The monetary transmission mechanism in Turkey: new developments

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1. Introduction

Uncertainty about the underlying monetary transmission mechanism may be more pronounced in emerging market economies than in developed ones. Small open emerging market economies are typically characterized by, high exchange rate pass-through, asset and liability dollarization, currency and maturity mismatches in balance sheets of banks and firms, external financing constraints, and fiscal dominance. Macroeconomic relationships are generally blurred by the role of exchange rates in both growth and inflation dynamics. This implies that the credit and aggregate demand channels may not respond properly to a change in interest rates. Therefore, the small open economy context complicates the interest rate channel beyond that observed in conventional mechanisms. Instead, the macroeconomic environment may be shaped by exchange rates driven by the direction and magnitude of capital flows.

In Turkey, the ongoing structural transformation process, which was launched after the deep crisis of February 2001, involved the transition to inflation targeting, the introduction of the floating exchange rate regime coupled with the new central bank law, and structural reforms aimed at reducing the public sector burden on the economy as well as promoting competition and productivity. During this process, traditional monetary transmission channels have become more operative. Nevertheless, the evolution of the transmission channel cannot be solely attributed to the improvement in domestic fundamentals. The progress in financial integration, as well as in the European Union (EU) accession process, emerges as the major cause of changing dynamics of monetary transmission. For instance, global trends in risk appetite influenced by expectations regarding monetary policy actions to be taken by major economies have become more significant for domestic policy. A further critical issue for Turkey is that the EU convergence process not only provides an additional anchor to shape expectations, but also bears fruit by attracting more long-term capital to the economy. No matter what these factors individually imply, they indicate a common point that exchange rate fluctuations resulting from reversals in capital flows have a large effect on monetary policy.

2. Transmission mechanism in general

Monetary policy conduct in Turkey before 2001 incorporated the practice of fixed or managed exchange rate regimes where the exchange rate was the main policy instrument used to control inflation or to maintain financial stability. During past experiences with fixed or quasi-fixed exchange rate regimes, economic agents' expectations were heavily dependent on the movements of the nominal exchange rate, which were an easy-to-follow and compact information source regarding the future course of inflation. The influence of nominal

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exchange rates in the formation of expectations created an “indexation” mechanism in the price setting process. The most significant step towards normalization since the February 2001 crisis has been the transition to the inflation targeting regime, which requires the active use of short-term interest rates as the main policy tool while exchange rates are allowed to float. In this way, the exchange ratehas become more volatile and its information content for inflation has diminished to a large extent. The framework of monetary policy, in which interest rates are adjusted in response to deviations of inflation from a targeted path, allows the monetary authority to manage inflation expectations properly. In other words, the current policy framework puts the Central Bank of Turkey’s (CBT) short-term interest rate in the forefront by re-defining its role primarily as one of shaping expectations. For a small open economy, such a policy shift is expected to strengthen the interest rate channel in a standard transmission mechanism with a greater sensitivity of output and inflation dynamics to policy rates. The following section discusses the increasing effectiveness of the policy instrument in Turkey during recent years.

Evidence on strengthened output response to interest rates

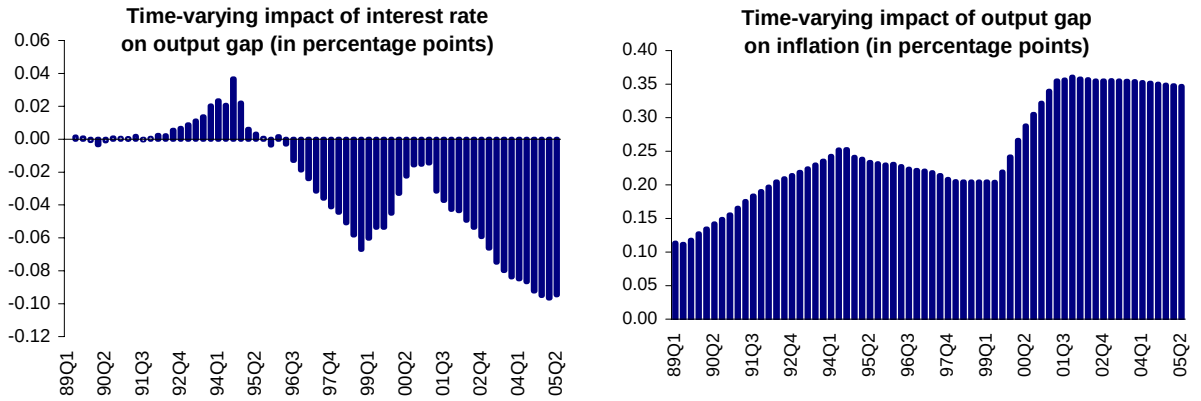
In the last three decades, the Turkish economy witnessed high and volatile inflation, coupled with increasing public debt burden that resulted in excessively high levels of real interest rates, which blurred the conventional channel of transmission to aggregate demand by inducing economic agents to become less sensitive to changes in interest rates. The major turning point for the Turkish economy was the financial crisis in February 2001, after which a comprehensive economic program was put in place. The program succeeded not only in reducing the fragility of the economy thanks to the measures aimed at restructuring the banking and public sectors, but also in alleviating historically problematic issues such as inflation and country risk. This achievement has been instrumental in bringing both inflation and real interest rates down to more reasonable levels. Accordingly, economic agents started to reveal their intertemporal preferences in response to changes in interest rates, and the link between real interest rates and spending decisions has strengthened significantly.

By using time-varying parameter estimation methods, Kara et al (2007) find that the effectiveness of the interest rates on the output gap, and the impact of the output gap on inflation, have been increasing since the implementation of implicit inflation targeting (Figure 2.1). As of the end of the second quarter of 2005, the contemporaneous impact of a one percentage point increase in real interest rates is a 0.1 percentage point decline in the output gap. Similarly, a one percentage point increase in the output gap is estimated to result in a 0.35 percentage point increase in the quarterly rate of inflation in the following quarter. Furthermore, the magnitude of both parameters displayed an increasing trend during the estimation period.

To sum up, the transition to inflation targeting and the evidence of a more responsive aggregate demand to real interest rates have emerged as remarkable developments with respect to the improvement in the functioning of the interest rate channel of transmission. Nevertheless, weakened fiscal dominance, reduced dollarization, and improved interest rate pass-through have also been noteworthy determinants of the increased effectiveness of short-term interest rates as a policy tool.

Figure 2.1

Evolution of the interest rate channel[1]



[1] Time-varying coefficients are estimated through the extended Kalman filter method. For more detailed information on the subject and the methodological explanations, see Kara et al (2007).

Fiscal dominance: interaction of the interest rate and the exchange rate

The literature on the monetary policy in emerging market economies points to the presence of fiscal dominance as an important constraint on the monetary transmission mechanism. Regardless of the maintenance of instrument independence, a high debt stock can be a serious threat to an independent monetary policy implementation. For the economies in question, Blanchard (2004) argues that an increase in interest rates is generally perceived as an upsurge in default risk due to a high debt burden, and thus leads to a rise in the risk premium. Depending on the extent of risk perception, subsequent capital outflows cause depreciation in domestic currency, which may hinder the conventional functioning of the UIP relationship.

However, the latest developments in Turkey suggest that this non-standard mechanism may have come to an end. Starting from May 2006, global liquidity conditions suddenly changed against developing countries, whereby higher global risk aversion triggered capital outflows from many emerging markets including Turkey along with a shift in the overall market sentiment. As a result, Turkey witnessed a sudden deterioration in the credit risk premium. The increase in the EMBI spread was around 150 basis points during May and June, and the New Turkish lira (YTL) depreciated more than 20 percent against the US dollar (USD) in the meantime. The CBT reacted decisively by increasing its policy rate by 400 basis points (bp). The USD/YTL exchange rate declined (ie the YTL appreciated) from 1.75 to 1.45 within a month. Therefore, based on the evidence from the recent financial turbulence in the Turkish economy, it can be argued that the “Blanchard” channel fades away as the interaction of the interest rate and the exchange rate continues to converge to its conventional form during the ongoing normalization process of the economy, thanks to continued fiscal prudence.

Interest rate pass-through

The main policy instrument of inflation targeters is short-term interest rates. In fact, there is a consensus in the literature that aggregate demand depends more on long-term rates than short-term ones.[2] The extent of short-term policy rates in affecting longer-term rates reflects

[2] See Woodford (1999), Rotemberg and Woodford (1999).

its power not only in steering aggregate demand but also in managing expectations. Hence, the assessment of the effectiveness of monetary policy also requires considering the linkage between short-term policy rates and long-term yields.

Aydın (2006) examines the sensitivity and speed of adjustment of credit interest rates to the monetary policy rate for corporate, housing, cash, and automobile loans. Estimation results reveal that, while corporate loans are not that sensitive to monetary policy rate changes, the long-term pass-through to cash and automobile loans is one-for-one and the elasticity of housing loan rates with respect to the policy rate is greater than unity. In other words, microstructures in the banking sector or external financial conditions have a statistically significant impact on corporate loans and housing loans, whereas the policy rate has a considerable impact on cash and car loans. Although these results indicate a significant degree of control of the monetary authority over the cost of consumer credit, one should bear in mind that the credit channel is at its early stages of development in Turkey, as the share of consumer credit to GDP is still at low levels (8 percent as of the second quarter of 2006) compared to other developing economies.

