Research and Monetary Policy Department
Working Paper No:06/03

Turkish Experience With Implicit Inflation Targeting

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September 2006

The Central Bank of the Republic of Turkey

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Abstract

This paper describes the challenges faced during the implementation of implicit inflation targeting in Turkey and evaluates the transition process to full-fledged inflation targeting. Using this background, the paper draws lessons for similar countries considering inflation targeting as a monetary policy regime. We argue that, the strategy of starting inflation targeting with an "implicit" version and gradually converging to full-fledged targeting can be a viable option when certain set of conditions is not satisfied. We conjecture, however, that implementing a "light" version—namely implicit inflation targeting—does not necessarily mean that the system would be exempt from all the prerequisites. In the Turkish case, for example, institutional independence and political support seem to have been the fundamental conditions for initiating the process of inflation targeting.

[1] I would like to thank Özge Akıncı, Erdem Başçı, Oya Celasun, Burcu Gürcihan, Refet Gürkaynak, Ahmet Kıpıcı and Eray Yücel for editing and useful contributions. Needless to say, all errors are mine.
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Introduction

The stabilization policy based on a crawling exchange rate peg adopted in 2000 ended up with the deepest crisis of Turkish history in February 2001. Central Bank of Turkey (CBT) had no choice other than letting the Turkish Lira to float. The economy was in need of an alternative monetary policy regime. Given the success of other countries and also having exhausted all other possible options in the past, inflation targeting emerged as a natural candidate.

CBT was aware of the fact that inflation targeting is not than a mechanic device that can be switched overnight. Adopting inflation targeting with premature initial conditions could do more harm than good, since it could lead to a credibility loss for both the CBT and the inflation-targeting regime itself. The solution was to adopt an intermediate regime, namely, "implicit inflation targeting", until a reasonable set of conditions were satisfied.[3]

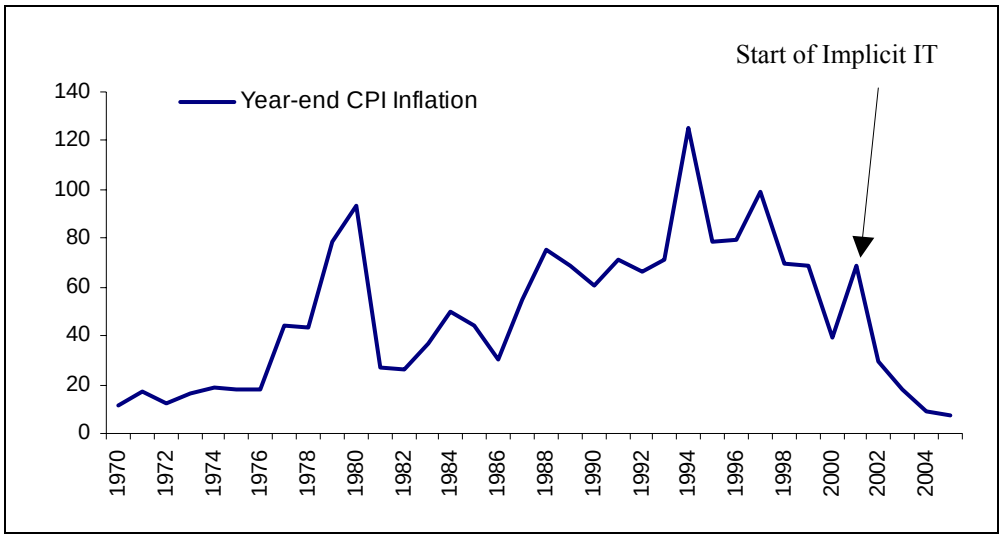
This paper attempts to provide a brief account of the implicit inflation targeting regime implemented in Turkey between 2002 and 2005. The next couple of sections describes the challenges faced during the implementation and evaluates the transition process to full-fledged inflation targeting. Using this background, the final section draws lessons for similar countries considering inflation targeting as a monetary policy regime.

Conditions at the Time of Adoption of Implicit Inflation Targeting

Turkey failed to fulfill most of the stringent set of "preconditions" at the outset of implicit inflation targeting. Following the collapse of the crawling peg, Turkish Lira depreciated massively and the annual inflation rate soared to 68 percent at the end of 2001. Not only the contemporary inflation but also the past experiences of high and sticky inflation posed serious challenges for managing inflation expectations (Figure 1).

[3] Implicit inflation targeting can be defined as a period under which inflation targets are announced to the public, but not the regime and its details as such. It involves country acting as if inflation targeting were in place without a formal adoption of the regime. Typically, the central bank would also have other intermediate targets, as Turkey did between 2002-2005 in the form of monetary targets.

