

Research article

Main indicators of the Tunisian banking system, inflation and financial context: possibility of inflation targets as a remedy

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Abstract

The analysis of monetary policy in Tunisia highlights three main distinct periods with the support of the IMF: the last in 1987 when the country was in deep recession, after 1989 with the gradual privatization plan launched by the government and recently current period in the end of 2012, after revolution, in which the economic and financial balance recorded major shocks remanding back of the ex-period and the rise in arrow of the inflation. This article aims to provide an overview on key reforms Tunisian financial markets from 1989. These reforms have particularly affected the banking system and the implementation of monetary policy based on the interest rate as an instrument controller for the first phase and also the monetary aggregates, M3 mainly, following the evolution of economic conditions to our days 2014. But from the 90's view that the success recorded by the industrialized countries precursors on Inflation Target strategy IT and some developing countries as follower, we will demonstrate the

inability of the Tunisian Central Bank TCB to pursue this inflation target announce strategy as a primary objective and the main difficulties before its actual realization in the current difficult economic environment.
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JEL: E31, E42, E44, E52, E58.

Introduction

A range of measures of monetary policy was engaged since the financial reform finally 80's of the last century, built around a program aimed at consolidating the market economy system where the instruments of indirect control override those of direct control. At the favor of the liberalization of the banking activities at the end of the 80s of last century, monetary authorities are attached to implement prudential regulation consistent with international standards for the consolidation financial base of the banks.

Usually, in the context of monetary policy, the monetary authorities Cukierman A. (1992) set a final goal and intermediate objectives. The hierarchy of these objectives, which differs from one economy to another, reveals in Tunisia a clear dominance of the control of inflation, considered necessary to the effectiveness of any policy aimed at strengthening the competitiveness of an economy more and more subject to the mechanisms of the international market.

Thus, the implementation by the Central Bank monetary policy has the ultimate objective of monetary stability, and by controlling the inflation rate close to that observed in the partner countries and competitors. To achieve this ultimate objective of monetary policy Smida M., Boughrara A. (2004), the Tunisian Central Bank (TCB) uses a monetary aggregate as an intermediate target. The operational target adopted is essentially the interest rate and reserve requirement, exchange rate, etc.

Over the years, the nature and monetary policy tools had to be modified Cukierman A. and Meltzer A. (1986) on several occasions, as a result not only of the appearance of cyclical events, but also the succession of different economic strategies and the crossing of above steps in economic and social development. These actions clearly reflected at the level of monetary policy which accompanies them.

The analysis of monetary policy in Tunisia highlights three distinct periods which extends up to 1986, year of the adoption of the structural adjustment Plan (SAP¹), during which monetary policy was passive. The second period was beginning in 1987, year of the entry into force of the financial reform that has designed a new approach to the conduct of monetary policy and has set a new framework for its operation. The third period is coincided with the latest financial crisis in 2008 and the period post-revolution 2012, where the country was succeeded by several major economic shocks. The main, according to expert economists, is that the year 2012 where inflation is accentuated from 3.1 % finally 2008 to 6.7% in 2012.

¹ In 1986, the monetary authorities have undertaken to implement the following indirect control instruments; (1) partial and continuous rate liberalization of interest debtor and credit, (2) reorganization of the money market to perform operations of purchase and sale of securities and for the issuance of titles like tickets of cash flows, (3) removal of formalities prior permission and the agreement of rediscounit to the loans granted by the banks and the introduction of instruments for monitoring of credit as reserves held at the TCB and the repo and also the operation of the open - Market.etc, (4) introduction of prudential standards in the Bank management and the implementation of the rules which must be observed by banks.

The TCB acting as autonomous Castello M., Swinburne M., (1992) to maintain its monetary policy, has fulfilled all his own instruments Patat J-P. (1986) useful from the rate of inflation as a first tool of control towards intermediate targets and even together with the decision of the liquidation of some public banks in difficult situations in the end of 2012 under the pressure of the IMF². In addition, the TCB has continued to support other national banks to not fall into bankruptcy.

Despite a few adjustments registered in the end of 2013 by a rate of inflation in vicinity of 6.1%, all these regulatory measures by the TCB brought only short-term affects under the Structural Reform Plan (SRP³) provided by the IMF in 2012. Although, the inflation targeting (IT) strategy proves impractical for economic circumstances where happen to the country, in their phase post-revolution 2011.

Generally, to ensure the transition and to succeed the method of monetary regulation by the market, monetary policy must inevitably take into account the dynamics of financial reform and the profound changes that are currently mark the global economic and financial environment. These changes continue to impose a necessary improvement of the efficiency of the Tunisian economy, consolidation of its opening to the outside and a promotion of financial innovations.

These new data show that the financial landscape is transformed by an abundance of hybrid products combining good yields, an immediate liquidity and low risk of fluctuation in the value of the invested capital. These new financial products contribute to enhance the role of market intermediation and to decline of classical banking intermediation in financing the economy. However, these profound changes are likely to increase the volatility of money demand, pose question of the effectiveness of the monetary aggregate as an intermediary objective. Financial liberalization adopted by Tunisia since 1987 is likely to push the monetary authorities to reshape monetary policy instruments and their modes of interventions by taking into account the new datum.

In this article, we will present, Firstly, the main regulatory changes in the Tunisian financial sphere and the new regulation of the Tunisian capital Market as a result of measures recommended by the IMF for gradual economic and financial liberalization. Secondly, we propose to study the current situation of monetary policy and the role assigned to the Tunisian Central Bank (TCB) to preserve the value of the local currency and to control, specially, the rate of inflation. Finally, we'll closing this paper on the real obstacles facing the adoption of the guidelines Inflation Target (IT) Strategy by the Tunisian Central Bank (TCB), in the current difficult economic environment.

2. Evolution of the financial system and reorganization of Tunisian money market (1989-2010): Major reforms

In Tunisia, the economic environment has experienced many changes that have had a direct impact on the actual variables of the economy. It had involving economic and financial liberalization measures adopted within the framework of the Adjustment Structural Plan (ASP) advocated by the IMF in 1986⁴. By including privatization of some large companies, the establishment of a new regulation regarding the procurement of Tunisian capital, from 1989, (money market, financial market and exchange market) and the gradual liberalization of interest rates.

2.1. Main indicators of the banking system before the reforms

The national Banking system was partitioned in the early 1980s. It was composed primarily of deposits banks and

² cf. International Monetary Found rapport: impression for Tunisia government and economic assessment, after last revelation 2011, (Nov. 2012).

³ IMF: rapport for Tunisia, Dec 2012.

⁴ The country experienced a severe economic recession unprecedented in their economic history.

development banks which were respectively specialized in short-term and medium-term and long-term financing. Commercial Banks financed through deposits, term savings, which accounted for about two-thirds of their total resources. They enjoyed facilities rediscount and advances amounting to 17.5% of their deposits.

Development Banks had access to special government resources and other resources obtained from abroad to the financing of certain credits. They were not allowed to accept deposits except in special circumstances, so they therefore had to resort to the above-mentioned special resources as well as their own funds and issuing long-term bonds, generally.

This fragmentation limited competition. It was also reinforced by careful controls of both credits than debtor's interest rates, as well as commissions. Real interest rates were often negative. There was also a refinancing agreement authorization system which restricted the type of credits and prevented Banks to offer different funding modalities.