3. Exchange rate and other asset price channels

The exchange rate does not only operate through its effect on expectations but also provides an additional channel by affecting inflation directly through imported good prices and aggregate demand, thereby emerging as the quickest channel of transmission. In the emerging markets context including Turkey, the exchange rate has a distinct role, because its fluctuations may be more costly compared to those in developed economies. Based on the pre-float experience of the Turkish economy, the reason can be attributed to a number of problematic issues such as dollarization, fiscal imbalances, a high degree of exchange rate pass-through, the presence of weak and unhealthy banking and financial sectors with currency and maturity mismatches, lack of financial deepening, and the resulting financial fragility.[3] However, during the period subsequent to the 2001 crisis, the Turkish economy has made notable progress on the way to overcoming these chronic weaknesses, thanks to the structural measures put into practice. Therefore, instead of elaborating on the role of the exchange rate as a vulnerability indicator, the focus in this section will be on the changing behavior of fairly standard transmission channels, with special emphasis on the stylized facts peculiar to Turkey.

Yet another point that needs to be addressed is the role of the foreign currency as an asset in households' or firms' portfolios. Changes in the value of the exchange rate bring about wealth effects, since a considerable portion of household assets and firm liabilities are denominated in foreign currencies, especially the USD and the Euro. Clearly, other asset prices also influence the transmission mechanism, as discussed below.

Exchange rate pass-through

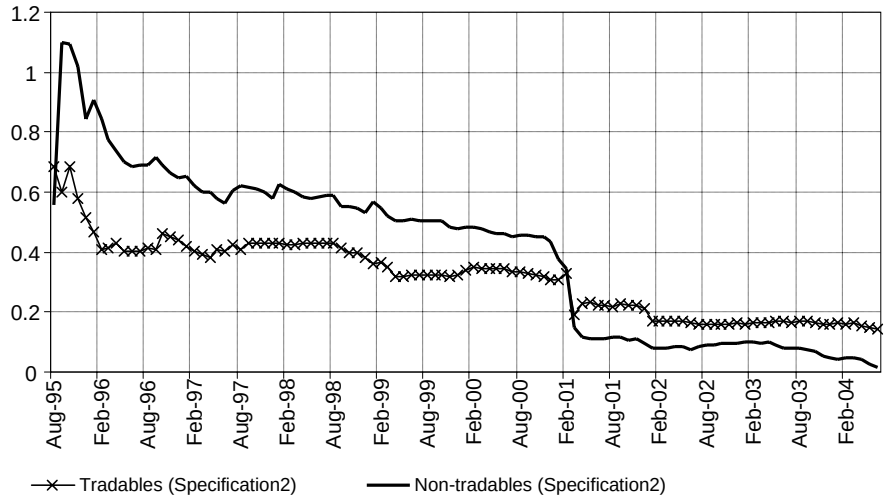
The extent of exchange rate effect on prices in Turkey must be discussed from two main aspects of pass-through, namely its pace and magnitude. Coupled with high and volatile inflation, the prolonged uncertainty environment resulting from frequent economic crises following failed stabilization programs – mostly incorporating fixed rate regimes – gave rise to

[3] Calvo and Mishkin (2003) define the main issues common in emerging market economies as weak fiscal, financial and monetary institutions, currency substitution, liability dollarization, and vulnerability to sudden stops of capital inflows.

a strong indexation behavior and made the exchange rate the main determinant of inflation expectations prior to the implementation of the floating exchange rate regime. Accordingly, depreciation-inflation spirals became a common characteristic of the Turkish economy. This means that not only the magnitude but also the speed of exchange rate pass-through had been excessively high before the adoption of the floating regime. A change in the exchange rate was transmitted quickly to prices irrespective of the nature of the shock being temporary or permanent. Moreover, automatic indexation behavior was so common among all sub-items of the CPI that pass-through was almost full even for non-tradables (Figure 3.1).

Figure 3.1

Indexation behavior:
pass-through coefficient in tradables vs non-tradables[1]



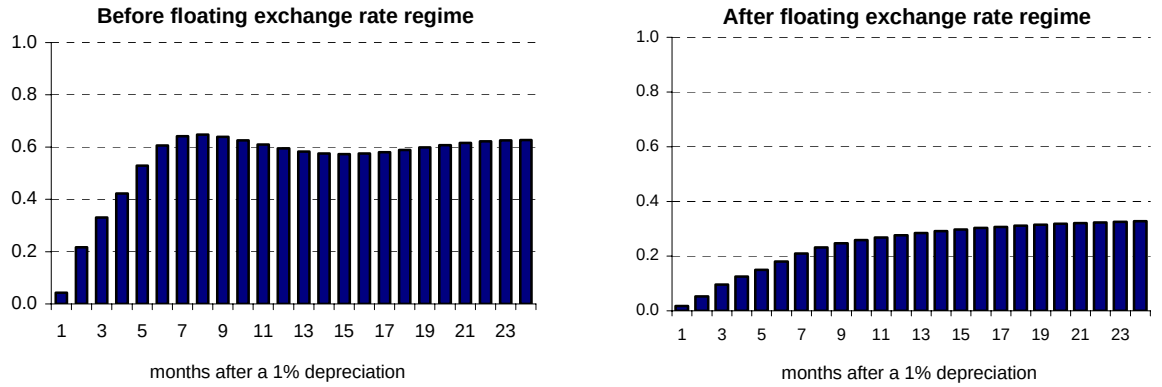
[1] For more detailed information on the subject and the methodological explanations, see Kara et al (2007).

However, the transition to inflation targeting along with the floating exchange rate regime can be expected to lower the degree of pass-through. In fact, recent empirical studies for Turkey find reduced exchange rate pass-through, in terms of both speed and magnitude. Kara et al (2007) differentiate between the tradable and non-tradable sectors' prices and compare the time-varying pass-through coefficients in these subgroups. They interpret the high pass-through to non-tradables inflation as a signal of strong indexation behavior during the pre-float period. Following the introduction of the floating exchange rate regime, they find evidence of weakened indexation behavior, based on the observation of a more pronounced downward shift in the pass-through to non-tradables inflation compared to tradables inflation (Figure 3.1).

In a further study, Kara and Öğünç (2005) analyze two subsamples to distinguish between the pre-float and the float behavior of exchange rate pass-through in Turkey. They estimate that most of the pass-through is completed within four to five months during the pre-float period, whereas it takes approximately one year under float (Figure 3.2). Their findings also indicate the diminished magnitude of pass-through, in addition to the slowdown in its pace. In a two-year horizon, the total pass-through is estimated as approximately 60 percent for the pre-float period, while it has fallen down to 30 percent under the floating regime.

Figure 3.2

Cumulative exchange rate pass-through to consumer inflation: VAR evidence[1]



[1] For more detailed information on the subject and the methodological explanations, see Kara and Öğünç (2005).

Although the common bottom line of recent empirical studies supports a relative improvement subsequent to the adoption of the floating exchange rate regime, the current degree of exchange rate pass-through is still relatively high. Putting aside the speed of pass-through, its magnitude points to aphenomenon peculiar to Turkey, due to the structure of aggregate production function of the economy. The large share of the import component in total value added signifies a high degree of dependence of production on foreign resources. For instance, intermediate and capital goods account for almost 90 percent of total imports in Turkey. The high weight of imported goods in the factors of production is also supported by a recent survey study based on selected firms in the manufacturing industry. The survey results of Karadaş et al (2006) show that the average share of imported raw materials in total expenses of firms in the manufacturing industry is 36.1 percent, whereas domestic raw materials and labor constitute 32.6 percent and 11.6 percent of total costs respectively. The survey also provides information on indexation behavior supporting the economic intuition that indexation is most pervasive among sectors processing imported raw materials intensively.

Finally, it is worth noting that recent econometric studies aiming to estimate a pass-through coefficient for Turkey may suffer from the sample characteristics since they cover a period witnessing only a sustained appreciation trend of the domestic currency. In this particular case, the downward trend of pass-through coefficient over time may solely be reflecting the disinflation process that has prevailed since the adoption of floating rates. In fact, a true identification of pass-through effect requires testing for the reaction of inflation to an opposite situation as well. The question of how estimated coefficients would have changed if the domestic currency had been exposed to a considerable depreciation remains to be seen.

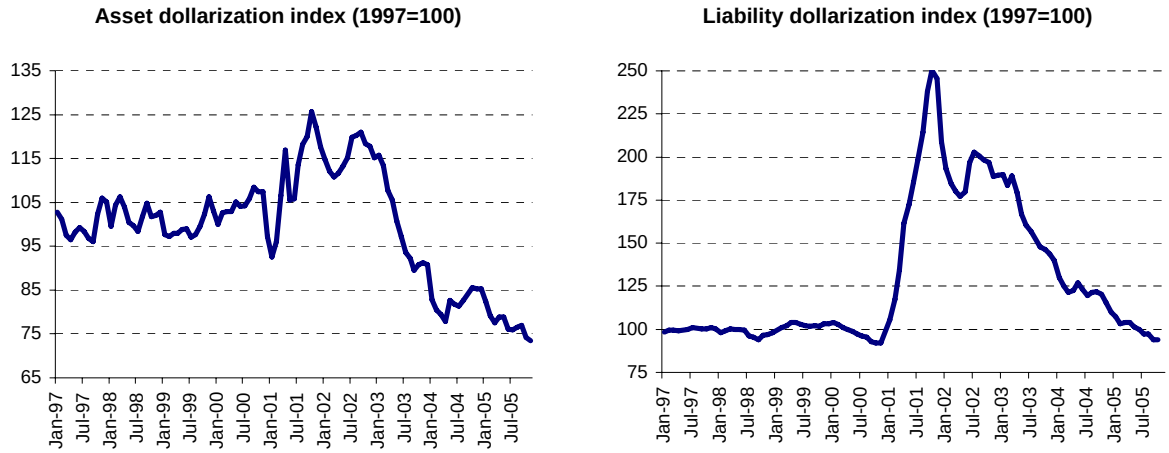
Dollarization: weakened but still high?

