders may engage in relatively low-yielding direct investment instead of lending by way of depositing money in a bank.

Third, The process of self finance within enterprises is itself impaired. If the real yield on deposits is negative, firms cannot easily accumulate liquid assets in preparation for making discrete investments. While the borrowers able to obtain all the funds they want at low loan rates will choose relatively capital-intensive projects.

Fourth, the pool of potential borrowers contains entrepreneurs with low yielding projects who would not want to borrow at the higher market-clearing interest rate. Lowering interest rates does not necessarily increase the average efficiency of investment because lower interest rates can encourage entrepreneurs with lower-yielding projects to bid for funds.[6]

Fifth, Inflows of foreign financial capital may be unproductive when the domestic capital market is in disarray and foreign exchange rates are unpredictable.

The traditional justification for financial repression is that it is presumed to increase the rate of economic growth. This turns on the dubious assumption that money and real assets are perfectly substitutable. The basic idea is that increasing returns in real asset markets relative to money market instruments will induce a shift in investor behavior, out of money and into capital investment. An important implication is that setting interest rate ceilings will reduce the rate of return on financial assets, and induce a shift to investments in productive assets, thereby increasing the rate of economic growth.

On the contrary, McKinnon [1973] asserts that money and real capital assets are complements in developing economies because in the absence of deep financial

[5] - McKinnon Ronald, Financial Repression and the Productivity of Capital: Empirical Findings on Interest Rates and Exchange Rates, Asian Development Bank, Distinguished Speakers Program July, 1990, p 9 .

[6] - Maxwell Fry, saving, investment, growth, and financial distortions in pacific Asia and other developing areas, international economic journal, volume 12, Number 1, Spring 1998 , p 4.

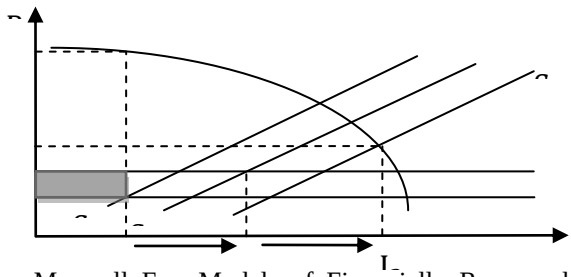
markets and extensive financial intermediation, money balances have to be accumulated before relatively costly and indivisible investment projects can be undertaken. This hypothesis (complementarity hypothesis) implies that the demand for real money balances depends positively upon real income, the own real rate of interest on bank deposits, and the real average return on capital. Critically, the positive association between the average real return on capital and the demand for money balances represents the complementarity between capital and money.[7] Overall, deposits may serve as a conduit for capital formation, making deposits and capital complementary assets. The availability of deposits with positive real rates of return may thus encourage both saving and capital accumulation.

The essential common elements of the McKinnon-Shaw model are illustrated in Figure [1]. Saving $S_{(Y_0)}$, at a rate of economic growth Y_0, is a function of the real interest rate. *F* represents financial repression, taken here to consist simply of an administratively determined nominal interest rate, which holds the real rate R below its equilibrium level. Actual investment is limited to I_0, the amount of saving forthcoming at the real interest rate R_0.

If the ceiling applied only to savers' interest rates, e.g. only to deposit but not loan interest rates, the investor would face an interest rate of R_3, the rate which clears the market. The spread $R_3 - R_0$. would be spent by a regulated but competitive banking system on non-price competition, e.g. advertising and opening new bank branches. These non-price services may however not be valued on par with interest payments. Also, interest rate ceilings distort the economy by producing a bias in favor of current consumption against future consumption, thereby reducing savings below the socially optimum level.

Figure 1: Saving and Investment under

Interest Rate Ceiling



Source: Maxwell Fry, Models of Financially Repressed Developing

[7] - Tomoe Moore, A critical appraisal of McKinnon's complementary hypothesis: Does the real rate of return on money matter for investment in developing countries?, Economics and Finance, Working Paper No. 09-11, 2009, p 5.