Money market looked more like a Central Bank rediscounting window. Transactions inter-Bank was prohibited and the Central Bank determined both the interest rate and refinancing granted to each Bank. In addition, commercial Banks were subject to obligations of a portfolio. As a result, Banks were hardly motivated to assess their credit decisions outside the criteria laid down by the Central Bank for refinancing.

2.2. Main indicators of the financial system before the reforms

Concerning the Tunisian financial market, its role in the financing of the economy was very small. The capitalization of the Tunisian Stock Exchange (T.S.E) is low on 90's in last century. This reflected to the desire to lock capital Firms and the fear of the entrepreneurs of any shareholding foreign to the family ownership rate or close acquaintances rate.

These structural reasons for the weakness of the market, in addition to other causes including:

- The encouragement of bank savings which was well paid and loosely imposed while equity capitals were disadvantaged from the tax point of view.
- Encouragement, also the debt at the expense of participation by the politics of easy subsidized credits and by the requirement of a down payment minimal when granting loans.
- The lack of obligation to inform the public and the inadequacy of the control exercised by the Stock Exchange.
- The lack of professional ethics and self-regulation of the profession, result of the marginalization of securities services in banks that have dominated the market until 1994.

2.3. Finance Reforms after 1989

These reforms have affected all financial transactions Lassoued (2004) in terms of:

2.3.1. Credit policy and interest rate

In the context of the overall reform of monetary policy and credit, the Tunisian Central Bank (TCB) has changed licensing terms, control and refinancing of credits from December 1987⁵. The progressive release of receivable interest rates provide to banks more freedom in the decision of credits granting. Indeed, while respecting theoretical

⁵ Bank circulas N° 87-47, on 23/12/1987.

ratings, banks freely set their margins⁶ with the exception of the priority areas, the rate is remained fixed by the Central Bank until November 1996.

The interest rates on deposits have been released except those accounts in convertible dinars (average rate of money market less than two points). The discount as a refinancing technique was removed in November 1996, with the elimination of the reserve interest rate, previously to priority activities. The average monthly Rate of Money Market (MMR) has replaced the discount as interest rate. Exchanges of cash between banks are exclusively on the money market where the theoretically variable rate is kept stable by the Tunisian Central Bank, through its interventions in the market.

2.3.2. Financial market reforms

This reform is on the strengthening of integration within the financial market. Indeed, the Tunisian financial system is characterized by segmentation and partitioning that marks the area of activity of the institutions. The latter has a special role in the mobilization of savings and investment financing.

A new law was enacted concerning compulsory loans, Investment in Fixed and Variable Capital Companies (IFCC and IVCC)⁷ and a new status of the stock exchange⁸. Tax incentives to Companies that open their capital to the public have been granted. This is to encourage popular shareholdings which take over the State in the capital of the enterprises for privatization.

2.3.3. The Tunisian Bank System TBS

Banking regulation was amended by the creation of Investment banks in Tunisia in 1994⁹. Monetary authorities seek to develop activities of Council and assistance in the management of the assets, financial engineering and the creation, development and the restructuring of enterprises.

With a view to opening the banking system to foreign capital a new law was introduced in 2001¹⁰ to define the notion of credit institutions. This law totally reforms the Tunisian Banking System TBS by introducing the concept of Universal Bank. Development banks no longer exist in Tunisia following merger-absorption and transformation operations.

2.3.3.1. Reorganization of the Money Market

New marketable debt instruments in the money market have been created (certificates of deposit, commercial paper and Treasury bills) and the Central Bank has started to conduct its monetary policy in relying primarily on the monetary market. This policy was reinforced by a new organization of the monetary market in 2005¹¹ that allows the Central Bank to more effectively use the technique of Open-Market having at its disposal panoply of Government securities than companies and individual's securities.

Also, through the reform of the financial system, there is a change in monetary policy to do regulation by market

⁶ Since June 15,1994.

⁷ Law N°88-92 of 2/8/1988 (JORT of 2/8/1988)

⁸ Law N°89-49 of 8/3/1989 (JORT of 21/3/1989)

⁹ Law N°94-25 of February 7th, 1994.

¹⁰ Law N°2001-65 of July 10th, 2001.

¹¹ Circular in credit institutions, N°2005-09, of July 14th, 2005.

forces games. The monetary regulation is therefore ensured by means of action by interest rates instead of the administrative mechanisms of cap credit and quantitative control.

2.3.3.2. Prudential standards

The Tunisian Central Bank TCB has regulated liabilities of banks due to the risks incurred by their credit activity. This is due to some bank failures related to a bad division risks and also in the context of the new policy of credit, based on a control a posteriori. Thus, the Central Bank issues accounting rules and prudential standards applicable to banks and financial institutions¹². These standards concern: the use of own funds, the ratios between shareholder's funds and liabilities, the ratios between capitals and granted to each debtor, liquidity ratios and competition risks in general, etc.

We summarize in table 2 (in annex) mutations in the financial system before and after financial liberalization taking as reference date the year 1989. This typology is inspired and adapted to developing countries, in particular for the formal sectors, which allows distinguishing between a regulated financial system and a liberalized financial system. It is derived from the work of Mc Kinnon (1973) and Shaw (1973), which distinguished between financial repression and financial liberalization.

Thanks to these criteria, we can advance the hypothesis that the evolution of the Tunisian financial system constitutes a passage of a financial system based on Bank and administered to a financial system based on the Bank, in the process of liberalization, with domination of the financial institutions.

3. Current framework for monetary policy in Tunisia and difficulty of the Targeting strategy: Instruments, liquidity management and execution

3.1. Role assigned to the Tunisian Central Bank TCB

The objective assigned to the TCB is the stability of the value of the currency by controlling the rate of inflation to a level close to that of the partner countries and competitors. Monetary stability means a minimum inflation Friedman M (1968), equilibrium for payments balance and a stable exchange rate in real terms, to preserve the competitiveness of the economy. The intermediate goal is to correlate the growth of the monetary mass with that of economic activity. Conduct Guillard M., (2002) current monetary policy favors the interest rate to ensure a decisive role in the mobilization of savings and the optimal allocation of resources.

Since the year 2000, and to carry out the fine adjustment of bank liquidity, the Central Bank has disconnected the rate of one-off operations to 24 hours from the tender. Thus, the interest rate of the injection and puncture (aspiration) of the Central Bank operations are laid down, respectively, 1/16 point and more and 1/16 less than the tender.

3.2. Instruments of monetary policy: Central Bank intervention in the money market

The Central Bank has a wide range of monetary policy instruments. To manage the liquidity on the money market and guide short-term interest rate, it uses the open-Market operations that allow injecting liquidity into the banking system on receipt of adequate safeguards. In addition, credit institutions are required to hold a fraction of reserves in their accounts at the Central Bank (*cf. Table 1.*). Essentially, procedures and instruments of monetary policy Haddou S. (2003) fit into the continuity of those used for financial reform.

¹² Circular N°91-24 of December 17th, 1991 such as modified by the circular to banks, n°99-04, of March 19th, 1999.