Regarding the degree of monetary policy effectiveness, dollarization emerges as one of the most common limitations peculiar to emerging markets with unstable economies and lack of confidence in the domestic currency. Calvo and Vegh (1992) recognize dollarization as a consequence of high inflation resulting primarily from fiscal imbalances and unsuccessful stabilization programs. Besides, the presence of liability dollarization in both financial and real sectors, coupled with inadequate supervisory bodies, appears to be a serious threat to financial stability in these economies. Reflecting the aforementioned characteristics of an emerging economy, the pre-float period experience of Turkey can be seen as a case study. A fragile banking sector with poor loan quality along with maturity and currency mismatch

problems, a real sector relying extensively on foreign currency financing, an imbalanced fiscal account with a large share of FX-denominated debt stock and a large stock of FX deposits were the main factors increasing the severity of dollarization in the Turkish economy. In such an environment, the role of dollarization was far beyond reducing the control of the CBT on monetary aggregates. A natural by-product was the emergence of exchange rate dominance in the economy manifesting itself in production and pricing decisions and thus leaving a smaller role for interest rates in monetary transmission. However, during the successful disinflation period following the 2001 crisis, the strengthened financial structure of the banking sector,reduced public debt stock with a healthier composition, and the increased confidence in the domestic currency has led to a decrease in the degree of dollarization in a broad sense (Figure 3.3).[4] Consequently, the economy is now less vulnerable to exchange rate shocks.

Figure 3.3

Dollarization indices for Turkey[1]



[1] For more detailed information on the subject and the methodological explanations, see Akıncı et al (2005).

Exchange rates and economic activity: demand vs supply side effects

Apart from its conventional impact on aggregate demand via foreign trade, the exchange rate has the fastest channel of transmission owing to its effects on key variables such as expectations, the risk premium, firms' balance sheets, production costs, and prices in Turkey. The existence of supply side effects – operating mainly through cost and balance sheet channels – may give rise to non-conventional relationships.

A historical glance at the relationship between the real exchange rate and business cycles in Turkey clearly shows that appreciation periods coincide with solid expansion phases whereas strong depreciation episodes are associated with recessions. This comovement can

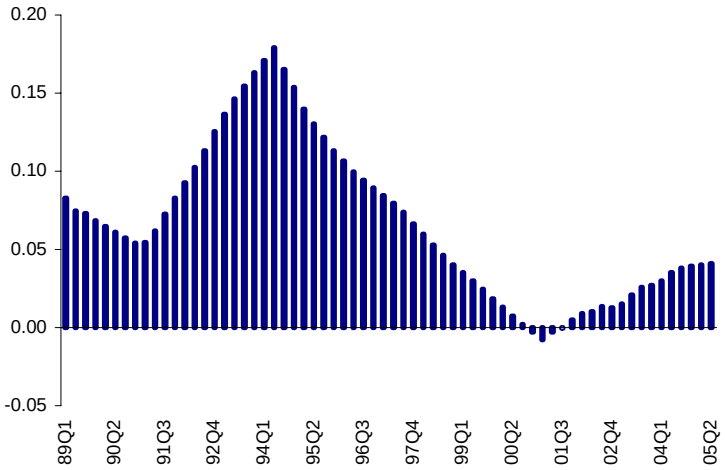
[4] While the figure displays a big jump in the liability dollarization index in the aftermath of the 2001 crisis, this jump is not accompanied by the asset dollarization index. The former index consists of the real sector's share of FX-denominated credit to total credit, the share of FX-denominated government debt in domestic debt stock, and the government's foreign debt to GDP ratio. The asset dollarization index, however, shows the share of FX-denominated domestic assets (government securities) and bank deposits in households' total portfolio. The value of all financial instruments in both indices is converted to YTL at current exchange rates. So, both indices are affected by the strong depreciation of the domestic currency. The reason for the jump in the liability index is twofold. First, the real debt denominated in foreign currency increased following the crisis. Second, the sharp decrease in GDP resulted in a large increase in the government's foreign debt to GDP ratio.

be attributed to the volatile nature of net capital flows, which reflects the intensive use of foreign credit in financing production and investment. A marked characteristic of the Turkish economy has been the sustained appreciation trend of domestic currency accompanied by strong capital inflows, which reduces the YTL value of existing foreign currency denominated loans, thereby increasing the net worth of firms. Here, the balance sheet channel of exchange rate appreciation implies accrued resources to be allocated for further investments and productive activities. However, related to the high weight of imported inputs in the production process, the cost channel also has a boosting impact on economic activity by not only creating an incentive for firms to supply the same amount at a lower price, but also by stimulating domestic demand thanks to the increase in purchasing power and affordability of consumers.[5] On the other hand, a real depreciation of domestic currency exerts pressure on marginal costs and on total economic activity that adversely affects the price level despite enhanced competitiveness resulting from subdued demand channel. A real depreciation may also have adverse balance sheet effects, reducing the net worth of firms and depleting productive resources.

Figure 3.4

Time-varying impact of real exchange rate on output gap[1]

In percentage points



[1] Time-varying coefficient of real exchange rate is estimated through the extended Kalman filter method. For more detailed information on the subject and the methodological explanations, see Kara et al (2007).

Hence, despite the conventional wisdom that a real appreciation is contractionary due to its impact on trade balance, it may turn out to be expansionary by inducing supply side effects in Turkey. Countering impacts of cost/balance sheet effects and competitiveness/demand channel effect are empirically demonstrated by Kara et al (2007). The time-varying impact of the real exchange rate on output gap fluctuates massively for the Turkish economy, while estimated values are positive at each point in time, implying that an appreciation leads to a rise in the output gap and thus a boost in economic activity (Figure 3.4).

[5] It is worth mentioning that the increase in purchasing power stems from lower prices, whereas the rise in affordability can be attributed to extended credit opportunities with longer maturities and installments. These factors are generally associated with a general improvement in consumer confidence acting as a catalyst in stimulating consumption.

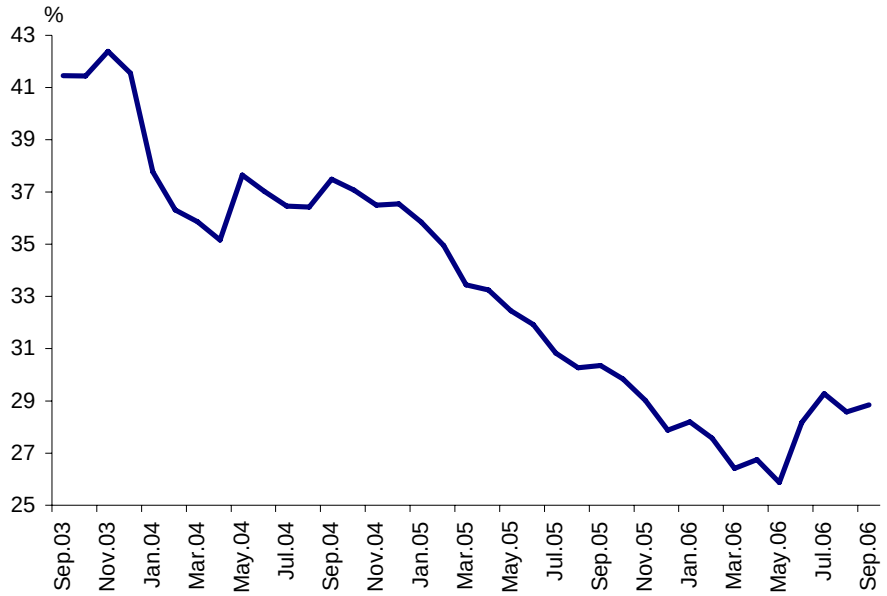
Asset price channel

In order to investigate the asset price channel properly, the first step should be to analyze Turkish households' asset positions. Real estate, YTL deposits, foreign currency deposits and holdings, government bonds, and gold comprise the asset universe in a typical Turkish household portfolio.[6]

The share of households' bank deposits denominated in foreign currency in total deposits has shown a declining trend since the 2001 crisis, although the nominal balance of households' foreign currency deposits is extremely sticky (Figure 3.5). Furthermore, households carry part of their foreign currency in the form of cash, and it is hard to provide an accurate estimate of such "under the mattress" cash holdings.

Figure 3.5

Share of FX-denominated deposits in total deposits



Source: CBT.

The amount of bonds issued by private firms is negligible in Turkey. The share of government bonds and bills denominated in YTL and hard currencies in the possession of households in total outstanding government bonds fluctuates between 10–15 percent (Figure 3.6). The amount of households' government bond holdings was YTL 32.3 billion as of end-September 2006.