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In fact, there are loan rate ceilings as well as deposit rate ceilings in most financially repressed economies. Although private commercial banks evade the former through compensating balances, they are generally observed by state owned banks and for all public sector borrowing. To the extent that banks do observe loan rate ceilings, non-price rationing of loanable funds must occur. So credit cannot be allocated according to the expected productivity of the investment projects but according to transaction costs and the perceived default risk, quality of collateral, political pressures. Loan rate ceilings discourage risk taking on the part of financial institutions; risk premia cannot be charged when ceilings are binding and effective. This itself rations out a large proportion of potentially high yielding investments. There is, therefore, a strong tendency for the investments which are financed to yield returns barely above the ceiling interest rate R_0. These are shown in Figure 1 above FF in the shaded area.

Raising the interest rate ceiling from FF to $F'F'$, i.e. from R_0 to R_1, in Figure 1 increases saving and investment. It also rations out all those low yielding investments, illustrated by the dots in the shaded area, which were financed before. They are no longer profitable at the higher interest rate R_1. Hence, the average efficiency of investment increases. The rate of economic growth is increased in this process and shifts the saving function to $S_{(Y_1)}$. Thus, the real rate of interest as the return to savers is the key to a higher level of investment, and as a rationing device to greater investment efficiency. The impacts on growth are multiplicative.

Thus, abolishing interest rate ceilings altogether produces the optimal result of maximizing investment and raising still further investment's average efficiency. This is shown in Figure 1 by the equilibrium I_2, R_2, and a higher rate of growth, Y_2. Clearly, changes in the real interest rate trace out the saving function.[8]

From an empirical perspective, Fry [1981, 1988] provide evidence on the relationship between real deposit rate and economic growth. The results show a high correlation between the two variables, with the regression coefficient of the interest rate variable being statistically significant at the 1 percent level in the first study[9] and at the 5 percent level in the second. From several pooled time series and cross-country studies for Asian economies for the 1960-1980, Fry found that estimates showing positive and statistically significant relationships between the rate of economic growth and the real deposit rate. The empirical results suggest that on average a 1 percentage point increase in the real deposit rate of interest

[8] - Maxwell Fry, Models of Financially Repressed Developing Economies, ibid, p 733.
[9] - Maxwell Fry, Inflation and Economic Growth in Pacific Basin Developing Economies, Federal Reserve of San Francisco, Economic Review, 1981, p 12.

towards its competitive free-market equilibrium level is associated with a rise in the rate of economic growth of about 0.5 a percentage point in Asia.

In a more comprehensive study Presented by Alan Gelb [1989] analyzed the relationship between average 3 to 6 month deposit rates (deflated by the CPI rate of inflation) and average real GDP growth. Gelb used the same methodology as Fry for a sample of 34 developing countries, over a longer time period (21 years), 1965-1985. He found that average growth rate was 5.5 percent for countries with positive real interest rates, 3.8 percent for those with moderately negative real interest rates, and only 1.9 percent for those with strongly negative real interest rates. Literally interpreting results, for every one percentage increase in the real deposit rate, output growth increases by 0.2 to 0.25 percentage points.[10]

Recent empirical work has tended to resort to far larger data sets than were used in studies before 1990. For example, De Gregorio and Guidotti [1995] suggested in study contained 85 developing countries over the period [1971-1995], that the relationship between real interest rates and economic growth might resemble an inverted U curve: Very low or negative real interest rates tend to cause financial disintermediation and hence tend to reduce growth, On the other hand, very high real interest rates that do not reflect improved efficiency of investment, but rather a lack of credibility of economic policy.[11]

II. Structure of Interest Rates in Algeria before 1990

Algeria has achieved remarkable economic growth through an export-oriented growth strategy [1962-1985] supported by heavy industrialization and substantial investment in human capital, but has had pervasive government intervention in its credit markets. Algeria's high growth was attained through the government's active role in financing industrial development, averaging 7% annually over the period [1962-1985]. [12] This high growth was led principally by the growths in manufacturing sector who benefited by intensive public investment about 45% of national income.[13] Policy loans made at preferential interest rates and direct credit

[10] - Alan Gelb, Financial Policies, Growth and Efficiency, The World Bank, Working Papers N0 202, June 1989, p 20.
[11] - Jose De Gregorio and Pablo E Guidotti, Financial development and economic growth, World Development, vol. 2 No 3, Mar 1995, pp 433- 448.
[12] - Mohamed Abdelbasset Chemingui, What Macroeconomics Factors Explain Algeria's Poor Economic Growth Performance, Background Paper for the GDN Global Research Project on explaining Growth in Developing Countries: The Case of Algeria, Revised version January 2003, p 4.
[13] - The financial institutions that channel investment financing are the National Bank of Algeria (BNA) for agriculture, the National Savings Bank (CNEP) for housing, and the Algerian Development Bank (BAD) for the other sectors, including industry.