Figure 1. Initial Conditions: Inflation

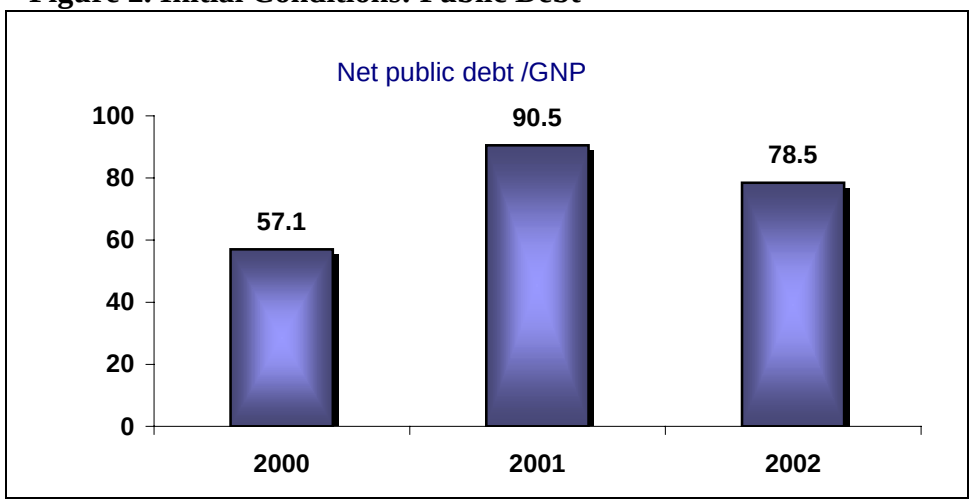


Source: Turkish Statistics Institute

Having been exposed to monetary and/or exchange rate targeting regimes for many decades, institutional infrastructure regarding inflation targeting needed to be adjusted accordingly. Moreover, inflation dynamics and the monetary transmission mechanism were highly uncertain due to the changing economic structure. Not surprisingly, forecasting inflation and implementing monetary policy under these conditions was a real challenge—as it is the case in all countries facing massive structural transformation.

What is more, the restructuring of the banking system in 2001 had increased the public debt burden to historically high levels (Figure 2), making the fiscal dominance a serious obstacle to inflation targeting. The average maturity of domestic borrowing in 2002—the first year of implicit inflation targeting—was around 9 months. More than half of the total government debt stock was either in some indexed form or denominated in foreign currency, rendering debt dynamics to be highly sensitive to external shocks. Accordingly, debt sustainability and refinancing issues were at the core of the economic agenda, leaving less room for active monetary policy.

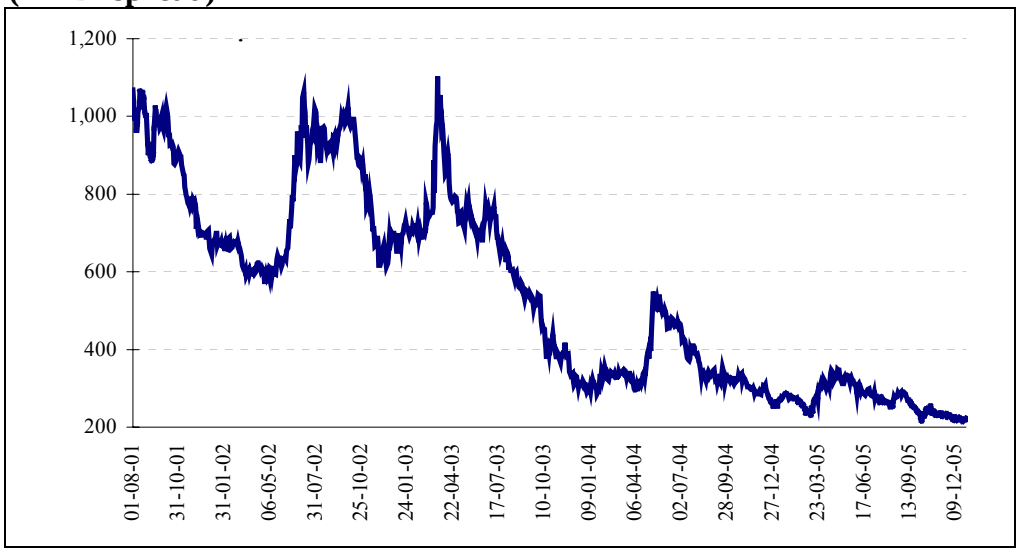
Figure 2. Initial Conditions: Public Debt



Source: Treasury

At the start of implicit inflation targeting, CBT had no problem in controlling short-term interest rates through money market operations. However, monetary policy lacked control over the longer end of the yield curve, because under high public debt and short maturities, the risk premium (measured by the EMBI spread) in the post-crisis period exhibited excess sensitivity to economic and political "news" (Figure 3).[4] The volatile risk premium also manifested itself as excess variability in the exchange rates. Increased volatility in exchange rates coupled with fast and high exchange rate pass-through—inherited from the exchange rate targeting regimes—made forecasting inflation even more difficult, limiting the forecast horizon to a mere couple of months.