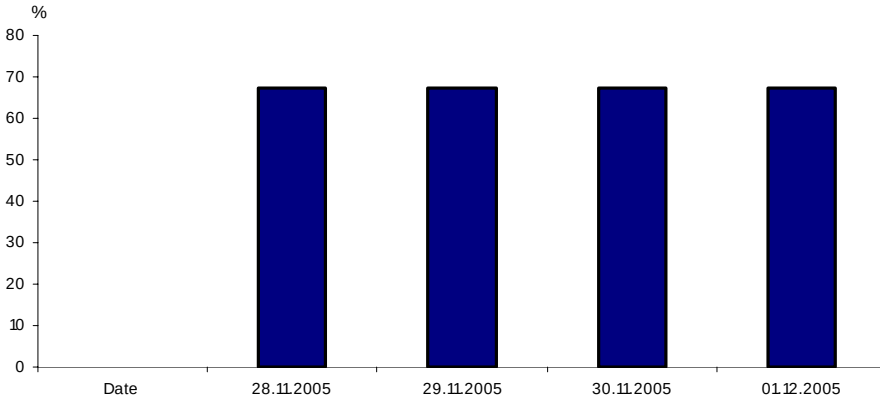
Only a small portion of gold is deposited into bank accounts, so again it is not possible to specify the exact amount of gold held by households.

The Futures and Options Exchange (FOE) became operational in 2005. Currently, only futures on currency, interest rates, stock indices, and some commodities are traded in the FOE. Option transactions will be launched soon. The daily trading volume is low and mostly concentrated on currency futures. Banks are the active players of this market. Households and firms have negligible access to the FOE.

[6] Binay and Salman (2006) report that the home ownership ratio in Turkey is quite high at 71.95 percent.

Figure 3.6

Share of government market debt held by households in total government bonds

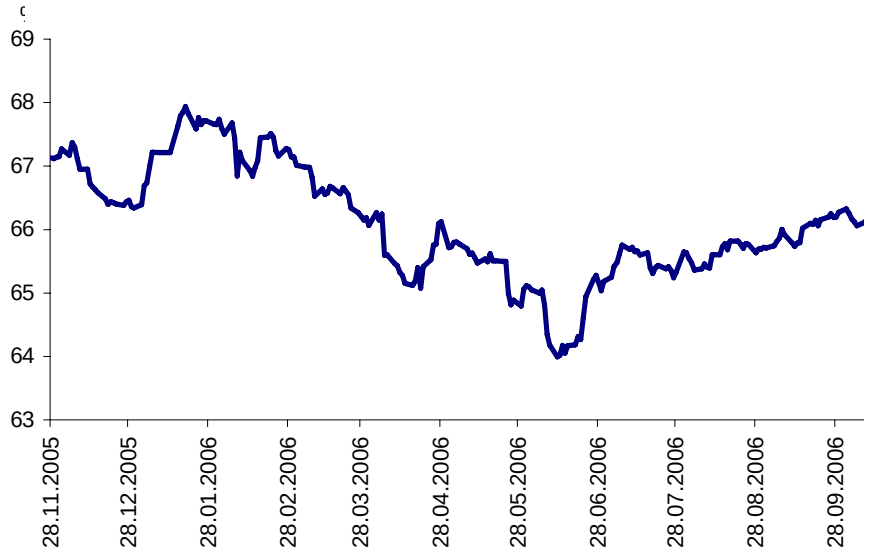


Source: CBT and Undersecretariat of Treasury.

At the beginning of October 2006, the free float market capitalization in the Istanbul Stock Exchange (ISE) was YTL 69.1 billion. On average, foreign investors have been holding 65 percent of the free float market cap in the ISE (Figure 3.7). Banks, brokerage houses and some affluent investors hold the majority of the remaining portion. Equities have the lowest share in an average household portfolio.

Figure 3.7

Foreign investors' share in free float market capitalization



Source: CBT and ISE.

Wealth channel

(i) Households

Modigliani (1970) models consumption as a function of wealth. Accordingly, an increase in households' wealth in real terms boosts consumption expenditures. Normally, a downward

trend in policy interest rates has a positive impact on housing, stock, and bond prices. Yet in a disinflationary period, like the post-crisis episode in Turkey, this mechanism directly increases households' real wealth and consumption appetite. This mechanism also operates via the credit channel, because increased wealth means higher collateral value for further credit.

However, although domestic currency depreciation increases the domestic currency value of FX holdings, households do not consider the depreciation as a real increase in their wealth because of the relatively high level of pass-through, especially to consumer durables. Furthermore, hard currencies as well as gold are traditionally viewed as insurance against inflation and domestic currency depreciation.

Therefore, households consider hard currency holdings as an instrument for portfolio diversification. The amount of FX credit of households is negligible. So it is not possible to associate a trend of domestic currency appreciation with a real increase in households' wealth.

(ii) Firms

The exchange rate is an asset price prominently influencing the transmission mechanism through non-bank firm liabilities that are of considerable amount. So, the perception of a sustained domestic currency appreciation decreases firms' debt burden in YTL terms, which strengthens these firms' cash flows and equity positions, releasing funds for further investment.

Kesriyeli et al (2005) claim that firms match the currency composition of their debt with their income streams only partially, which makes them potentially vulnerable to negative balance sheet affects of real exchange rate depreciation shocks. Consistent with this argument, real exchange rate depreciations are found to be contractionary, in terms of investments and profits, for sectors with higher liability dollarization.

4. Credit channel

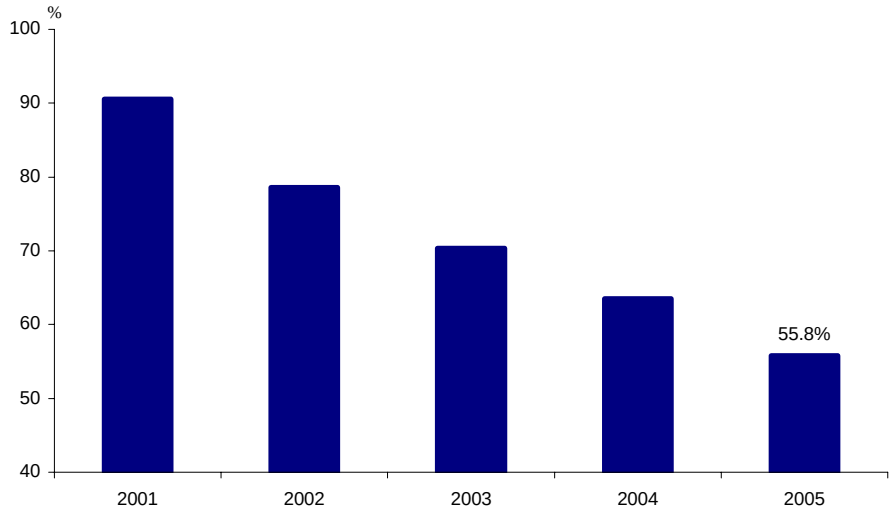
In Turkey, retained earnings and savings are the foremost sources of financing business and household investments, respectively. Years of high real interest rates and budget deficits have led banks to credit rationing, if not to disintermediation. While small and medium-sized enterprises (SMEs) and households take the brunt of financial instability and scarcity of long-term funds with reasonable interest rates, large firms have relatively easy access to bank credit.

Yalçın et al (2005) provide evidence for the above-mentioned stylized facts. They state that whereas large firms' utilization of bank credit surpasses that of small firms, the latter group heavily depends on trade credit to finance their operations.

These conditions have been alleviated after the 2001 crisis. In the post-crisis period, the government has been committed to a primary surplus as high as 6.5 percent of GDP. Structural reforms enabled the government to control expenditures and supported sustainable growth. Also, low interest rates in advanced economies such as the US, the Euro area and Japan, and high economic growth rates around the globe, resulted in liquidity abundance in emerging markets (EMs). Additionally, expectations regarding Turkey's accession to the EU attracted sizeable portfolio and FDI flows to Turkey, which created an appreciation pressure on the local currency. As a result, the net government debt/GDP ratio displayed a remarkable decline (Figure 4.1). These factors exercised downward pressure on real interest rates and boosted the supply of loanable funds.

Figure 4.1

Net government debt/GDP

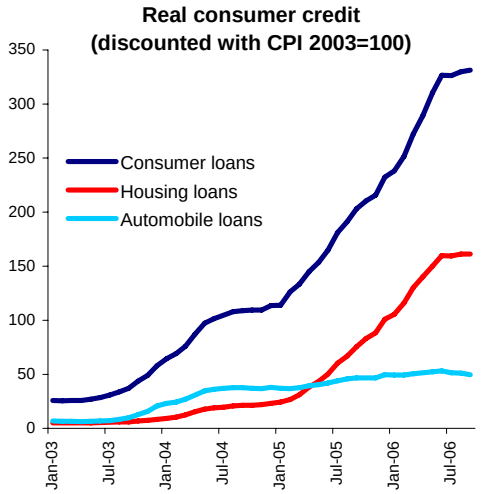


Source: Undersecretariat of Treasury.