control were the main tools used by the government. Although, it is certain that government intervention in the credit market played a role in accelerating Algerian development, this strategy has not been without significant costs, borne mainly by financial institutions and depositors. Financial repression created an inefficient banking system, a weak corporate financial structure, and high inflation tax burdens. The benefits and costs of heavy government intervention in the financial sector have been, and still are, hotly debated topics in Algeria.

The main aim of this policy (policy of low interest rates) was to keep the costs of funds low, with the belief that cheap credit promoted development through increased investment. The use of interest rates to manage monetary conditions and mobilize and allocate financial resources in an efficient manner was neglected. Interest rates remained under the administration of the government until 1990, through a regime of fixing minimum savings rates for all deposit-taking institutions and maximum lending rates for commercial banks. The allocation of resource to preferred sector was assured through central credit allocation and preferential interest rates. Interest rates in Algeria are low in comparison with current levels in industrial countries over the period [1963-1971]. The discount rate of the central bank has remained, since 1963, at the level of 3 to 3.75 percent per year. Commercial banks rates range from 4 percent for export transactions to 6 and 7 percent for medium and long- term investment loans, and 6.5 percent for non-rediscountable paper. Rates to the private business may be as high as 8 percent. Interest paid on time deposits ranges from 2.6 to 6 percent, depending on the period. Savings deposits in the CNEP earned 2.8 percent per annum, but this rate was raised to 3.5 percent on January 1971, as a means of encouraging small private savings.[14]

The Algerian government supplied a large amount of loans to priority sectors to sustain high growth and at the same time tried to control inflationary pressure caused by these loans. The volume of the credit to the economy more than doubled between 1967 and 1970. To achieve the conflicting goals of economic growth and inflation control, the government had to intervene directly in financial markets by using direct interest rate controls, preferential credit to priority sectors, and other direct controls on monetary aggregates and domestic credit.

Interest rates in Algeria are strictly regulated. They are low in comparison with the rates prevailing in the industrial countries and their structure is not strongly differentiated, especially during the period 1972- 1985 [See table 1]. For example the highest nominal lending rate 6 percent was charged on loans to private business, nominal rates as low as 2.5 percent prevailed for rural-sector borrowers.

[14] - World Bank, Economic Development and Prospects in Algeria, Volume I, in three volumes Main Report, October, 1971, p 47.

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Nominal interest rates on deposits also ranged between 2.5 and 6 percent[15]. While the nominal interest rates on long term loans were between 3 and 6 percent for the public sector, from 2.5 to 10 percent for the private sector between 1986 and 1989.[16] Deposit savings rates were too low, as a result of inflationary pressure created by the oil crisis in 1980s the interest rates became negative in real terms during most of the early 1980s.

Table 1: Structure of Interest Rates in Algeria [1972- 1990] [In percent]

	1972-85	1986	1988	1989	1990
CB rediscount	2.75	3-5	5	7	10.5
Deposit rate					
Time deposits	2.6-4.5	4-9	4-9	5-14	12-16
Housing deposits	2.5-4	5	5-6	8	8
Deposits (CNEP)	5	5	5	8	8
Lending rate					
Short Term	4- 6	5-10.5	-		13-20
Medium Term	3.5-5.5	5-9.5	4.5-10	14-17	15-20
Long Term	2 – 4	3.5-10	-		15-20

Source ; Naas Abdelkrim, Le Système Bancaire Algérien ; de la décolonisation à l'économie de marché, éditions INAS, 2003, p 107. World Bank, The Democratic and Popular Republic of Algeria Country Economic Memorandum: The Transition to a Market Economy, Vol. 1, 1994, p 57.