Table 1. Technical interventions of the Central Bank in the money market

Nature of transaction	Tender	Repurchase Agreement	Specific operations (Injection or puncture)
Period	7 days.	From 7 days to 3 months.	Just in 24 hours.
Rate	Fixed by the TCB. ¹³	Indexed on the behalf of tender with simple major increase ¹⁴	Determined by market conditions ¹⁵
Technical	Purchases effects or debt held by banks.	The sale of debt securities which carry a right of redemption on a specific date, increased by a rate of interest.	Two cases: if there is insufficient liquidity TCB operated ultimately to increase the liquidity in the money market. 2nd case, where there is excess liquidity, the Central Bank intervened to absorb the liquidity in the market.
Banks	Deposit banks acting for theirs own accounts or on behalf of investment banks.	Deposit banks.	Deposit banks.

Source: Financial Statistics, TCB 2012.

On the monetary market the Central Bank TCB may intervene to provide liquidity in various forms as shown in table1. Actually, TCB intervenes in the form of purchases by tender in the course of which the Central Bank provides liquidity in the form of a single communicated to banks for 7 days (once a week). In 2001, the Central Bank was intervened another technique of loan of liquidity on the money market which is the Repurchase Agreement under Tender of banks which were unable to cover their needs in terms of liquidity on the interbank market. This technique consists in the transfer of debt securities with an agreement to repurchase on a given date, increased by a money market interest rate.

The third technique is that of injection or aspiration (puncture operations). Whereby, the Tunisian Central Bank involves money market for a period of 24 hours as the case of the situation of liquidity in the market. There are two opposite forms which are the following: If there is lack of liquidity on the money market, the Central Bank involved last spring to ensure this liquidity on the money market. In contrast, the second case where there is liquidity, the Central Bank intervenes to mop up the liquidity on the market.

The choice of the intermediate target is made taking into account the ability of the monetary authorities to regularly monitor the change of the aggregate monetary M2. Indeed, by now the pace of money creation constantly compatible with that of economic growth, monetary policy avoids immediately the appearance of any inflationary monetary nature. However, this choice is conditioned by the nature of the targets set by the Central Bank and the mechanisms of transmission for their realization. This implies the reference of the monetary authorities to a wide range of indicators deemed to be appropriate for attaining the pursued objective.

¹³ Determined considering the evolution of the rate on the interbank market, that of the general index of consumer prices and objectives held regarding monetary policy and regarding the credit.

¹⁴ The increase is at present 1 point.

¹⁵ At present it is the rate of call for tenders.

This is, especially, the speed of movement of the currency, the rate of liquidity of the economy and the actual indices of nominal and real exchange rates. Indeed, for the preservation of the external value of the dinar¹⁶, the authorities closely follow the evolution of trading in foreign currencies heavily influenced by existing between the Tunisia and its partner countries and concurrent differential inflation.

3.3. Methods of preparation of the annual monetary policy and control scripts

In the light of the results and progress that had been made in terms of modernization of the structures of the financial system, through introduced financial reform, we note that monetary policy has helped to contain monetary growth. In fact, the average growth rate of the monetary mass M2 during the period [1979-1986] is 15% while that of GDP was 4%, whereas, these rates on [1999-2000] are 13.5% and 8.126%, respectively. Monetary policy has also helped limit inflation which the rate that was 14%, two digits in 1982, has been reduced to 3% in 2008.

3.3.1. Main tools of direct control of the TCB

The traditional tool more accompanied by the contribution of Keynes J-M (1942¹⁷), as intermediate means to control liquidity in the money market and reach the final objective which is economic growth and the reduction of unemployment, as a result was without failure to control inflation to the mid-seventies (oil shocks). Monetarists¹⁸ Friedman M. (1956¹⁹), as contrast, have rejected the theory of Keynes in favor of the more credible rules²⁰ that can control inflation. According to them, it is more crucially controlling the mass money which is now the origin of any growth of inflation.

Other operational variables that are under the Tunisian Central Bank direction are: the supervision of the credit, the discount, minimum reserves and open Market. For the first variable as the name indicates is a technical in which the Tunisian Central Bank allows to control the progression of the appropriations distributed by banks. In 2012, the Central Bank it appealed because this credit framework is efficient to limit the distribution of credits and any source of money creation.

The second instrument which is the discount by what the Central Bank increases its rediscount to compel the other Bank to increase their receivable interest rates whose ultimate goal is constrained to grant credits to the economic agents by these banks which them even in refinancing. Although, this instrument was abandoned since 1996 as a method of refinancing Bank, this technical involved the refinancing of banks by the Tunisian Central Bank share.

For the third monetary instrument, statutory reserves, which is defined by the fact that second-tier banks are required to hold an amount (assets) to the Central Bank on unpaid accounts? It is by here that the Central Bank, as the case of the period post-revolution 2011, intervened on these detained reserves in its own accounts to fit the granting of credits of second-tier banks and control therefore the liquidity on the money market by increasing the rate of these reserves.

¹⁶ cf. TND : Tunisian's currency.

¹⁷ The General Theory of Employment, Interest and Money (1942), Paris. p.407. Editions Payot.

Idem. Stiglitz J-E and Walsh C-E, "Principle of modern economy". 2nd Edition, Ed Boeck, p. 490.

¹⁸ In questioning the contribution of Keynes, monetarists pronounced to the late 70's to abandon the discretionary measures in favor rules like the famous rule of Taylor JB. (1993,1999).

Idem. 1956, 'Quantity theory, a restatement', (Fischer equation, $MV = PQ$) Taylor JB (1993): "Discretion versus Policy Rules in Practice", Carnegie Rochester Conference series on Public Policy, N° 39, North Holland, p. 195-214.

Taylor J.B (1999): "The Robustness and efficiency of Monetary Policy rules as Guidelines for Interest Rate Setting by the European Central Bank". Journal of monetary Economics, vol. 43, N°1. p. 665-679.

¹⁹ 1956, 'Quantity theory, a restatement', (Fischer equation, $MV = PQ$)

²⁰ Guillard M. (2002), 'rules, discretion and credibility of monetary policy', working paper, sword, University of Every, p 32.

Kydland F. and Prescott E. (1977), "Rules rather than discretion: the inconsistency of optimal plans", Journal of Political Economy, vol.85, n°3.p.21-46.

The last instrument that is open Market, referred as a technical will allow the Bank Central to modulate the orientation of the market rate according to their own goal, making the choice, without the obligation, to buy or sell debt in the interbank market.

3.3.2. Quantitative intermediate targets: the monetary aggregates

The Tunisian Bank Central followed long financial development of the European industrial countries who are major trading partners for the Tunisia. Since 1987, in order to prevent the final objective of monetary stability, monetary authorities have set an intermediate target bearing on the level of expansion of the monetary aggregate M2²¹. The growth of M2 is related annually to Tunisian GDP, and to gradually reduce the differential rate of inflation recorded with country partners and competitors of the Tunisia.

The aim is to ensure control of real variables and prices through the control of the monetary aggregates and counterparts, mainly lending to the economy. This management is guided through the stability of the velocity of circulation of money, defined as the ratio of GDP to the money supply.

In 1996, and following the skid of M2, the monetary authorities have chosen the M4²² aggregate up to 1999 and since then, the Central Bank takes into account the evolution of the two aggregates. The stabilization program adopted by the countries is accompanied by financial reforms allowing the direct finance to develop through the activation of stock exchange securities.