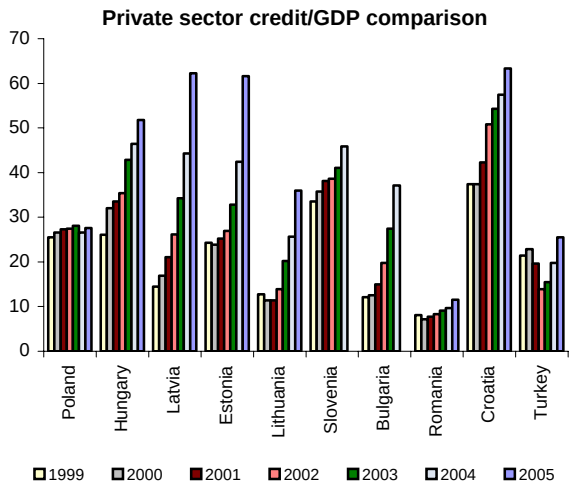
In the post-crisis period, the bank credit to GDP ratio picked up.[7] Consumer credit increased more rapidly than firm credit. As a subcategory under consumer credit, housing loans showed the most rapid increase (Figure 4.2, left-hand panel). However, the private sector credit to GDP ratio is still low in international standards (Figure 4.2, right-hand panel).

Figure 4.2

Consumer loans and private sector credit use



Source: CBT.



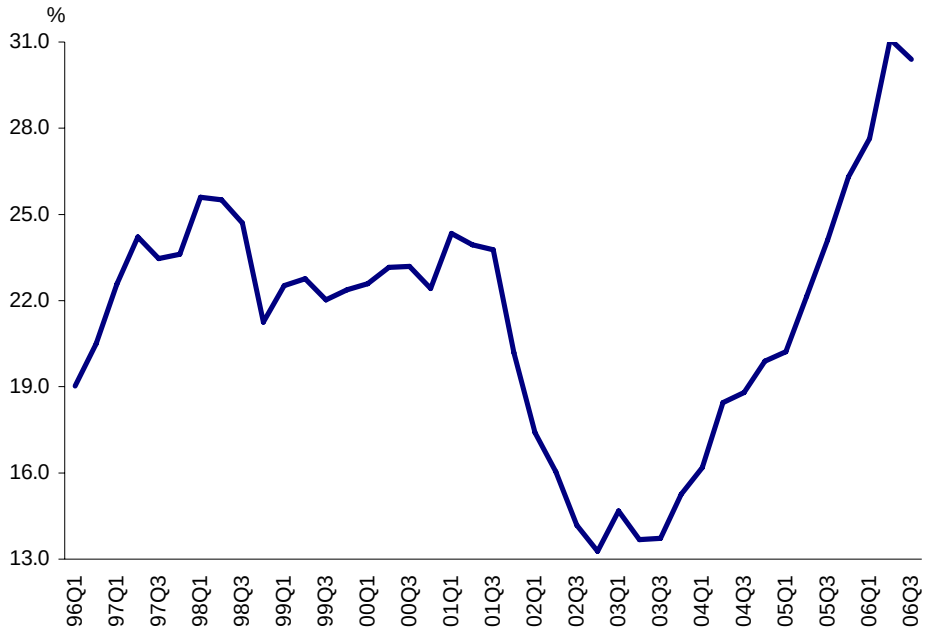
Source: IFS.

[7] For more detailed information on the subject, see Başçı (2006).

YTL-denominated corporate bonds have been issued since August 2005. Corporates' inability to extensively tap the local debt market has contributed to the strengthening of the bank lending channel in Turkey. All these developments have led banks to revert back to their traditional role of financial intermediation instead of financing government expenditures. As a result, the ratio of private sector credit used by households and firms to GDP has rapidly increased (Figure 4.3).

Figure 4.3

Private sector credit/GDP



Source: CBT.

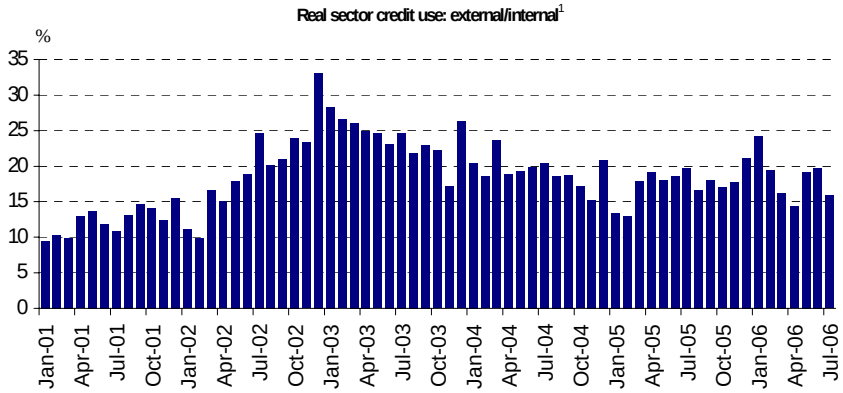
The bank lending channel in Turkey operates through two sub-channels.

Balance sheet channel

In Turkey, real sector firms have been borrowing not only from the Turkish banks, but also from abroad in terms of foreign currency (Figure 4.4). So, the appreciation of the domestic currency decreases the real value of existing foreign currency denominated liabilities when converted to domestic currency. The resulting lower levels of liabilities increase firms' debt absorption capacity. Thus, a perception of sustained currency appreciation may lead to an increase in demand for FX credit.

Figure 4.4

Credit from abroad vs from Turkish banks



[1] External credit refer to the sum of trade and other credit to the private sector, collected from balance of payments statistics. Internal credit are those extended to the real sector by domestic banks. Source: CBT.

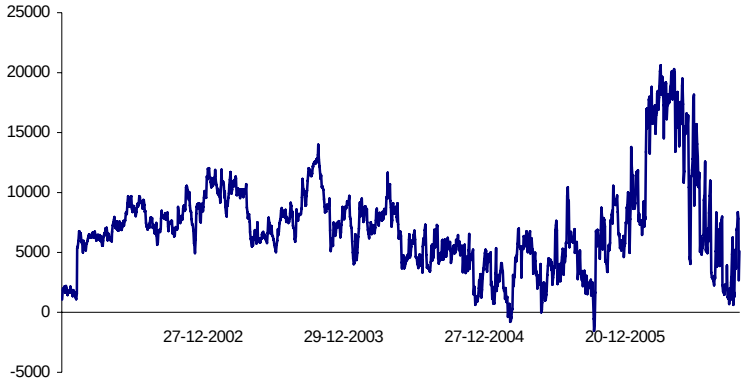
Loan supply

Among the factors increasing the supply of loanable funds, one is peculiar to Turkey. The Turkish banking sector has been operating in a Turkish lira liquidity surplus environment since October 2001 (Figure 4.5). The CBT has been mopping up the excess liquidity on a daily basis. There are also weekly or bi-weekly open market operations (OMO) that are used in exceptional cases.

Figure 4.5

Daily liquidity surplus in the money market

Millions of YTL



Source: CBT.

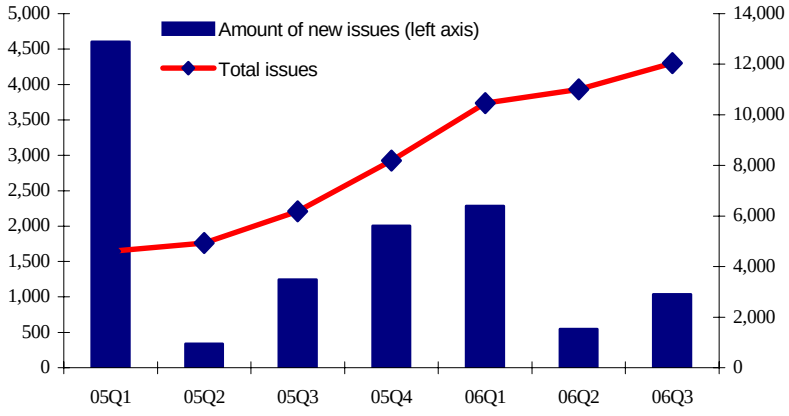
Another source of funds increasing loan supply is the over-the-counter (OTC) swap market in London. Specifically, cross-currency swaps, where Turkish banks make interest payments in YTL to the counterparty during the maturity of the contract, have the largest volume, and the most heavily traded contract has a maturity of five years. At the outset of the contract, Turkish banks pass hard currency to the counterparty in order to receive YTL. The emergence of this market has increased the capacity of Turkish banks to provide long-term housing loans denominated in YTL.

The YTL-denominated bond issues of foreign banks and financial institutions with high credit ratings have enabled the proper functioning of the swap market since the beginning of 2005. The outstanding amount of the total face value of such bonds reached YTL 10.9 billion as of end-September 2006 (Figure 4.6). Cross-currency swaps remedy the currency and maturity mismatch problems between assets and liabilities.

Figure 4.6

Amount of YTL-denominated bonds by foreign banks

Millions of YTL



Source: Reuters.

Loan demand

A stronger interest rate channel leads consumption and investment decisions to respond to real interest rates. The May–June 2006 financial turmoil is a good example of the fall in consumer loan demand growth in face of a sharp rise in interest rates (Table 4.1). High real interest rates not only bring about tighter budget constraints, but also increase the probability of financial distress that may lead households and firms to refrain from taking out new loans.