The mechanisms for mobilizing savings and channeling them to investment have been strengthened and rationalized by the measures taken in 1971 for reform of the financial system. These measures divide responsibility for investment financing between the Treasury and the banking system. Before 1971, the central government capital budget included appropriations to finance the social and administrative services, economic infrastructures and agriculture; it also included direct loans and advances to the enterprises to finance their investment programs. Since 1971, the banking system has been responsible for financing the investment of the enterprises, although this investment continues to be subject to approval by the Government within the context of the central-planning procedures and the Treasury continues to provide the greater part of the funds required to finance it. Other aims were to introduce greater flexibility into the financial system, to improve

[15] - Alan Gelb and Patrick Conway, Oil windfalls in a controlled economy A 'Fix-price' Equilibrium Analysis of Algeria, Journal of Development Economics, North-Holland, 28/1988, p 65.
[16] - Benissad Hocine, La Réforme Economique en Algérie ; ou L'indicible Ajustement Structurel, Office des Publications Universitaires, 1991, p 118.

supervision of the enterprises and to encourage better financial management on their part. However, the share of Government investment increased over the period 1971-1976 to about 93.5 percent in 1976 from about 83.8 percent in 1971, while the share of private investment decreased to about 6.47 percent in 1976 from about 16.1 percent in 1971. These figures suggest that the lending of concessional loans through state banks was strengthened after 1971.[17]

Based on the data in Table [1] we can point out some of the characteristics of structure of interest rates over the period [1972- 1990], the rediscount rate is set at 2.75 percent and applies uniformly to all rediscounting categories until 1985, and climbed to 3-5 percent in 1986, 5 percent 1987-1988, then it increased to 7 percent in 1989, and 10 percent in 1990. Lending rates are 4-6 percent for short-term credit, depending on the type of borrower, 5.5 percent for medium-term credit, with a lower rate (3.5 percent) for agriculture, and 2-4 percent for long-term credit which cannot be rediscounted. Deposit rates range from 2.6 percent for sight deposits to 4.5 percent, for deposits at more than two years term.

Interest rate for working capital loans was stable at 2–6 percent in 1972–1985, and climbed to 13-20 percent in 1990. While the three-month time deposit rate was 2.6-4.5 percent in 1972- 1985, 4-9 percent in 1986–1988, then it increased to 5-14 percent in 1989, and 12-16 percent in 1990.

Treasury equipment bonds bear interest ranging from 4 percent on 1-year bonds to 8 percent for 10-year bonds. Deposit and borrowing rates, particularly those for equipment bonds, appear to be remunerative and attractive to private savers, but this advantage would disappear if the rise in prices were to exceed. The fact that the interest rates are fixed indicate: they are not an instrument for short-term monetary policy. The low level and limited differentiation of lending rates indicates that they do not play an important role in resource allocation. [18]

Against this background, before to 1990, Algeria had a repressed financial system characterized by:

(1) Interest rate ceilings mostly at very low levels.

(2) Concessional selective credit with subsidized interest rates by monopolistic state-owned banks and the central bank.

(3) Lack of development of private capital market. For example, the degree of coverage of investment by budgetary savings was about 60 percent over the years 1975-78.

[17] - World Bank, Memorandum on the Economic Situation and Prospects of Algeria, Report No. 1816-AL, February 17, 1978, p 67.
[18] - World Bank, Current Economic Position and Prospects of Algeria, Volume 1: General Report No. 900-AL, October 20, 1975, p 46.

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After successful economic growth with a relative degree of internal and external balance in the 1960s and 1970s, Algeria experienced structural distortions in the 1980s with external shocks and financial imbalances. The country approached the IMF for financial assistance and terms for a standby agreement were agreed upon in May 1989.

Although the government recognized the constraints facing the financial sector as far back as the mid 1970s, no action was taken till the late 1980s. By the early 1980s there was growing pressure to maintain positive real interest rates, and to use the interest as a tool to promote monetary stability and economic growth. In the banking reform 1986, various proposals were made to develop the financial sector including the establishment of secondary market, money market and capital market to improve competitiveness in the sector.

A comprehensive banking sector adjustment program was launched in early 1989. The main objective was to improve the mobilization and allocation of domestic resources. The reform constituted both institutional and policy reforms. Institutional reforms were designed to restore public confidence in the financial system and to upgrade the skills required to supervise and regulate financial institutions. They included strengthening prudential regulations and supervision of financial system, development and implementation of specific restructuring programs for weak and solvent financial institutions, development of a strong cadre of central bank and other banking professionals, and the development of a capital market. The policy reforms involved reducing budget deficits and government reliance on domestic bank borrowing, developing more flexible monetary policy instruments, liberalizing interest rates, and improving efficiency of financial intermediation by removing distortions in financial resources mobilization and allocation.