Figure 3. Risk Premium Under the Implicit Inflation Targeting Period (EMBI spread)



Source: JP Morgan.

[4] See Aktaş *et al.* (2005) for more on the behavior of risk premium in Turkey. Emir *et al*. (2005) find that news related to the fulfillment of the conditions of the IMF program and of those pertaining to EU accession talks had significant influence on the market interest rates.

Initial conditions were not encouraging on the dollarization side either. The upper panel of Figure 4 replicates the composite dollarization index developed by Reinhart et al. (2003).[5] According to this particular measure, Turkey is a highly dollarized economy. The figure shows that dollarization had reached a peak during 2001 crisis just before the adoption of implicit inflation targeting regime. The bottom panel exhibits that asset dollarization was also high in the first year of implicit inflation targeting. In 2002, about 40% of the total assets were denominated in foreign currency.[6]

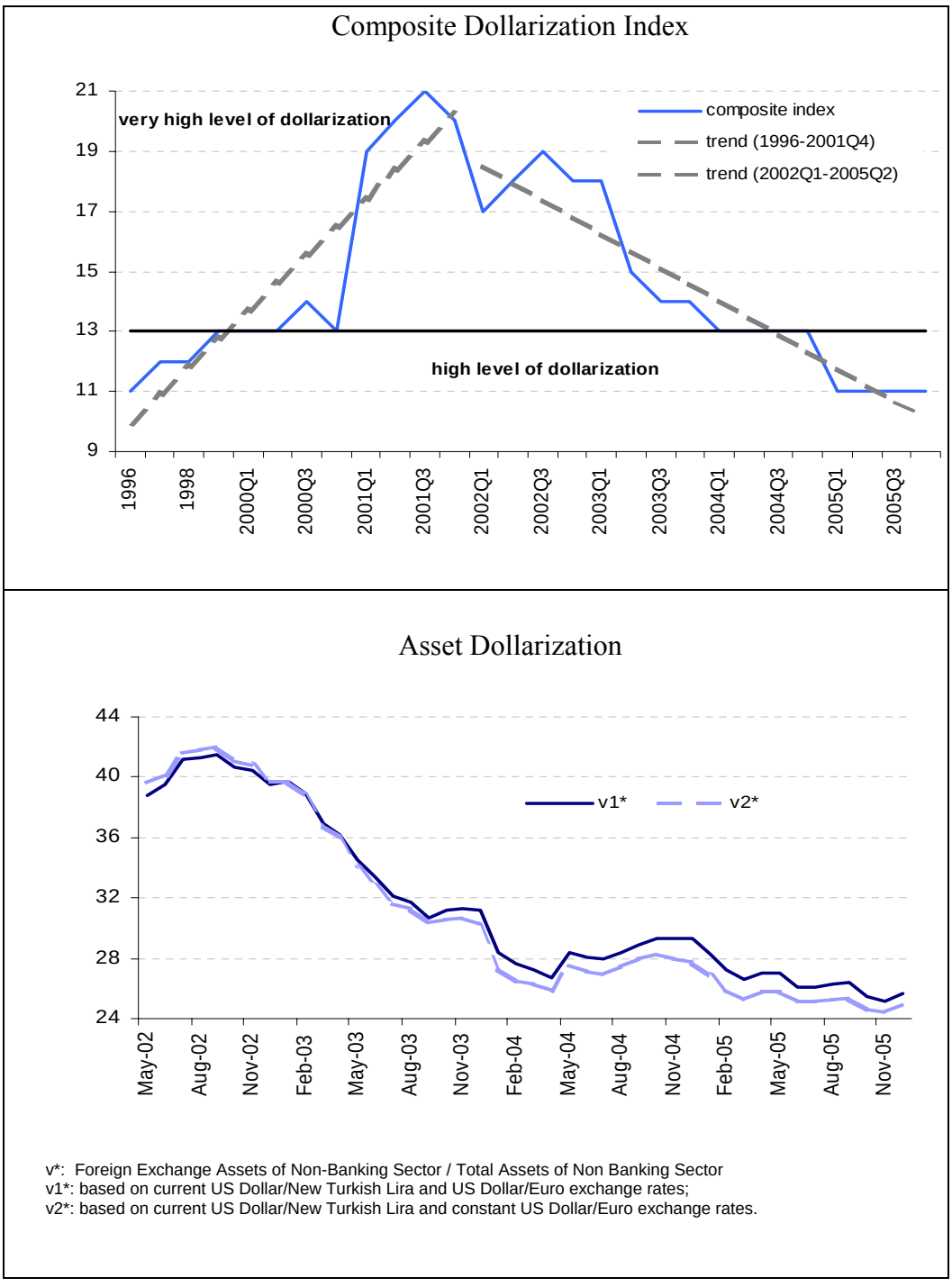
All these indicators suggest that Turkey failed to fulfill most of the "pre-conditions" at the start of the implicit inflation targeting regime. However, there was one critical condition that Turkey ranked fairly high: central bank independence. The Central Bank Law (CBT Law), which was amended in April 2001—right after the crisis and before the implementation of the implicit inflation-targeting regime—strengthened instrument independence by allowing the Bank to be fully authorized to choose its monetary policy instrument. The primary objective of the CBT was defined as to achieve and maintain price stability. The CBT Law also opened the door for accountability by requiring bank officials to inform the public on the operations of the Bank and the monetary policy. Moreover, the Law made necessary that the CBT informs the public should the targets not met in due time. Last but not least, CBT could no longer grant advances or extend credit to the Treasury and to public establishments and institutions, and could not purchase debt instruments issued by the Treasury and public establishments and institutions in the primary bond market.