Table 4.1

Recent developments in consumer loans

3-month real percentage change

	2005Q2	2005Q3	2005Q4	2006Q1	2006Q2	2006Q3
Consumer loans	23.4	23.3	18.6	18.7	24.3	3.2
Housing loans	61.9	50.6	38.1	30.8	27.2	2.6
Automobile loans	11.7	11.4	9.9	3.2	8.9	–4.8
Other loans	11.7	11.3	5.3	13.1	28.7	7.8
Credit cards	8.4	6.3	6.0	3.2	10.6	3.8

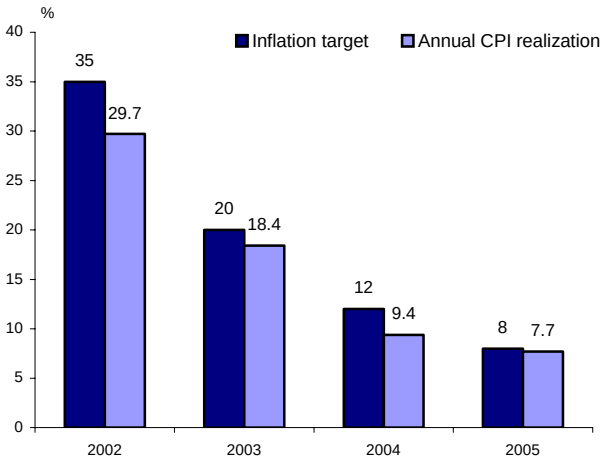
Source: CBT.

5. Expectations channel and communication

The current literature on monetary policy emphasizes the critical roles of policy commitment to a rule and agents' beliefs in the policy commitment for correct functioning of the expectations channel. In order to stress the importance of the expectations channel, Woodford (2001) states that economic agents' anticipation regarding both the policy action and its effects leave a smaller role for interest rate adjustments. Under a credible monetary policy, commitment to raise interest rates in response to inflationary pressures is sufficient for forward-looking economic units to bring about the required contraction in aggregate demand. However, in a chronically high and persistent inflation environment, agents tend to form their expectations in a backward-looking manner. The strong weight of habits in expectation formation acts as a brake in aligning expectations with targets, restricting the disinflationary ability of the policy instruments. Therefore, prior to transition to the explicit inflation targeting regime, maintaining a track record was the key to bringing the misalignment between inflation expectations and targets down to reasonable levels. From this point of view, the outstanding disinflation performance for four consecutive years contributed to the credibility accumulation of the CBT (Figure 5.1).

Figure 5.1

Inflation targets and realizations



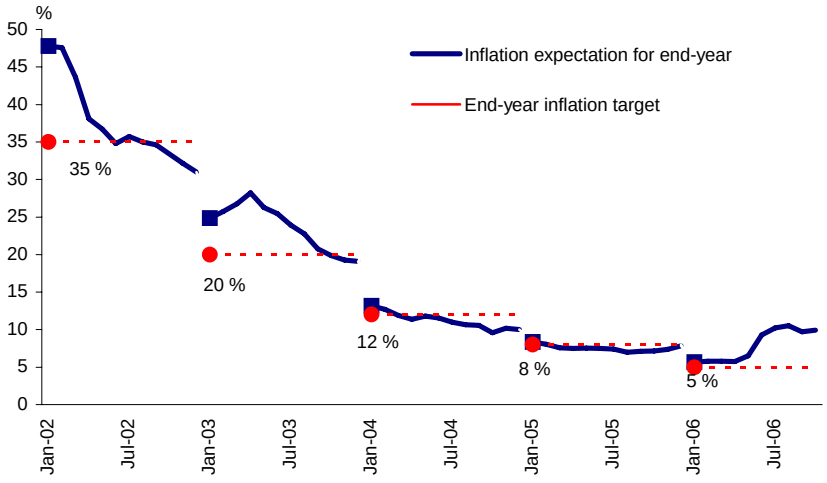
Source: TURKSTAT.

Building up credibility, increasing predictability and enhancing expectations management

The potency of monetary policy – through both the policy instrument and other communication tools such as inflation reports and press releases – in shaping expectations is a crucial element for the success of the inflation targeting regime. For the Turkish case, the poor track record with unsuccessful stabilization programs handicapped the persuasive power of the monetary authority during the early phases of implicit inflation targeting. Besides, expectations were so sensitive to developments on the fiscal front that concerns on debt sustainability acted as a major obstacle against independent monetary policy-making. In this section, the discussion on the evolution of the expectations channel after the transition to inflation targeting focuses on two main aspects, namely the improvement in both the speed of convergence of expectations to policy targets and the practicability of policy rate hikes.

Figure 5.2

Credibility gap



Source: CBT.

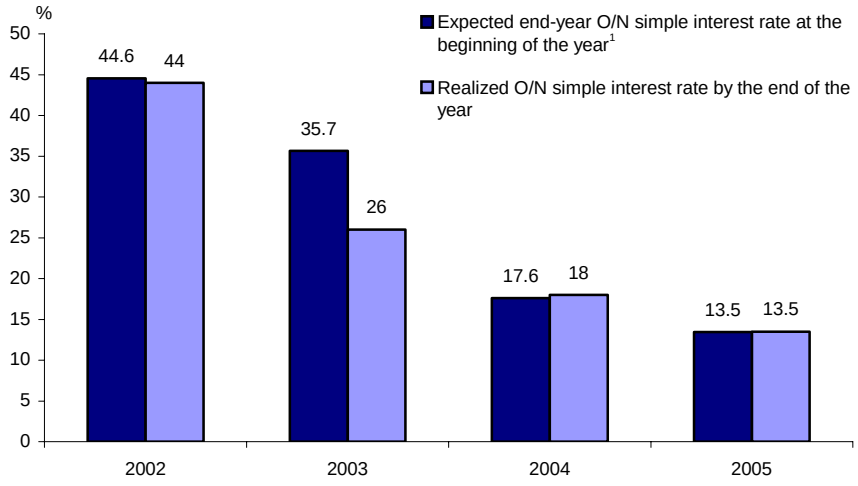
The credibility of predetermined inflation targets bears importance in providing the benchmark for forward-looking contracts including wage negotiations in the economy. However, chronically persistent and high inflation in Turkey had been a serious hindrance to the credibility of the targets at the start of inflation targeting implementation. The credibility gap, measured by the difference between the inflation expectations at January for end-year and the target, clearly demonstrates the initial distrust of economic agents towards policy goals (Figure 5.2). The expectation at the beginning of 2002 was almost 13 percentage points above the end-year target of 35 percent, while the misalignment could only be eliminated in mid-year thanks to good news on the actual inflation figures.

While the CBT builds up credibility owing to achievements in meeting inflation targets, the progress in public understanding of CBT actions has also been crucial for proper functioning of the expectations channel. Securing the alignment of expected policy moves with respect to policy actions is desirable for a central bank aiming at increasing the efficiency in expectations management. For the Turkish case it can be argued that, as agents have been more precise about the policy perspective and correctly interpret the signals of the monetary authority, they have become able to make more accurate predictions about the future path of the policy rate (Figure 5.3).

Besides the remarkable pace in credibility accumulation, the recent practice of policy rate hikes has signified the independence of monetary policy conduct from concerns about debt dynamics. At this point, it would be useful to examine the impact of the latest financial turbulence on inflation expectations and the subsequent policy reaction of the CBT. Starting from May 2006, the reversal of global liquidity conditions triggered capital outflows from many emerging markets includingTurkey, which had been encountering a number of supply shocks that led inflation to surpass the upper limit of the uncertainty band around the target path at that time. Along with the shift in overall market sentiment, Turkey witnessed a rapid deterioration in the credit risk premium and strong depreciation during May and June 2006.

Figure 5.3

Predictability of CBT rate



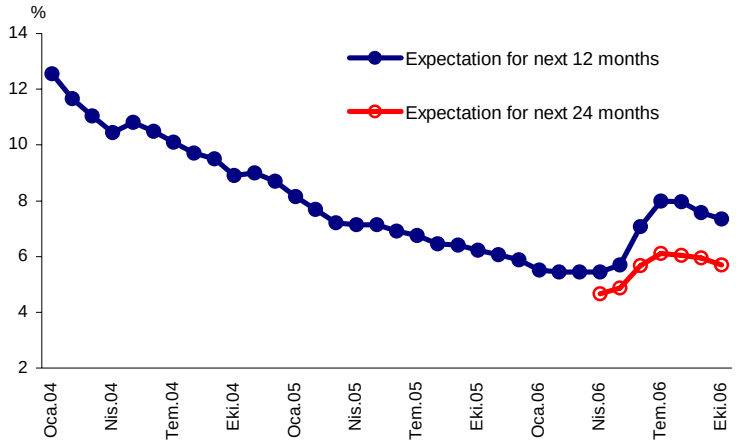
[1] Expectation at March for end-year interest rate.

Source: CBT.

The high-rated depreciation of the domestic currency led to a deterioration in inflation expectations starting in May (Figure 5.4). The inflation expectations for the next twelve months increased by almost 2.5 percentage points from April to July and reached 8 percent. Furthermore, the 24-month-ahead expectations worsened by around 1.5 percentage points in the same period and became 6 percent as of July. Furthermore, the deterioration in inflation expectations also manifested itself as a worsening in their distributional properties, with vanished normality and an increase in the degree of skewness and number of outliers, reflecting a rise in inflation uncertainty (Figure 5.5).

Figure 5.4

Inflation expectations



Source: CBT.