III. Interest Rates Liberalization in Algeria

Since the early 1990s, Algeria has undertaken gradual liberalization of its financial markets, including banking deregulation, foreign exchange liberalization, establishment of the money market, and development of prudential regulation and banking supervision (By 1999, all banks were aiming to meet the risk-weighted capital-adequacy ratios recommended by the Basle committee), Banking deregulation measures include abolishment of direct central bank control of bank interest rates, relaxations the policy of directed credit (By 1994, banks were operating on the basis of market based credit allocations to firms and households), liberalization of entry of private banks, and relaxation of regulations with respect to bank business activities and the expansion of branches by existing banks. Foreign banks have also been given more freedom to do business, including setting up a

branch in addition to the local headquarters. In April 1994, foreign exchange controls were removed and foreign investors were allowed to repatriate earnings.[19]

The government saw the need to review the interest rates to encourage savings through the banks and to create a disincentive to forestall speculation and uneconomic use of savings by borrowers. In the l990s, the interest rate policy was reviewed with the following objectives:

First, to keep the general level of interest rates positive in real terms in order to encourage savings and to use the interest rates as a tool to promote monetary stability and economic growth.

Second, allow greater flexibility and encourage greater, competition among the banks and non-bank financial institutions to enhance efficient allocation of financial resources.

Third, to reduce the differential to maximize lending for banks, the interest rate liberalization aimed to harmonize the competitiveness among the commercial banks by removing the differential that had existed for maximum lending rates to allow greater flexibility and encourage greater competition in interest rate determination so that the needs of both borrowers and lenders could be better met through the cooperation of market forces. Also, it was aimed at making interest rates responsive to changes in international markets to provide protection against adverse movements of funds internationally.

Moves to liberalize interest rates began in 1990, when interest rates for the private and the public sector were unified and commercial paper from both sectors was made subject to the same eligibility criteria for refinancing. In May 1990 the ceilings on savings deposit rates for commercial banks were progressively raised, while commercial banks' lending rates still remained subject to a 20 percent ceiling a year.

An important step taken under the 1994 reform program was, therefore, the abolition of the ceiling on commercial banks' lending rates to the public, so that the effective rates on loans could exceed stipulated ceilings. It was accompanied by the temporary imposition of a cap of 5 percentage point on commercial bank interest rates spread, with a view to preventing an excessive increase of lending rates as a result of possible collusion among the five commercial banks. This cap on banks' spreads was eliminated in December 1995. Overall Since 1990, the administrative controls on interest rates have been progressively simplified in order to increase the role of market forces in their determination, and there has been a

[19] - Louis Kasekende et al, Restructuring for Competitiveness: The Financial Services Sector in Africa's Four Largest Economies, the World Bank and the African Development Bank, World Economic Forum 2009, p 58.

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series of upward adjustments in the Central Bank refinancing rates. Nevertheless, real deposit rates and lending interest rates have remained largely negative as a result of inflationary pressure.[20] [As shown in Table 3]

Interest rate liberalization was accompanied by other reforms including the floating of the exchange rate, capital account liberalization and trade liberalization. In the financial sector there was a move toward the use of indirect monetary policy instruments, including rediscount policy, reserve requirement policy, and open market operations, variable liquidity ratios and liberalized market based interest rates. The government took measures to remove the policy and institutional constraints in the operations of Treasury bill and Treasury bond markets, including the attraction of auction, reforms in the lending mechanism and issue of a broader range of treasury bills, aimed at regulating the liquidity in banking institutions. [See Table 2]