Table.2. Monetary aggregates evolution (M3-M2 and M3-M4) in (1996-2013). MDT, unit

Year	M3-M2	M4-M3	Year	M3-M2	M4-M3
1996	854	252	2005	1875	2595
1997	819	228	2006	1755,65	260,25
1998	913	357	2007	1655,65	262,65
1999	991	455	2008	1853,879	256,1
2000	1083	646	2009	2094,489	203,55
2001	1350	1326	2010	1799,734	216,45
2002	1620	2427	2011	1949,383	247,568
2003	1598	3197	2012	2154	215,4
2004	1620	2887	2013	2143	39

Source : Author Attribution, TCB Annual Financial Stat²³, 2013.

Indeed, the encouragement of the investor to participate in the financing of the Government budget, projects, or already existing projects promoted by launching new titles of the Government such as negotiable treasury bonds in stock exchange in 1993 and the comparable treasury bonds in 1997, has allowed economic agents to operate in trade-offs between the different types of monetary investments and financial.

These new measures combined with the partial liberalization of capital movements and financial innovations seem to

²¹ The M2 aggregate includes more of the aggregate M1 (M1 = tickets + parts + deposits on accounts with checkbooks), formed quasi-money term deposits, certificates of deposit, special savings accounts, currency or in convertible dinars and other amount due to the customer. M2 = M1 + deposits near-cash (almost currency).

²² M4 = M3 + Government borrowings from the Public (national debt+ the Treasury bills + equipment coupons) + inter companies debt securities that are issued on the monetary market.

²³ Annual report: (1996 to 2013).

have made increasing the volatility of money demand (Massoued, 2004²⁴), reducing the effectiveness of monetary targeting traditionally used the monetary aggregates became less precise and their value as widely disputed intermediate monetary target.

Indeed, in this period of abundant financial innovation and especially of instability of the behavior of economic agents, it may be illusory to follow a monetary aggregate. So, to act on the evolution of monetary mass M3 intermediate target, the Central Bank has a set of instruments, including the implementation to achieve the desired objective. The key instrument of the device is based on the interest rate.

The Monetary Authority may be front on situation where the only quantitative control of growth in bank credit in the framework would more to a limitation of the expansion of the currency and finance. As a result, the action on the price of funding by the interest rates is more efficient. However, is it possible in a small open economy to act effectively by only interest rates?

In the past, exactly in 1987, the monetary authorities have opted for M2 money supply as intermediate goal. Everything similarly, during the period (1987-1995), forecasts of the growth rate of this aggregate, according to the statistics²⁵ from the TCB, was not always seem to be carried out. Also, it appears that the Tunisian Central Bank TCB can not always achieve its intermediate target during the period studied because of discrepancies recorded between the realized and forecasted (cf. refer to annex table).

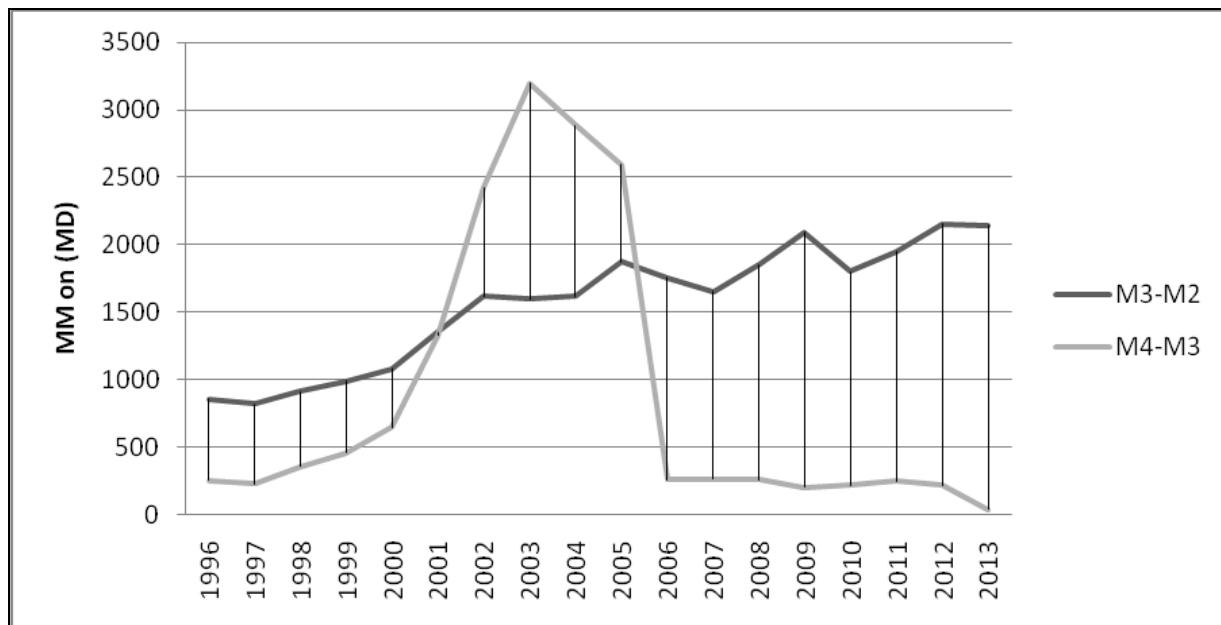


Figure.1. The evolutions gap of the monetary aggregates (M3-M2 and M4-M3)

Source : AuthorAttribution, Annual Financial Stat, Dec.2013.

In these circumstances, the BCT has been changed this target money M2 in 1996 (adoption the monetary aggregate

²⁴ Michael T. (2004): "Financial Mutations and demand of currency in Tunisia," first day of banking and monetary economy, Publication of the Faculty of law and economic and political, April-04 sciences.p.18.

²⁵ Financial statistics, (1987-1995)

M4 instead of M2). But, it lasts three years, given the inadequacy of the monetary target M4 to control the evolution of monetary mass, the Tunisian Central Bank in 1999 adopted another indicator of the evolution of the presumed final goal more efficient and easily controlled by the monetary authorities, that is the intermediate target M3 instead of M4. Thus, the figure.1 above shows the offset of the gaps between development of these aggregates (M3-M2 and M4-M3) from 1996 until 2013.

A significant difference between the achievement of the two curves of (M3 - M2) and (M4 - M3) development were observed during the period [2001-2005]. It reached its maximum of 31.2 points in 2003. During the period between [2006-2013], the gap between the standards set and carried out two curves is reversed where the gap (M3 - M2) growth, compared away from the curve (M4 - M3) which is falling given the increase of mass M3 medium regular except some small divinations in 2007 and in 2010, ranging from (4.2 points) in 2007 to (2.1 points) in 2010, leaving appear that the Central Bank was able to control the evolution of the monetary aggregate M3²⁶ despite difficult political-economy of the country after three years in the Tunisian ex-revolution 2011.