In sum, Turkey scored low in all the initial conditions except "institutional independence". Independence, on the other hand, was a *de jure* concept yet to be tested. Under these circumstances, CBT decided that it would be wise not to adopt full-fledged inflation targeting, and that monetary policy should converge to inflation targeting gradually.

[5] The index is computed by using indicators such as the ratio of FX deposits to broad money supply (M2Y), the ratio of total external debt stock to Gross Domestic Product (GDP) and the share of the Treasury's FX-denominated and/or FX-indexed domestic debt in the total domestic debt. The index is formed by the addition of these ratios, after they have been normalized to a value of 10. Later on, the dollarization levels of countries are classified according to the index values, as low (0-3), medium (4-8), high (9-13) and very high (14-30).

[6] See Akıncı *et al*. for details of the methodology.

Figure 4. Dollarization Indices



v*: Foreign Exchange Assets of Non-Banking Sector / Total Assets of Non Banking Sector
v1*: based on current US Dollar/New Turkish Lira and US Dollar/Euro exchange rates;
v2*: based on current US Dollar/New Turkish Lira and constant US Dollar/Euro exchange rates.

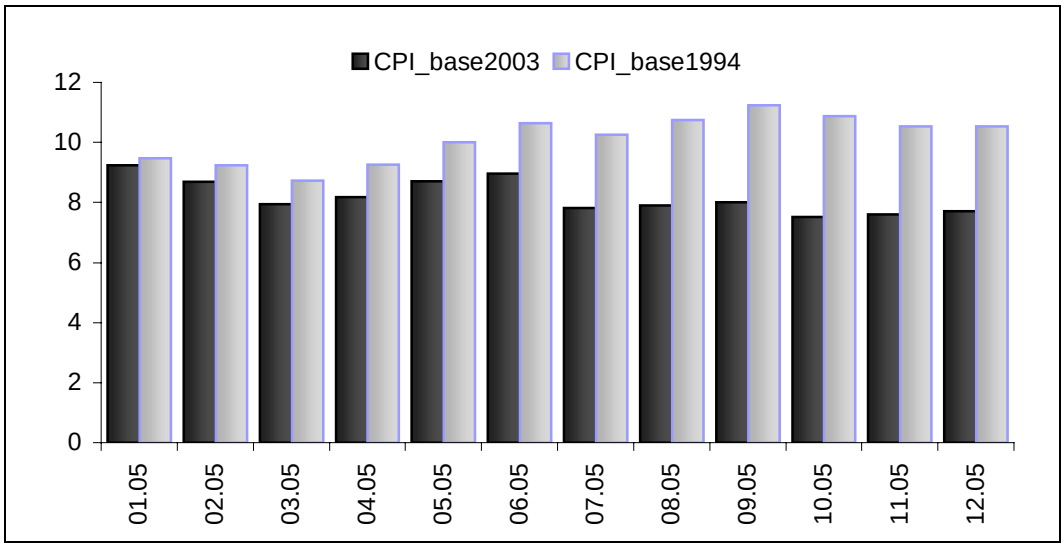
Challenges Faced in the Introduction and Initial Implementation

The sudden and unplanned adoption of implicit inflation targeting after the collapse of the exchange rate-based stabilization program did not leave much room for preparations. Moreover, the uncertain transmission mechanism and the highly volatile risk premium limited the monetary authority's ability to forecast and control inflation at the time of adoption. Econometrics provided no clue on the prevalent economic relationships. For example, empirical findings suggested that the highest impact of interest rates on output was observed in the same quarter, the impact of exchange rate movements on inflation was almost immediate, depreciations were associated with a decline in output, and the impact of movements in the output gap on inflation was negligible. These "stylized facts", which were basically obtained using the time span of fixed exchange rate period, had almost no predictive power during the implicit inflation targeting regime under a floating exchange rate.[7]