Table 2. Financial Liberalization Program in Algeria

Monetary policy and financial sector reform	**Date**
- Removal of ceilings on savings deposit rates.	[1990]
- Elimination of ceilings on bank lending rates while imposing a limit of 5 percent point on banks' spreads.	[1994]
- Introduction of minimum reserve requirement of 3 percent on bank deposits remunerated at 11% a year.	[1994]
- Audit of the state-owned commercial banks in collaboration with the world bank.	[1994-96]
- Financial restructuring and recapitalization of public commercial banks.	[1994- 96]
- Development of the money market	
- Introduction of an auction system for bank credit.	1995]
- Introduction of an auction system for treasury bills.	[1995]
- Introduction of open-market operation.	[1995]
- Imposing a capital adequacy ratio of 4 percent, it was increased to the bank of international settlement standard of 8 percent by 1999.	[1995]
- Elimination of the 5 percent point limit on banks' interest rate spreads.	[1996]
- Introduction of a deposit insurance scheme.	[1997]

[20] - Karim Nashashibi et al, Algeria: Stabilization and Transition to the Market, IMF Occasional paper 165, 1998, P 33.

Source; Karim Nashashibi et al, Algeria: Stabilization and Transition to the Market, op-cit, p 10.

This made it possible for the central bank use the Rediscount rate to influence the level of other short-term interest rates. However, with the high inflationary conditions, after the liberalization of most price controls and following the steep devaluation kept real interest rates negative until 1995.[21] A tight monetary policy was adopted to mop up the excess liquidity through the decline in credit to the non government sector. Rediscount rates increased, pushing up the interest rates. Commercial banks increased their deposit rates as they competed for deposits from the non-banking sector and then decreased with low inflation.

The central bank felt that it was only logical for the lending rates to come down to reflect change in inflation and the downward trend in rediscount rates. The lending interest rate was reduced by from 20 percent in 1994 to 9 percent in 1997, while the deposit rates decreased from 16 to 8.5 percent within the same period. [See Table 3]

Table 3. Structure of interest rates 1991-1999

[In percent per year]

	1991-94	**1995**	**1996**	**1997**	**1998**	**1999**
CB rediscount	11.5	14	13	11	9.5	8.5
Deposit rate	12-16	16-18	16-18	8.5-12	8.5-12	8-10
Lending rate	15-20	19-24	17-21	9-13	8-12.5	8-11
CN d'épargne						
Deposits rate						
Savings	8	16	16	16	12	7.5-9
Housing	5	12	12	12	10	7-9
Lending rate						
Individuals	7–14	12-22	12-22	10-17	8.5-10	8-10
Developers	14	16-20	16-20	10-17	8.5-10	8-10
Inflation	26	30	18.7	5.7	5	2.6

Source; Algeria: Selected Issues and Statistical Appendix, IMF, 1998, 2003.

After the interest rate ceiling was abolished, it became positive after 1996, suggesting that the (average) interest rate increased due to the deregulation measures enacted after 1990. The difference between deposit and lending interest rates exceeded 6 percent in 1989, but decreased to about 1 percent in 1997. This fact may suggest that the increased competition in the banking industry resulted in an increased competitiveness in the intermediation business.

[21] - Abdelali Jbili, Klaus Enders and Volker Treichel, Financial Sector Reforms in Algeria, morocco and Tunisia; A Preliminary Assessment, IMF, Working Paper 81, July 1997, p 20.

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The expected main objective of interest rates liberalization is that the financial sector will grow and become efficient as information flows improve, while the low cost of intermediation leads to a narrowing of the spread between the lending and deposit rates, as efficiency improves and competition increases.

Table 4. Interest Rates on Deposits, Loans and Spread [In percent per year]

	Nominal deposit rate	Nominal loan rate	Inflation	Real deposit rate	Real loan Rate	Nominal Spread
2000	7.5	10	0.34	7.16	9.64	2.5
2001	6.25	9.5	4.2	2	5.2	3.25
2002	5.25	8.5	1.4	3.8	7	3.25
2003	5.25	8	2.6	2.7	5.4	2.75
2004	2.5	8	3.5	-1	4.4	5.5
2005	1.75	8	1.6	0.1	6.3	6.25
2006	1.8	8	2.3	0.2	6	6.2
2007	1.8	8	3.6	-1.7	3.5	6.2
2008	2	8.1	4.8	-2.8	3.3	5.9
2009	1.8	8	5.7	-3.9	2.3	6.2
2010	1.8	8	3.9	-2.1	4.1	6.2
2011	1.8	8	4.5	-2.7	3.5	6.2

Source; IMF and Database World Bank,

So far, after two decades of interest rates liberalization, the results demonstrate a non achievement of efficiency in banking intermediation. Despite the efforts to introduce competitiveness, the banking sector seemed to gain an oligopolistic structure, with only a few institutions controlling the sector. Six state major commercial banks continued to dominate, with more than 93 percent of the total deposit liabilities and a similar share of the loans market.[22] (At end-2004, the six public banks accounted for 84 percent of bank deposits and 86 percent of bank credits). Most of the banking sector in Algeria is in public hands, while that although the private banks in Algeria are well capitalized and profitable but they only represent 10 percent of financial system assets. With such a structure it difficult for interest rates the banking system to respond to changes in other price indicators.