In 2003, the exceptional overtaking of the order 31, 2 points is explained, according to the TCB²⁷, as an acceleration of M4 that has touched many more near-cash availability as the money supply. Monetary authorities did not always reach the intermediate goals that they settled. However, the rate of inflation remains restrained 3.5 in 2003 which implies that the Central Bank proceeds in support of its reputation in terms of transparency in the management of monetary policy. Since 2010, the TCB acts as if it has a range of indicators that it is used to control monetary policy by manipulating a rule of M3 monetary growth, as shown by the curve (M3 - M2) growth until the end of 2013 and an interest rate which changes influence its decisions, and more.

However, although the rate of inflation is not mastered during this period of economic recession experienced by the country until the end of 2013, the fields of application of an independent monetary policy remains dependent on the nature of the regime change and the mobility of capital (Masson et al., 1997) and the intermediary target monetary held by TCB to control skyrocket inflation 6.1% in late 2013. Most noticing by the figure.1, the difference of these two curves of the monetary mass (M3-M2 and M4-M3) was sinking in (2011-2013). Showing in obvious fact the financial gravity and the economic downturn experienced by the country, during this period. What model could hold the TCB in these difficult macroeconomic conditions, a target inflation will it be the solution? Is the TCB in favor of this strategy, which depends on the preconditions for their actual implementation? Seen that the country currently in the end of 2013 crosses economic difficulties, are these conditions achievable by the Central Bank of Tunisia?

3.4. Inflation targeting possibility in Tunisian economic

The transition to the policy of targeting inflation in Tunisia remains an interesting opportunity to win in price stability²⁸. It will allow different domestic and foreign stakeholders to build correct forecasts and formulate good expectations on the economic environment in which they are investing. However, the requirements of this policy remain very restrictive for the country in the sense that the Tunisian capital markets do not have depth and efficiency needed for its implementation until yet.

²⁶ M3 = M2 + contract deposits+ Bonds issued by banks.

²⁷ Annual report,1999.

²⁸ Ageror P R (2000a): "Monetary Policy under Flexible Exchange Rates: Introduction to Inflation Targeting", the World Bank, N 45. PP. 47-87.

3.4.1. Inflation Targeting Policy and transparency: industrial countries and satisfactory results

Inflation Targeting Policy seeks action²⁹ on inflation. Indeed, when inflation attempts to deviate from its target, the Central Bank uses monetary policy instruments to align inflation laid down on the lens. It is as well as several researches were conducted Mishkin F.S., (2005) to determine the appropriate instrument to conduct such a policy. Taylor J. (1997) is the pioneer who proposed an instrument of conduct of monetary policy for the Bank federal reserve of the United States called "Taylor rule".

Given the simplicity of this rule and since it reduces the econometric investigations, it has gradually emerged as a rule of reference for most of the empirical work even though its original purpose was more descriptive than normative. In one more elaborate way, other than optimal generally qualified normative rules can be derived from small macroeconomic models.

Among the most elaborate works of inflation targeting, which allowed building a solid theoretical framework which governs this new approach is that of Svensson L. (1997). This work includes an equation specifying the "loss function" of the Bank Central and meant to represent the relative importance of the objectives that it continues. These rules, which are referred to as optimal are called functions of reactions of central banks. These functions are different from one country to another and from one period to another for the same country.

Thus, having regard to the importance of implementation of the policy of inflation targeting and the obligation and to rely on the prerequisites for their adoption to acquire relevant results: we refer to experience foreign to the four countries, considered, pioneers in this area namely (New Zealand, the Canada, the United Kingdom and the Sweden). The particular emphasis on the behavior of the Central Bank of New Zealand in the case of inflation targeting has been during the period from 1990 to 2005.

This is due to several reasons, on the one hand, New Zealand is the first country which has adopted the policy of inflation targeting, so this is the greatest experience of this Central Bank in this policy. On the other hand, the Central Bank of New Zealand is the single Central Bank that has published data on forecasts of inflation in a number of significant years.

- It seems that the dynamics of inflation be amended in these countries that have adopted this strategy during the period after the implementation of the targets. An explicit policy of inflation targeting may tend to favor the stationary of the process by not allowing the emergence of permanent shocks on inflation.
- It appears on the other hand, as much credibility³⁰ Patrick P. and Robert A., (2000) monetary policy is reflected on these financial markets, where long-term rates are less influenced by fluctuations in inflation. Thus, economic agents anticipate that shocks observed in the short term will not affect inflation realized over a long enough time horizon (10 years and more).

Furthermore, the strategy based on a direct inflation target seems a bit difficult to manage because it is guided by conditions key including paramount importance given to the inflation target while leaving the Central Bank a margin of flexibility, which are not yet sufficiently, met Schaecheter A., and Stone R., and M., Zelmer, (2000) in the context of the monetary policy of the developing countries (PED).

²⁹ ITP: Inflation Targeting Policy is a framework for the implementation of monetary policy with monitored freedom which forced the Central Bank to ensure low inflation, by setting an explicit target to wait in a period in a given period (e.g. a rate of inflation 2% for the next two years 2012-2013).

³⁰ Patrick P and Robert A (2000): "Credibility and monetary policy", review of the Bank of Canada, spring 2000. pp.13-18.

3.4.2. Prerequisites in the implementation of this strategy: operational Aspects

On the institutional level, current efforts are to give the Central Bank the opportunity to move from a traditional control of the evolution of monetary aggregates to the use of the interest rate as instrument³¹ of which, by changing its level, will affect economic transactions and the level of prices.

Under this policy, the Central Bank must declare its adoption of this policy as well as the target, unilaterally or commonly known with the Government which is likely to strengthen its independence.

The choice of the target must be accompanied by an appropriate time horizon. The choice of a too short period may not let the Central Bank a sufficient margin to achieve its objectives³² and meet its commitments. The choice of a too long time horizon affects its credibility.

We can summarize the necessary factors for success this policy in the following points:

- A stable macroeconomic environment and a balanced budget situation in which the budget deficit is located at tolerable levels.
- A developed and deep financial system that allows certain fluidity in transmission mechanisms of monetary policy as well as a dynamic securities exchange with a large market capitalization and dynamic secondary markets.
- Delineate the role of the Central Bank by quoting, in its statute that its role is to preserve the stability of prices and read accurately, confer, thus, independence in the use of suitable instruments³³ that allow it to achieve its objectives.
- A good understanding of the different relationships between economic variables and inflation to better understand and measure the effects of monetary policy and its transmission channels to the economy.
- Have the necessary means for the construction of reliable forecasts and thus take the appropriate decisions.
- Adopt transparency in the implementation of monetary policy through the publication of regular reports analyzing the components of inflation and explaining policy and arguing the decisions of the Central Bank. This will strengthen the confidence of economic agents and the credibility of monetary policy.

3.4.3. What difficulties in front of the realization of this policy in period of post-revolution?

What is remarkable in Tunisia after two years of the 2011 revolution, the verification of these conditions makes it difficult to adopt the policy of inflation targeting, for several reasons:

³¹ Taylor J.B (1999): "The Robustness and efficiency of Monetary Policy rules as Guidelines for Interest Rate Setting by the European Central Bank". Journal of monetary Economics, vol.43, N°1. p. 665-679.

³² Bernake.B et Mishkin.F (1997): "Inflation targeting: A new framework for Monetary Policy?", Journal of Economic Perspectives, Vol. 11, n°2. p. 97-116.