Another important challenge in the implicit inflation targeting period was the uncertainty imposed by data-related issues and public's inexperience with the new regime. Although CBT had been exerting vigorous efforts for filling the gap, data was scarce in many areas and time was needed to accumulate a history of observations. For example, CBT initiated regular inflation expectation surveys at the beginning of the implicit inflation targeting period, yet it took more than a year for the market to understand that the survey results reflected overall expectations, rather than the CBT's own forecasts. Change in the methodology and the content of consumer price index (CPI) basket in 2004 was an additional challenge. The new baskets further increased the uncertainty around the forecasts as the behavior of inflation has changed considerably since the new basket was introduced (Figure 5). What is more, identifying temporary factors from permanent ones—one of the fundamental principles of inflation targeting—became a real challenge since it was not possible to conduct seasonal adjustment.

[7] See Sarıkaya *et al.* for some evidence on the time varying nature of macroeconomic relationships in Turkey, in which the authors document the change after the 2001 crisis.

Figure 5. Challenges: Inflation Under New and Old Basket



Source: Turkish Statistics Institute

In this highly uncertain environment, CBT was not able to communicate a conventional transmission mechanism during the implicit inflation targeting period. Nor it was possible to publish forecasts. Under these circumstances, building credibility was a challenging task. The end-year inflation expectation (based on the CBT expectations survey) at the beginning of 2002 was close to 50 percent whereas the target was 35 percent (Figure 6).

Under the standard monetary transmission mechanism and normal conditions, the monetary authority is supposed to raise interest rates when expectations are far above the target. However, the CBT never raised interest rates during the implicit inflation targeting period of 2002-2005. Instead, CBT pushed for fiscal reforms and directed all its communication efforts to convince the public that economic fundamentals were getting sounder under the new stabilization program. Blanchard (2004), using a formal model, demonstrated that this approach is likely to have been the correct one. Specifically, he showed that raising interest rates against inflation pressures can "backfire" when the fiscal sustainability is at risk: A rise in the interest rate, by increasing the default premium, may trigger capital outflows and further exacerbate inflationary pressures due to exchange rate pass-through.

Given the potential problems related to this mechanism, and the premature status of the other initial conditions stated above, the CBT appended the phrase "implicit" on the term "inflation targeting". By doing so, the CBT also implicitly

acknowledged that the conventional control mechanism of using short-term interest rates as a "leaning against the wind" policy tool might lead to undesirable consequences under fiscal dominance.[8]

Transition to Inflation Targeting

Although the CBT and the Government announced a multiyear "projection" of inflation consistent with the IMF stand-by program, official inflation and monetary targets were announced only one year in advance during the implicit inflation targeting period between 2002-2005. Monetary aggregates were used as "complementary anchors", implemented by restrictions on certain central bank balance sheet items under the IMF stand-by agreement. Should an inconsistency arise between the monetary targets and inflation, the former would be revised. This mechanism eased the potential conflicts that may arise due to the co-presence of monetary targets during the implementation of the implicit inflation targeting framework.

Monetary policy in the first three years of implicit inflation targeting (period between 2002 and 2004) can be characterized as a highly discretionary and opaque decision-making process: Timing of the policy decisions was not predictable, and the CBT provided no systematic information on the future course of monetary policy. Although the CBT Law defined the Monetary Policy Committee as the ultimate body on designing the "strategy" of monetary policy, its role was not clear in practice.

The CBT envisioned implicit inflation targeting as a transition period for inflation targeting, during which the communication, transparency and institutional setup would be enhanced gradually. CBT's transition process to full-fledged inflation targeting focused on three issues. First, technical infrastructure was improved. Internal projects concentrated on the "new" inflation dynamics and the monetary transmission mechanism. Contemporary techniques were adapted to enhance the forecasting and policy analysis framework. Second, communication skills were enhanced over time. The CBT started to publish more explicit statements regarding its view on the inflation outlook. Qualitative forecasts were made available through periodical reports. As time went by, more and more information was shared with the

[8] Özatay (2005) gives an example of such an undesirable consequence as follows: "In the post-crisis period, the CBT raised its overnight rate just once - in July 2001-and the reactions of the markets were adverse. The interest rates in all maturities moved upwards and the Turkish lira depreciated."

public and the ability of CBT to act as an "expectations manager" has improved considerably. Third, and most importantly, the decision-making process shifted to a more predictable and systematic setup in 2005 by announcing fixed dates for the monetary policy committee meetings.

The Outcome

The program set out in 2002 envisaged a rather fast pace of disinflation. The plan was to reduce inflation to 35% in 2002, 20% in 2003, 12% in 2004 and 8% in 2005, all formulated as December-December changes in the consumer price index. Since the aim was to bring inflation *down* from historically high levels, CBT interpreted these numbers as "upper bounds" rather than point targets.