Table 5.1

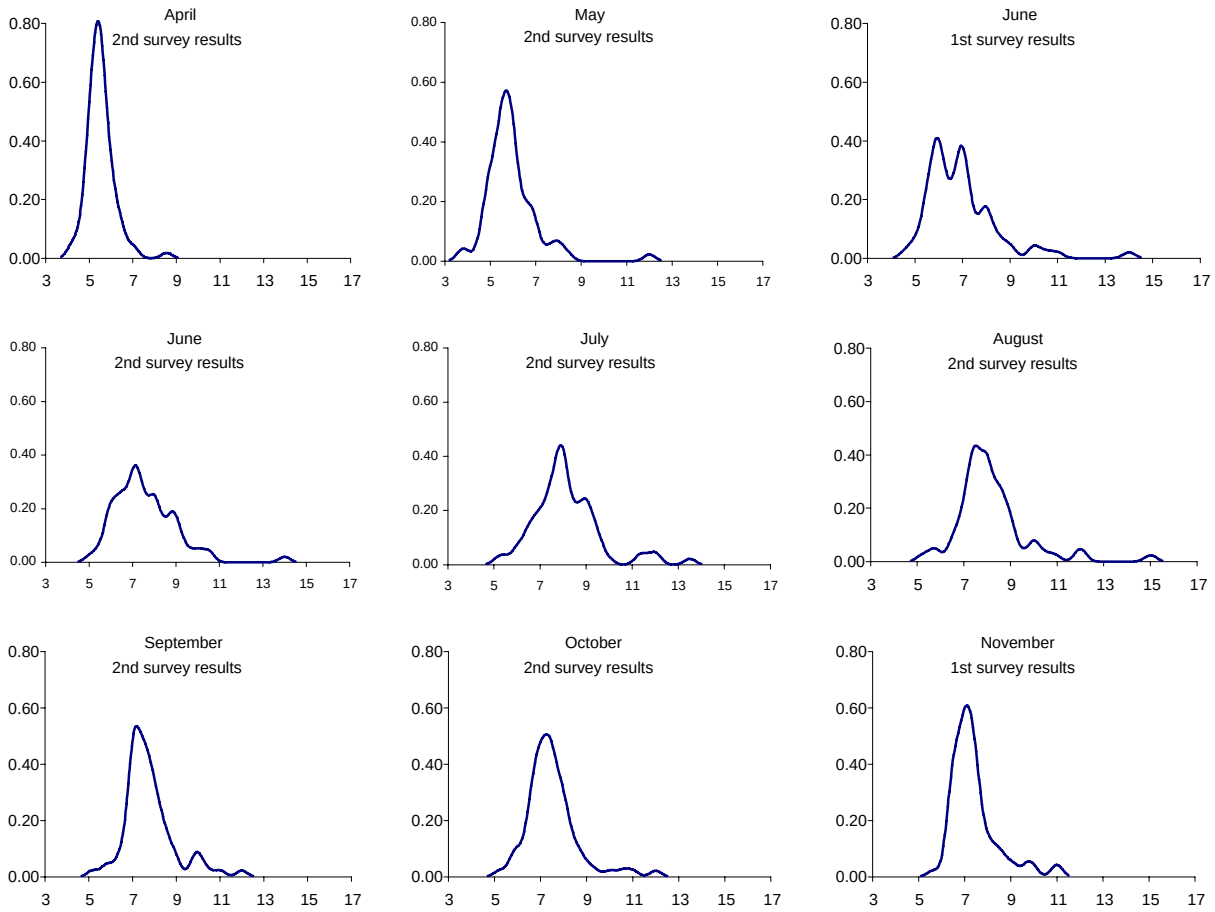
Monetary policy actions in 2006

Dates for MPC meeting	Decision on interest rate	Interest rate
January 23, 2006	No change	13.50
February 23, 2006	No change	13.50
March 23, 2006	No change	13.50
April 27, 2006	–0.25	13.25
May 25, 2006	No change	13.25
June 7, 2006(1)	+1.75	15.00
June 20, 2006	No change	15.00
June 25, 2006(1)	+2.25	17.25
July 20, 2006	+0.25	17.50
August 24, 2006	No change	17.50
September 26, 2006	No change	17.50
October 19, 2006	No change	17.50

Source: CBT.

Figure 5.5

The distribution of twelve-month-ahead inflation expectations[1]



[1] Horizontal axis shows inflation rate; vertical axis indicates Kernel forecast.

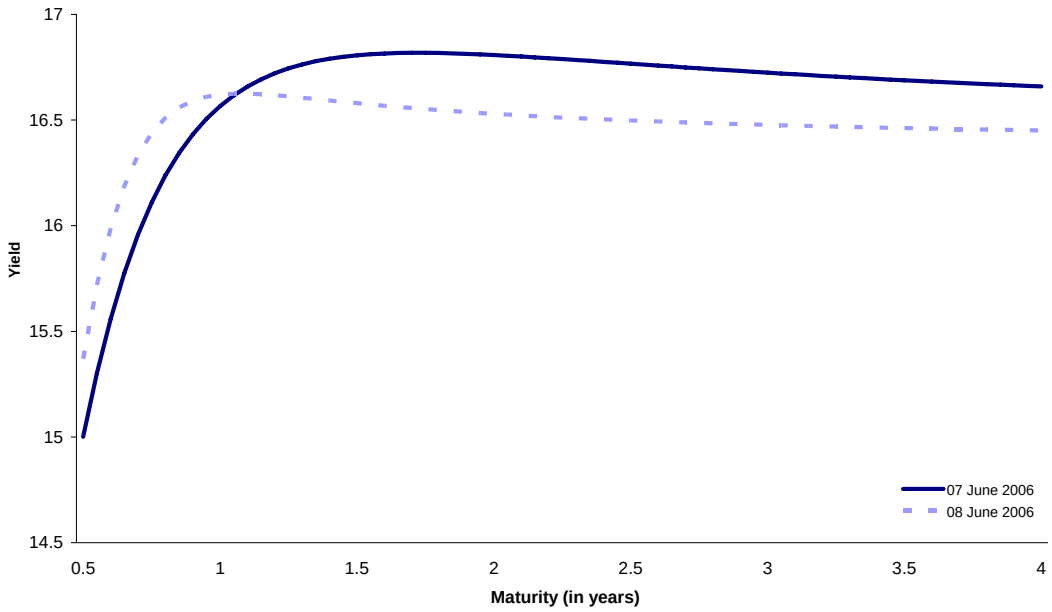
Source: CBT.

Therefore, not only the upsurge in inflation expectations, but also the dispersed structure in their distributional pattern, called for an immediate policy response. In this circumstance, the CBT reacted decisively with two policy rate hikes in the June extraordinary meetings (Table 5.1). In this way, the CBT explicitly demonstrated its commitment to the medium-term inflation targets and stiffened its reputation in the fight against inflation. The policy reaction has been successful in bringing inflation expectations down starting from July, and expectations seem to have converged to a normal distribution as of November, albeit with a higher mean compared to the pre-volatility period (Figure 5.5).

A similar phenomenon can be observed in the response of market interest rates to the policy reaction. The monetary tightening on June 7, 2006, when the CBT raised the short-term policy rate from 13.25 to 15, showing decisiveness in the struggle against inflation, has been successful in reducing long-term bond yields mainly due to improved medium-term inflation expectations (Figure 5.6).

Figure 5.6

Yield curve response to recent policy tightening[1]



[1] For more detailed information on the subject and the methodological explanations, see Akıncı et al (2006).

Based on the recent evidence, interest rate-exchange rate-inflation expectation spiral, which was historically driven by debt dynamics, has vanished to a great extent, and markets have full confidence that the CBT would not abstain from further monetary tightening when necessary. This points to the rise of a new era for monetary policymaking in Turkey, in which the vicious cycle of fiscal dominance no longer prevails and any rate hike under inflationary pressures is perceived as a proper policy measure to bring the economy back to the desired path. Hence, it can be argued that the flexibility of the policy instrument in expectations management has improved considerably.

6. Globalization and monetary policy in Turkey

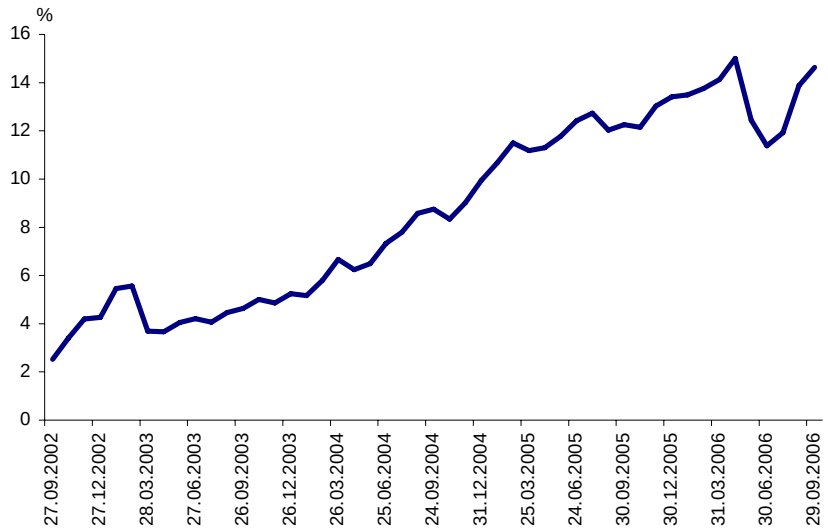
The challenges and opportunities of globalization

Bond holdings of foreigners exhibited an upward trend after the 2001 crisis (Figure 6.1). In the recent May–June 2006 turbulence, bond holdings of foreign investors declined sharply, whereas their stock portfolio displayed an immaterial change. As a result, both the interest rates and exchange rates increased sharply in a very short period of time.