³³ Taher and Rahmani (2006): "Taylor's rule, exchange rates and asset prices: case of the Tunisia". 5th day of Economics financial,-Tunisia, April 2006. pp.1-26.

- An economic context, in the end of 2013, characterized by the resurgence with inflationary pressure and their risk of persistence for 2014.
- The Central bank continues the pursuit of the contraction of bank liquidity from 2012 to ensure price stability and to provide liquidity to banks for the financing of the economy and therefore the prelaunch of economic activity.
- The fragility of the banking system which suffers from a significant level of classified receivables and the weakness of the monetary base which increases the risks within a framework of rigidity of interest rates.
- The weakness of the market capitalization and lack of dynamism in the securities transaction and the virtual absence of the secondary market that limit the effectiveness of the interest rate in the valuation of securities.
- Low quantitative and qualitative information on the follow-up of the economic conditions that limit the ability to forecast the future and global economic climate.
- The lack of in-depth studies and econometric models for the analysis of the relationship between changes in economic variables and inflation and which to better understand the transmission mechanisms of monetary policy in different economic sectors.
- The result is a lack of both short-term forecasts of long-term inflation rate. In addition, the exchange rate regime which is not enough floating.

3.4.4. What role assigned to the Central Bank (TCB)?

After three years of the revolution 2011, the CPI consumer price index has passed to high unusual levels beyond 5%, was established to 5.7% in 2012 and 6.2% in 2013. The persistence of price pressures has led the Central Bank to learn other measures to control the inflation³⁴ rate, 6.1% in the end of 2013 and stabilize at levels close to European partner countries. To do this the Government has dismissed any influence on monetary policy, as a result, the TCB is actually characterized by its own autonomy and independence from late 2011 to handle monetary policy and the banking system in general.

Thus, the Central Bank after this phase post-revolution 2011 must take a number of measures in order to increase the credibility of monetary policy to the public, such as the announcement of a monetary rule consolidated by a transparency program. Indeed, in announcing a monetary rule, monetary authorities have two attitudes. They can either respect it or be tempted to not respect and opt to deny their initial commitment. The trade-off between these two alternatives is made depending on whether the monetary authorities have concerns and short-term considerations or care about the sanction to long term on the part of the markets and the public.

The control of inflation will also reduce the pressure on the dinar, which will ensure a better stability of its value, and therefore, a risk mitigation of change inherent in the national currency, a major element that erroneous forecast of domestic and foreign investors.

³⁴ cf. annual report Central Bank 2012. (Ibid. 2013).

In an uncertain environment Meyer L. (2005), the continuous display of stability policies constitutes a decisive element of credibility. Economic policy must send clear signals to the agents and markets. In order to sit its credibility, the Central Bank must Bolortuya H., and Kay (2006) be based on transparency and the coordination of policies. In the implementation of its appropriate strategy, the Central Bank (TCB) has to report to public his actions and the results it obtains. Targets represent an implicit agreement between the Central Bank and the public. In this way, monetary authorities assume a greater responsibility towards the public, in so far as the latter adjusts his expectations of inflation objective mentioned by the Central Bank.

We note that texts organic of the Central Bank, revised³⁵ in 2006, have clarified further the role of the TCB in monetary policy. They could usefully be clarified in the sharing of responsibilities between the Government and the Central Bank regards the policy exchange and the management of the public debt. Based on statistics published by the TCB or broadcast on the Internet site, we find that the distinction is clear between the monetary policy operations i.e. those carried out on the money market in terms of amounts and rates (injection or aspiration, tender, taking pension, etc.) and lender of last resort, in the regulatory framework as the disclosed data which would give a clearer vision of the nature of the interventions of the Central Bank.

A current reform on the modernization of the payments system should be accompanied by new legislation consistent with international standards and indicating the distribution of responsibilities and terms of the system operation. Whenever the Central Bank modifies one of the elements of its monetary policy (interest rates, intermediate target, etc.), the explanation of the reasons that motivated this change through the publication of a press release is likely to provide useful information on the monetary credibility.

Thus, the announcement and the precision of the objectives of long and short-term, as well as, detailed rules³⁶ for the TCB on the money market interventions can clarify the commitment to achieve the ultimate objective of monetary policy. Since the public knows that the monetary authorities can, for short-term considerations, derive from their commitments, they must implement a device Barro R.J and Gorden D.B., (1983) that will help them to continuously consolidate the credibility of monetary policy. In the case of the TCB, this device must aim to increase the degree of transparency and allow the public to better assess initiatives and the work performed.

³⁵ Article 33 revised in May 2006: "the text of the amendment in question also reinforces the independence of the TCB by eliminating any form of monetary financing, what of swear means the ban now use practices windsurfing ticket or monetization of the government deficit and therefore any form of direct financing of the public Treasury." the TCB cannot grant Treasury overdrafts or loans or acquiring securities issued by the State in the primary market. Inputs of the amendment also cover the strengthening of communication policy by the publication of the decisions of the Governing Council and the submission of the financial statements of the TCB to an external audit exercised by two Commissioners to the accounts'. (TCB, Dec. 2006).

³⁶ Pursuant to section 33 new laws N° 2006-26 of May 15, 2006, amending the law n ° 58-90 of 19 September, 1958 on the establishment and organization of the Central Bank of Tunisia (CBT) "the main task of monetary policy is the preservation of price stability. Indeed, a good control of inflation, as reflected by the changes in the index prices to consumption (IPC), allows ensuring non-inflationary growth contributing to job creation and the improvement of good welfare through the preservation of the purchasing power. To do this, the BCT, through the instruments at its disposal, influence the interest rate of the relevant currency market as the main instrument for the conduct of monetary policy in order to achieve the final objective of price stability. This monetary policy framework is based, in addition to the monetary aggregates and credit, on a diverse range of indicators closely linked to inflation. Include this as the import price, the output gap, underlying inflation, etc. Given the importance of the forecast inflation for this monetary policy framework, great efforts are being deployed with the TCB to implement a feature analysis and forecast of the short and medium term inflation which will serve as a reference for decision-making on monetary policy and a means of communication with the public. This approach fits in the context of the development and the strengthening of the analytical framework to better understand the different channels of monetary policy transmission and simulate the impact, including variation in the rate on the main economic variables".

Similarly, the announcement of the intervention by the Central Bank rate changes would clarify the role of the latter in the conduct of monetary policy and gave more credibility to the conduct of monetary policy. Thus, discretionary³⁷ interventions from the TCB to avoid slippage registered affect their credibility as they do not publish the growth rate of the monetary aggregate M3 target in time. That is, they publish the standards of the following year at the end of the current year. These rates are published during the month of June of the current year.

However, the publication of the annual monetary targets as the rate of inflation and the growth of the monetary mass of the beginning of the year would increase the transparency of monetary policy. The display of a rule can be used to protect the monetary authorities by immune interventions short-term policy makers or the public opinion and isolate the conduct of monetary action by the electoral timelines. The problem of inconsistency³⁸ temporary Daniel Laskar (1997) is thus avoided as demonstrated by the founding work³⁹ of Kydland and Prescott (1977). However, some Central Banks, by choosing the opacity to protect them from political power, the public opinion or market pressures are able to ensure their policy of price stability.