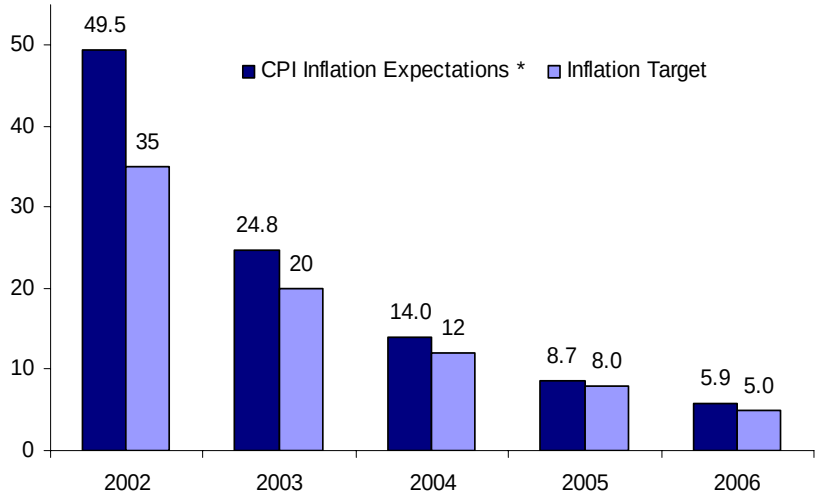
Probably the turning point in the disinflation process was the recognition of the role of fiscal discipline in managing expectations under heavy fiscal dominance.[9] In its various press releases, the CBT explicitly stated the importance of fiscal discipline in containing expectations, stabilizing the economy and maintaining low inflation. The fact that the CBT and the Government jointly set the targets created a natural coordination between the fiscal and monetary policy. As a consequence, in the post-2001 period, fiscal discipline emerged as the main policy anchor along with central bank credibility. Coupled with the independence decreed by the CBT Law, this surely helped to build a reasonable amount of disinflation credibility in a very short period. The CBT and Government's successful track record and commitment to achieve targets have boosted the confidence, and contributed to the rapid build-up of credibility.

The outcome was surprisingly successful, outpacing all expectations. During the period of implicit inflation targeting, inflation came down from 68% at the end of 2001 to 7.7 percent at the end of 2005. The policy credibility gap—gauged by the deviation of inflation expectations from the point target—came down significantly (Figure 6). What is more, growth volatility has declined and the Turkish economy witnessed strikingly high growth rates four years in a row.

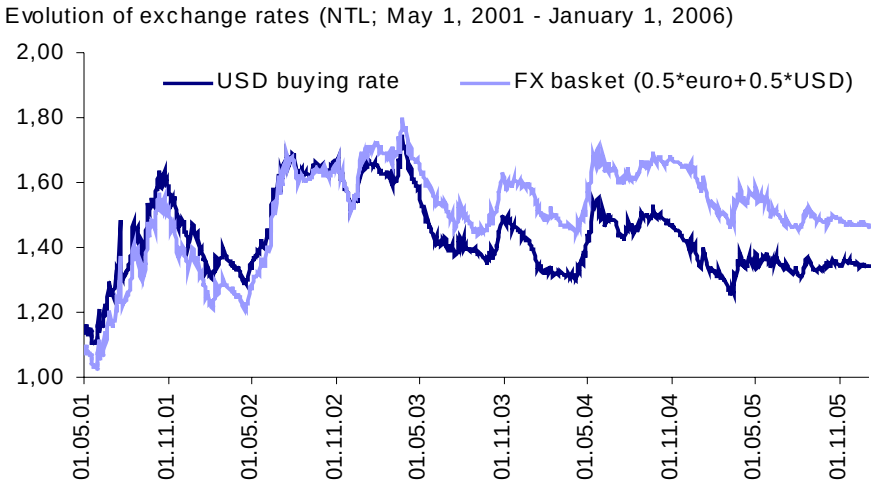
In the meanwhile, volatility in exchange rates and financial markets declined and risk premium came down. As a consequence, both the nominal and the real interest rates went down to historically low levels (Figure 6).

[9] See Celasun *et al*. 2002 for the evidence on role of fiscal variables such as primary budget surplus or debt burden in forming inflation expectations in Turkey.