The interest rates spread could be used as an indicator to measure the degree of financial deregulation and competition in the banking market. More competition

[22] - Amor Tahari et al, Financial Sector Reforms and Prospects for Financial Integration in Maghreb Countries, IMF Working Paper 125, May 2007, p 12.

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stemming from a more liberalized financial system will tend to reduce the spread; a bigger spread could be taken as an indicator of a lower degree of financial liberalization. Interest rate spreads of nationwide commercial banks, which measure the difference between the average lending and deposit rates in a given year, came down quite strikingly between 1995 and 1999 [table 3]. This spread squeeze reflects increased competitive pressures in the bank deposit market that brought about a sharp increase in the average deposit rate after the deregulation of interest rates [table 4]. But after 2000 Interest rate spreads of banks, however, did not come down as much. Notwithstanding the declining interbank rates and surplus of funds in the banking system, the interest rates structure of commercial banks showed high lending rates. The average lending rate increased slightly to 8 percent in 2010 from 6 percent in 2006. In addition, deposit rates declined from an average 2 percent in 2006 to an average 1.8 percent in 2010. Thus the spread between the average lending rate and the average deposit rate widened in 2010 about 6.2 percent reflecting inefficiencies in cost management, and unrealistic profit expectations and targets in commercial banks.

This also reflects the fact that competitive pressures in the banking market are weaker than in the nationwide banking market because to restrictions on the expansion of bank branches.[23] It also reflects the fact that banks kept extending many more loans to small and medium-size firms than nationwide commercial banks.

Table 5. Financial Indicators after interest rates liberalization [In percent per year]

	M2[1]	GDP_R	CPS[2]	CPS[3]	NPLs[4]	CE[5]
2000	58.1	2.2	70.6	29.4	27.4	-13.5
2001	58.6	2.6	68.6	31.3	26.1	8.5
2002	63.9	4.7	56.5	43.5	-	17.5
2003	63.7	6.9	57.4	42.6	37.1	8.9
2004	61.0	5.2	56.0	44.0	37.4	11.2
2005	55.2	5.1	49.6	50.4	19.0	15.8
2006	56.7	2.0	44.5	55.5	18.0	7.1
2007	63.7	3.0	44.8	55.1	22.0	15.7
2008	63.0	2.4	46.0	54.0	17.5	18.6
2009	72.9	2.4	48.1	51.9	21.1	18.0
2010	68.8	3.3	44.7	55.3	18.3	5.1
2011	68.6	2.6	46.7	53.2	14.4	13.5

Source; Bank of Algeria, IMF and database world bank,

[23] - Algeria: Statistical Appendix, IMF Country Report No. 13/49, 2013, p 22.

1/ M2/GDP, 2/ Credit to public sector, 3/ Credit to private sector, 4/ Nonperforming Loans, 5/ Credit to the economy,

After deregulation, lending surged in Algeria. The ratio of loans to GDP increased from 25 percent to close to 27 percent within ten years, with regard the credit to the private sector remains small by international standards (about 22 percent of GDP in 2011), despite its recent rapid growth, reflecting the difficult access to financing for both businesses and households. Notably, credit to households was low and accounted for only 8 percent of credit to the economy, hindered by the ban on consumer credit decided in 2009.[24] Lack of capital has constrained the banks in developing credit to the private sector. The public banks' capital is only 4 percent of non hydrocarbon GDP. This small capital allows low overall credit because of capital adequacy rules. Since a significant share of credit still goes to public enterprises, the scope for private sector credit is small, because more credit to public enterprises may distract banks from developing the practices and products to finance private sector activity. Overall, the ratio of loans to total loans remains very small by international standards.