Analysis of the issue of the credibility of monetary policy has shown that certain technical aspects of the behavior of the Central Bank are likely to either compromise, or promote the credibility of monetary policy. With regard to the TCB, it turns out that it defines clearly its objectives of monetary policy ("preserve the value of the currency while maintaining the rate of inflation to a level close to that observed in the European partners countries and competitors")⁴⁰, informs the public of its strategy and explains how its initiatives should match the goals plotted through various publications. (See Figure 2 on the inflation rate in Tunisia, below).

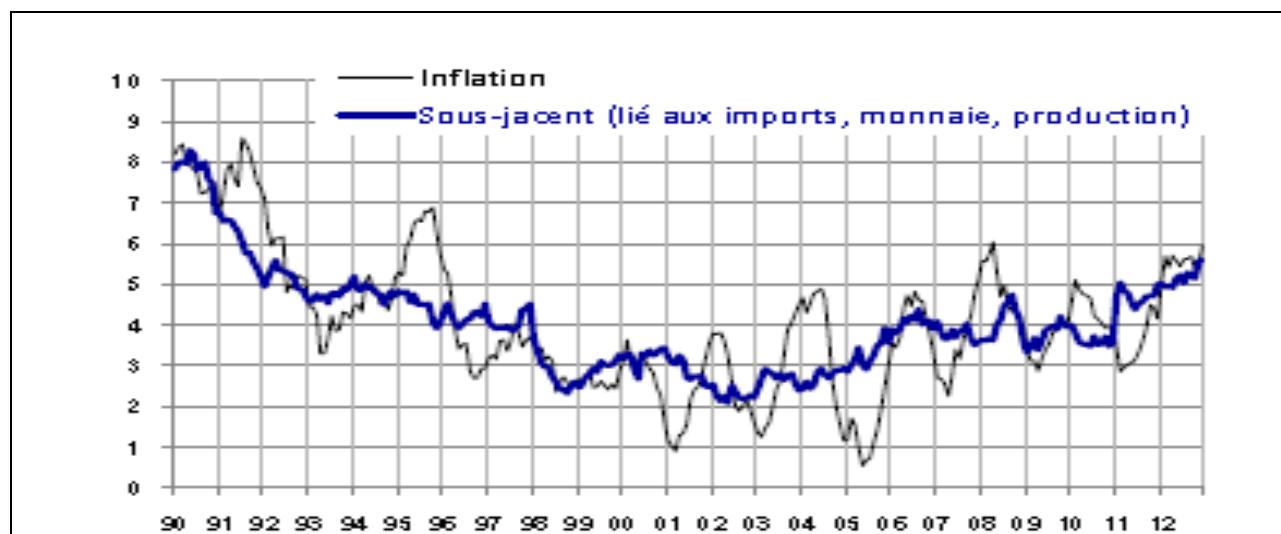


Figure.2. Inflation rate and its underlying in annual sliding for period [1990-2013]

Source: SNI, January 2013.

³⁷ Barro R.J and Gorden D.B (1983b): "Rule, discretion and reputation in a model of monetary policy", Journal of Monetary Economics, Vol12, p. 101-121.

³⁸ Time inconsistency of optimal policy: an argument in favor areas of focus, Daniel L. 1997 / I, N.48.p.176.

³⁹ For Kydland and Prescott (1977): the Government uses discretionary policy for some time to 'deceive' economic agents and beyond significantly improve its economic record. To turn this effect, these authors have formulated a maxim-based: "the rule against the Discretion". In fact, the rule will allow the Government to improve the social good, without the discretionary use.

This graph, showing the annual sliding of the inflation from 1990 until 2013 and its underlying, can be decomposed into two major periods: the first (1990-2005) during which annual inflation rate compared with that of its underlying a continuous decreased gradually until 2005. In this period the Government followed a structural plan to modernize the Bank System and gradually released the financial market. The country's macroeconomic situation has improved towards the end of the early 90's until the end of 2005, where the average inflation rate is around 3.4%.

Concerning the second phase (2006-2013), according to the chart (fig. 2) we note as of the beginning of 2006 until current 2013, inflation has increased gradually each year from 3.8% at the beginning of 2006 to 4.8 on 2008. This rate is somewhat supported (2009-2010) with an average inflation rate of 3.7%. But most noticing it is on 2011 the year of the Tunisian revolution where inflation was in annual increasing until end of 2013 under the effect of the degradation of the country's economic circumstances and even what to lost of the country's image is serious notes (BB⁻ in early 2013) of the International Rating Institutions like Standard & Poor's⁴¹ in the end of 2012.

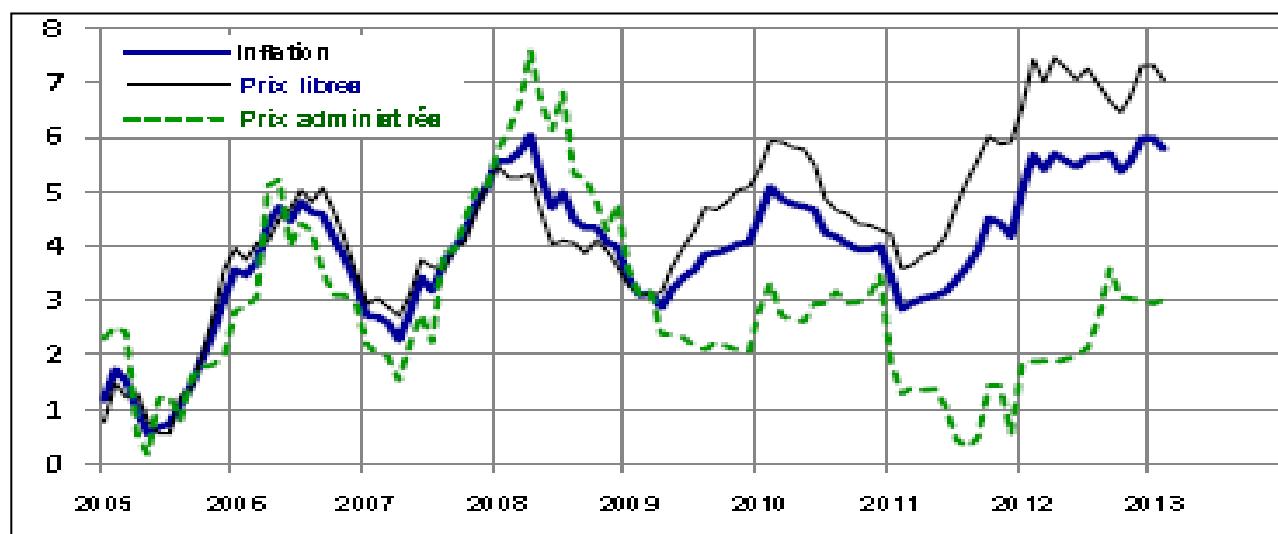


Figure.3. Fluctuation in the inflation rate compared to the price indices: annual sliding [2005: 02 to 2013]

Source: SNI, January 2013.