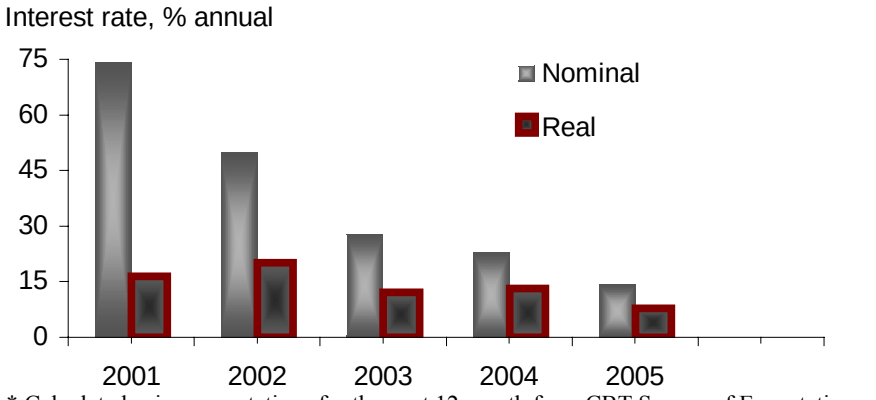
Figure 6: Evolution of Some Indicators During Implicit IT Period



* Expectations for the next 12 months at the beginning of the year, CBT Survey of Expectations.
Source: Turkish Statistics Institute, CBT.



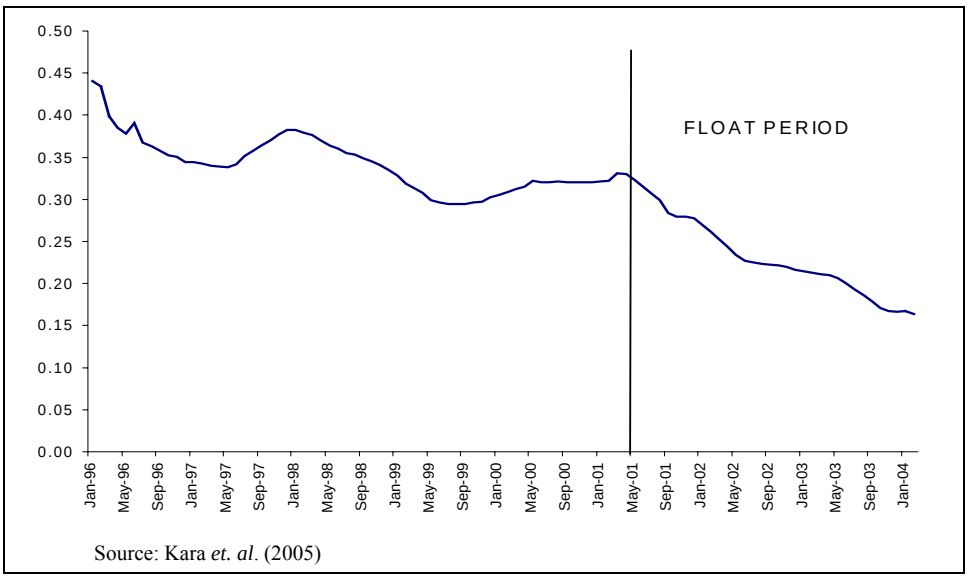
Source: CBT



* Calculated using expectations for the next 12 month from CBT Survey of Expectations .
Source: Treasury, CBT

Price setting behavior also changed during the implicit IT period: Indexation to exchange rates weakened and exchange rate pass-through decreased significantly (Figure 7).[10]

Figure 7: Exchange Rate Pass-Through to CPI



Source: Kara *et. al*. (2005)

Adoption of Full-Fledged Inflation Targeting

All these developments paved the way for the adoption of formal inflation targeting. Finally, at the end of 2004, the CBT announced that (full-fledged) inflation targeting would be implemented at the beginning of 2006. Announcing the adoption date one year in advance allowed the CBT to make the final preparations for a smooth implementation of IT. The CBT formulated a detailed operational framework for the inflation targeting regime and shared it with the public at the end of 2005. The main innovations in the full-fledged regime can be listed as follows: (i) Decisions were to be made on a voting basis in which the Monetary Policy Committee assumed the whole responsibility on setting the interest rates; (ii) A multi-year target horizon was set and medium term inflation forecasts were published in the new "Inflation Report"; (iii) The CBT committed to be accountable in case of sizeable deviations from the target.

[10] Kara *et al*. (2005) find that exchange rate pass-through in non-tradable goods was almost immediate and very high in the pre-2001 period, whereas the pass-through in this group came down to almost zero in the post 2001 period. The authors attribute this finding as an evidence of indexation to exchange rates before 2001 (the managed exchange rate period).

The new framework presented a three-year target horizon along with "uncertainty bands". Should the inflation fall outside the band, CBT would be expected to prepare a separate report explaining the reasons and the likely policy responses to the public. The CBT stressed that the uncertainty band is not a range of indifference, and that midpoint of the uncertainty band should be perceived as the "point target". The CBT also emphasized that monetary policy would pursue a more "medium term" oriented approach in which transitory shocks would be tolerated even if they jeopardize the attainability of targets in the short term. This move was interpreted as a shift towards a more flexible form of inflation targeting relative to the policy pursued in the period of 2002-2004, during when the CBT was fighting hard to build the disinflation credibility.