The non-performing loans are still very high by international standards, for example, in 2005, the ratio of non-performing loans to total loans about 19 percent while in Morocco and Mexico about 10 and 1.2 percent respectively, the cost of the government's taking over of public banks' non-performing loans has been about 3 percent of GDP annually from 1991–2001. The ministry of finance estimated public banks' remaining non-performing loans to public enterprises at 4 percent of GDP at end-October 2006.

Although the financial sector in Algeria is relatively deep when compared with Maghreb Countries, the M2/GDP ratio maintained after the liberalization of interest rates in 1990 is slightly lower than the average M2/GDP ratio maintained before the liberalization. For example, during the period 1970 to 1989, the average M2/GDP ratio was 65 percent.[25] Between 1990 and 2000, the average M2/GDP decreased to 46 percent. In 1996, the M2/GDP ratio reached about 0.36, the lowest since 1970. However, since then the ratio increased phenomenally. The ratio was 40 in 1997 and 56 percent in 1999. In 2000, the M2/GDP ratio increased to 58.1 percent and in 2009 the M2/GDP ratio reached 72.9 percent, the highest since 1990.

Although in Algeria financial depth has improved considerably since 1997, economic growth has consistently shown a mixed trend since the 2000. For

[24] - International Monetary Fund, Algeria: 2012 Article IV Consultation, IMF Country Report No. 13/47, February 2013, p 6.
[25] - Naas Abdelkrim, Le Système Bancaire Algérien ; de la décolonisation à l'économie de marché, op-cit, p 86.

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example, during the period 2000 to 2011, the country recorded a record high GDP growth rate to about 6.9 percent in 2003 from about 2.2 in 2000. However, the rate later declined in 2006 and 2007 to 2 and 3 percent respectively. Despite dwindling economic growth, has maintained Algeria on a modest recovery in economic growth during the period [2000-2011], on average, 3.5 percent. [See Table 5]

Against this background, the banking sector continues to face important challenges because of the sector's low levels of competition, relatively high intermediation costs, limited innovation, low credit growth to the private sector and dominance of state ownership. The banking system is burdened by high levels of non-performing loans, while the non-bank segment is characterized by underdeveloped bond, insurance, and mortgage markets; thin trading in equities; weak corporate governance; and weak infrastructure for effective payment systems.

Finally, the Algerian public banks still need more financial restructuring, but the key challenge lies in restructuring their operations to make them attractive to private sector. The public bank should be privatized. In addition to promote prudential supervision, there are important prerequisites for the development of sound private banks in Algeria:

1. Encouragement of the expansion of private banks on a sound basis and improving access to reliable market information and credit information systems.

2. A legal and judicial environment that promotes the enforcement of contracts and bank loan collateral, and the timely recovery of non-performing loans.

3. Creation of a mechanism in partnership with the private sector to advise start ups in the preparation of business plans, facilitate networking with other firms and contacts with financiers, and help SMEs upgrade accounting standards to facilitate assessment of creditworthiness by banks.

4. Creation of favorable conditions for the expansion of domestic securities markets also in connection with the development of domestic public debt markets.

5.

Conclusion

This paper has reviewed the financial liberalization process and examined the effects of interest rate liberalization on some financial indicators in Algeria. Several conclusions were drawn from the analysis:

The expectation in theory is that with financial liberalization, interest rates will be positive in real terms, the spread between the lending and deposit rates will narrow and with increased efficiency in banking intermediation. But, the study shows that:

- Positive real interest rates on deposits were achieved after 1996 when inflation rate took a downward trend. But, it became negative after 2006.
- The spread between lending and deposit rates widened with liberalization about 6.2 percent over the period 2005-2011, because the interest rates on loans increased at a faster rate compared with deposits rates.
- Efficiency has not been achieved in banking intermediation. This was reinforced by the oligopolistic structure of the market, where the sector is dominated by a few public banks. We conclude that Algerian banking system may be characterized by monopolistic competition.

Despite a series of deregulatory measures, Algeria's banking system still has structural problems and is expected to face difficulties when the market is fully liberalized

Overall, the reform of the banking sector is still an urgent goal. A gradual shift to a universal banking system seems inevitable to promote competition among financial institutions and to enhance the efficiency of Algeria's banking sector.

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