Inflation accelerated in 2006, causing the Central Bank TCB to respond and meet its director 25 basis points interest rate, first settling in three years. The annual rate of increase of consumer prices rose by 2% in 2005 to 4.5% for the first 10 months of 2006. This acceleration in inflation is mainly due to increases in international prices of oil and some commodities prices (inflation of base, excluding products energy and food, for the 10 first months of 2006 is 3%, compared to 2.5% in 2005). It also reflects the effect delayed of the increase in the price of oil on adjustments of rates of transport of end of 2005. Furthermore, the strength of domestic demand and the gradual depreciation of the nominal effective exchange rate probably also contributed to inflationary pressure.

An effect noticing in 2007, inflation again decreased to 2.8%, indicating a macroeconomic stability, fast fires again at

⁴⁰ cf. TCB Challenges report.

the end of the year under the impact of the oil crisis in July 2007 for expected 5.5% in December 2007. Furthermore, as a result of the financial crisis 2008, the inflation rate continued its rise with 6% for the first quarter and is finished by a deceleration until the first months of 2009 with a rate described as stable surrounding of 3%. But quickly this rate of inflation occurs again given the non stability of the global economic environment, registering a jump of 2 points rise for the first months of 2010. Given that the economic situation of the country after two years of the financial crisis has registered a gradual return to his current's economic stability is as well as inflation declined one point to reach 4% in early 2011.

For the period (2011-2013), the country has seen major economic shocks just after the year of the revolution 2011. Within the economic recession and the deterioration of production, for the two years of the revolution, inflation accelerated more than three points compared to the annual average rate (3%) in 2010 mitigating in 2013 an annual 6.2% rate.

Conclusion

It is true that the adoption of various strategies to control and reduce inflation depends on likely considerations which vary from one country to another. Although, most of these countries that today target inflation have adopted this approach recently, though, the results so far are encouraging, as argued by participants at a recent seminar in IMF high level on the targeting of inflation in 2010. However, this strategy suggests conditions less told important for their actual implementation depending on each country's economic and financial context.

The case of the Tunisia: where the economic circumstances from 2009 to 2011 prove major shakes, making it impossible to adopt into account this strategy of inflation targeting by the Tunisian Central Bank. Given that the country was in a period of non-political and economic stability. It is thus that the credibility and the transparency of monetary policy from the TCB to economic agents and investors are uncertain and unreal with a politico-economic environment very moving after the revolution 2011. That activates an inflation rate of 6.1% in 2013 against 2.4% in 2009, unregistered for more than nearly two decades earlier.

Furthermore, in Tunisia, the best way to reduce uncertainty is the publication by the Central Bank of its forecasts and, possibly, to explain the conditions for their execution. As inflation reacts with some delay, the monetary authorities must explain their short and medium term strategy for monetary policy and the factors that influence their decisions in a manner clear and frequent, prior to the acquisition of a real credibility. The Central Bank must take Masson R., Savastano A., and Sharma, S. (1998), on the other hand, a certain number of measures to enhance the credibility of monetary policy to the public, such as the announcement of a monetary rule consolidated by transparency aspect.

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⁴¹ Source: AFP 2013; The mark awarded to the debt the country's long term changes from "BB" to "B", reflecting low Standards & Poor's confidence in the ability of the country to meet its financial commitments. This note is accompanied by a negative development perspective. <http://www.africanmanager.com/154338.html>

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Annexes

Table.3. *Evolution of the monetary aggregates gaps [1996.12 - 2013.12]*

		M4	Variation %	M3	Variation %	M2	Variation %	M3-M2	Variation %	M4-M3	Variation %
DEC 1996	Result	12505	13,1	9618	13,8	8764	13,9	854	13,6	2887	10,7
	Prevision	12018	8,7	9183	8,7	8380	8,9	797	6	2807	7,6
	Gap	487		435		384		57		80	
DEC 1997	Result	13567	8,6	10981	14,2	10162	16	819	-4,1	2595	-10,1
	Result	12810	10	9495	8	8852	7,9	607	8,8	3351	16,2
	Gap	765		1522		1310		212		-756	
DEC 1998	Result	14836	9,3	11639	6	10726	5,6	913	11,5	3197	23,2
	Prevision	13943	9,1	10908	7,2	10226	7	682	10	3035	-5,1
	Gap	893		731		500		231		162	
DEC 1999	Result	16234	9,3	13807	18,6	12186	19,5	991	8,5	2427	-24,4
	Prevision	14019	0,7	11688	9,1	10988	9,2	700	7,9	2331	-27,2
	Gap	2215		2119			1828		291		96
DEC 2000	Result	16960	4,5	15634	13,2	14551	13,5	1083	9,3	1326	-45,4
	Prevision	16769	3,3	15102	9,4	14021	9,4	1081,0	9,1	1667,0	-31,3
	Gap	191		532,0		530,0		2,0		-341,0	
DEC 2001	Result	18048	6,4	17402,0	11,3	16052,0	10,3	1350,0	24,7	646,0	-51,3
	Prevision	17913	5,0	16688,0	9,5	15571,0	9,7	1117,0	7,2	1225,0	-3,3
	Gap	135		714,0		481,0		233,0		-579,0	
DEC 2002	Result	18757	3,9	18302,0	5,2	16682,0	3,9	1620,0	20,0	455,0	-29,6
	Prevision	18974	5,1	18474,0	6,2	16694,0	4,0	1780,0	31,9	500,0	-22,6
	Gap	-217		-172,0		-12,0		-160,0		-45,0	
DEC 2003	Result	19814	5,6	19457,0	6,3	17859,0	7,1	1598,0	-1,4	357,0	-21,5
	Prevision	20484	8,0	20027,0	8,4	18030,0	8,0	1997,0	12,2	457,0	-8,6
	Gap	-670		-570,0		-171,0		-399,0		-100,0	
DEC 2004	Result	21694	9,5	21466	10,3	19846	11,1	1620,0	1,4	228,0	8,9
	Prevision	21694	7,8	21303	7,9	19475	7,6	1828,0	10,9	391,0	3,5
	Gap	0		163		371		-208,0		-163,0	
DEC 2005	Result	22997	7,6	22745	7,6	20870	7,3	1875,0	8,4	252,0	4,4
	Prevision	22997	7,6	22745	7,6	20870	7,3	1875,0	8,4	252,0	7,2
	Gap										
DEC 2006	Result	30444,3	1,6	30181,689	1,1	28526,039	1,3	1655,650	7,1	262,650	2,1
DEC 2007	Result	30444,3	2,0	30181,689	1,2	28526,039	1,9	1655,650	7,1	262,650	6,2
DEC 2008	Result	34757,6	2,1	34501,543	1,2	32647,664	1,1	1853,879	7,3	256,100	2,1
DEC 2009	Result	39235,6	1,2	39032,144	1,1	36937,655	1,3	2094,489	9,1	203,550	16,2

DEC 2010	Result	40081,2 43	1,9	39864,793	1,1	38065,059	1,6	1799,734	5,5	216,450	10,1
DEC 2011	Result	43794,9 64	1,1	43547,396	1,2	41598,013	1,1	1949,383	8,7	247,568	-1,1
DEC 2012	Result	47169,0	1,3	46872,0	1,4	44718,0	2,1	2154,0	0,1	2154,0	14,2
DEC 2013	Result	50272,0	1,2	50233,0	1,3	48090,0	2,2	2143,0	32,4	39,0	-

Sources : SNI, Financial annuel TCB.