Lessons for the Newcomers

Many countries are considering to join the club of inflation targeters in the next couple of years. These countries are typically developing or transition economies, facing similar problems as Turkey did a couple of years ago. In that sense, Turkey's successful experience with a smooth transition to inflation targeting over the past four years may be used to derive certain prescriptions for the newcomers.

Recent research on inflation targeting tends to conclude that initial conditions do not matter significantly for the success of the regime.[11] Indeed, we have documented in this study that, despite adverse initial conditions at the beginning of the implicit inflation targeting regime, the final outcome turned out to be stunning. Does Turkey's achievement in bringing inflation down significantly in just a couple of years—and enjoying high growth rates at the same period—mean preconditions are irrelevant for the success of inflation targeting? Not necessarily. It should be reemphasized that the strategy Turkey had adopted in 2002-2005 cannot be categorized as a typical inflation targeting regime since many of the main elements of inflation targeting were missing. It was exactly the lack of certain set of preconditions that led CBT to start with the "implicit" version of inflation targeting.

It may be true that the sooner a country adopts inflation targeting, the sooner it will learn how to cope with the challenges. However, the Turkish experience shows that inflation targeting in itself is not a cure-all and it may be wise not to rush full-fledged inflation targeting. Turkish experience suggests that, for countries with

[11] See for example Batini and Laxton (2005).

insufficient institutional development and limited operational capacity (due to factors such as fiscal dominance, immature financial markets, etc.), it may be a good idea to start with an intermediate regime. This intermediate regime should have some of the basic ingredients of inflation targeting but it should not go too far; i.e., central bank should stress that the responsibility of controlling inflation cannot be the job of a single institution and that it requires a coordination of macroeconomic policies as a whole. The strategy of emphasizing the role of the fiscal policy and structural reforms, sharing the responsibility of inflation with the government, and waiting for the fiscal sustainability indicators to reach a reasonable threshold may be a viable option, especially when the economy is operating under high fiscal dominance.

Starting with a "lighter" version, namely implicit inflation targeting, does not necessarily mean that the system would be exempt from all the prerequisites. Even at this stage, a certain set of conditions might be critical for initiating the process. The Turkish experience suggests that, fiscal and political commitments are at the top of the list. Having the government to share the responsibility of attaining inflation targets may help in this respect, since this will mean that the authorities that bear the responsibility of targets as a whole are able to deliver their commitments; in other words, the authorities have the "credibility of ability".[12]

Backing the intermediate monetary regime with an appropriate fiscal policy framework would not be enough, however. A high degree of central bank independence and a clear mandate on price stability could also be essential, for this would ensure that the authorities are credible on their "intentions". Indeed, Turkish experience suggests that a well-structured central bank law ensuring institutional and instrument independence is the key to successful implementation of inflation targeting.

Securing the "credibility of ability" and "credibility of intention" to attain the targets, may be sufficient to control *near term* expectations. However, in order to

[12] CBT Law was often criticized by the EU officials for not having goal independence, as it commanded inflation targets to be set jointly with the Government. Nonetheless, during four years of implicit inflation targeting, this turned out to be an advantage rather than a culprit: Joint determination of inflation targets allowed the Government to share the responsibility of attainment of inflation targets and thus increased the support for the monetary policy regime. The Government in turn committed to fiscal discipline, securing high primary budget surpluses and setting incomes policy in line with the targets four years in a row. These policies, in turn, eased the fiscal burden, contained inflation expectations, reduced long-term real interest rates, and enhanced growth and investments. Accordingly, Turkey has witnessed a disinflation period during which output grew by an average of 7 percent per annum.

anchor *long term* expectations, the transition process has to be supported by structural reforms that would ensure the sustainability of the overall framework. In addition, a firm degree of commitment to the floating exchange rate regime may be necessary, since this would rule out the possibility of giving mixed signals regarding the main objectives of the central bank.

This set of conditions would ensure that the pre-announced inflation targets serve as anchors, even if the central bank may lack a conventional monetary transmission channel to control inflation. Therefore, satisfying these conditions will allow the policy makers to have a reasonable degree of leverage over expectations—*sine qua non* for targeting inflation. In that sense, Turkish experience suggests that political support, institutional independence, and commitment to a floating exchange rate regime could be listed among the fundamental conditions for initiating an inflation targeting regime.

As a last remark, it would be worth reemphasizing that no single set of solutions fits all. However, we believe that the Turkey's experience with implicit inflation targeting constitutes a genuine case study for enhancing the understanding of the fundamental prerequisites of inflation targeting—a topic likely to be discussed over and over in the future.

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