As exemplified by the May–June 2006 episode, globalization is a challenge to monetary policy through at least two channels. First, it accentuates the role of the exchange rate channel. A sharp deterioration in risk appetite resulting in a sizeable portfolio outflow may pose the threat of deteriorating both current and expected inflation. Second, the control of the monetary authority over aggregate demand via controlling interest rates declines, as the risk of depreciation of the domestic currency results in a high and volatile risk premium. As a result, this blurs the monetary policy stance because judging the neutral rate of interest becomes more challenging.

Figure 6.1

Share of foreign investors in government bonds



Source: CBT.

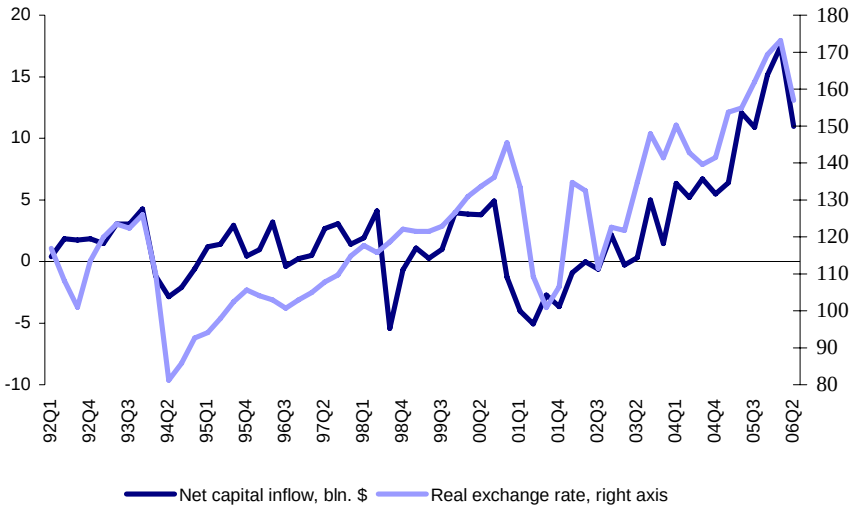
Openness and financial integration vs independent monetary policy

As real and financial sector interdependence among economies develop further, the exchange rate channel deserves more attention as a shock transmitter. Calvo and Mishkin (2003) draw attention to the dependence of emerging market economies on capital market developments in large economies, and consider it as a major practical difficulty for domestic policymaking. In this context, as emphasized by Moron and Winkelried (2003), a common feature of emerging markets distinguishing them from developed countries is their inability to smooth out large external shocks, which are mainly characterized by sudden capital outflows. As an outcome, interest rates may fluctuate in line with external developments, restricting the effectiveness of policy actions.

Moreover, in parallel with the progress in financial openness and innovations in financial markets, integration among economies goes far beyond the degree of trade openness. Although an increased presence of domestic financial instruments in international markets may be expected to reduce financial vulnerability through an efficient reallocation of risks, hedging behavior remains at an early phase of development in emerging markets, which may still encounter risky positions regarding the balance sheets of both real and financial sectors. While these factors increase the sensitivity of these economies to capital flows, the most striking upshot for Turkey is that the volatile nature of capital flows tends to shorten the duration of business cycles and complicate the conduct of monetary policy (Figures 6.2 and 6.3).

Figure 6.2

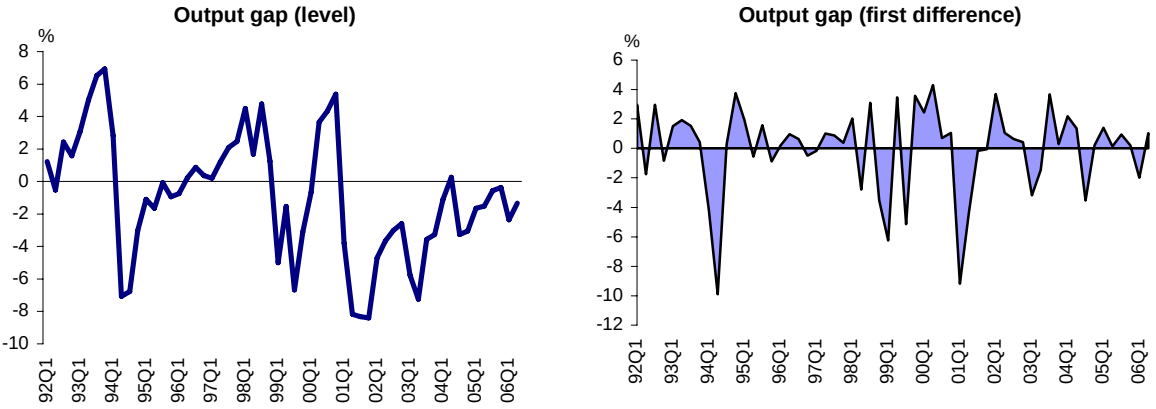
Capital flows and real exchange rate



Source: CBT.

Figure 6.3

Business cycle in Turkey: output gap



Source: Kara et al (2007).

EU convergence: productivity, relative price differentials, and real exchange rate

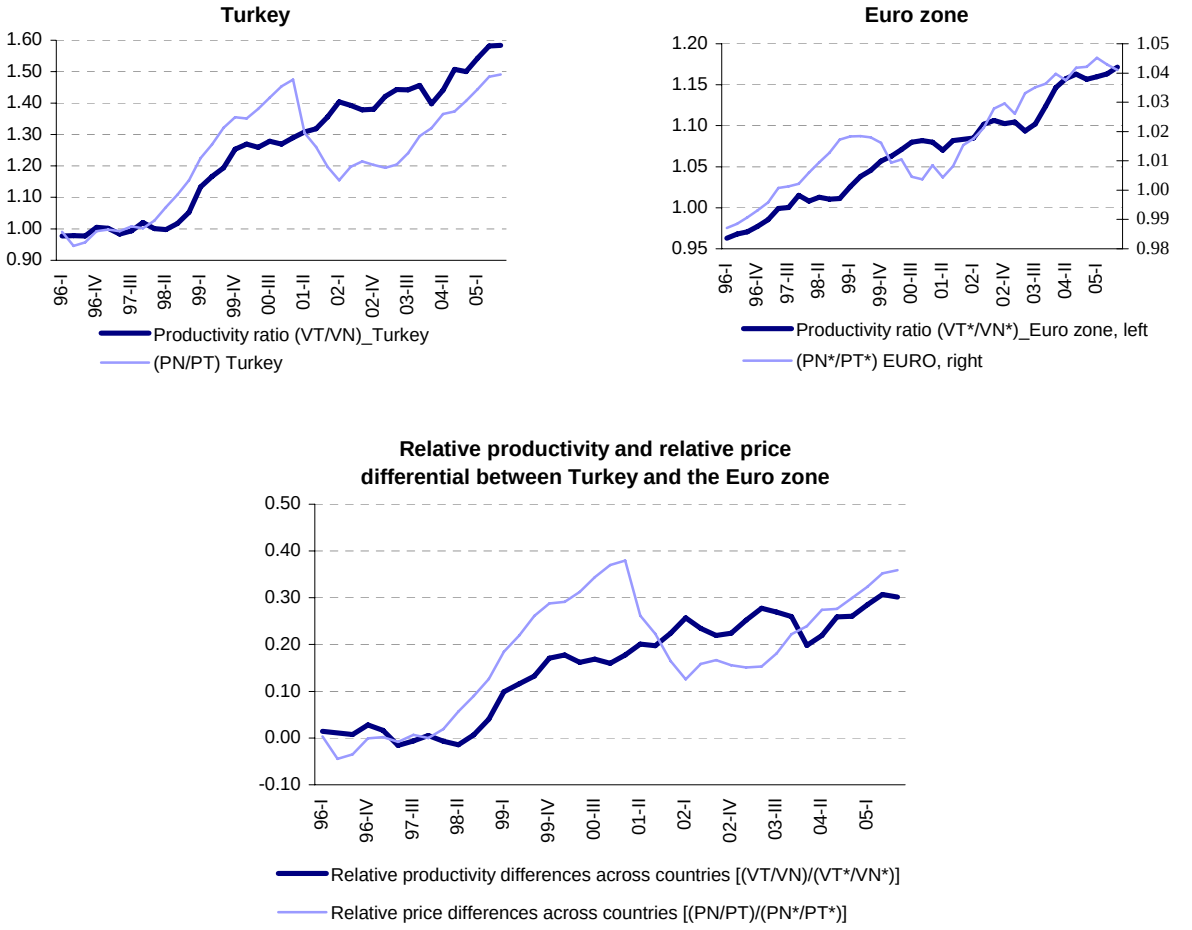
Beyond the impact of financial integration, recent trends in exchange rate behavior in Turkey have their roots in the dynamics of EU accession process. Recognizing the experiences of developing countries in the process of convergence with the EU, the sustained appreciation trend of the YTL over the last couple of years can be partly attributed to these dynamics.

As hypothesized by Balassa (1964) and Samuelson (1964), economic theory puts international productivity differentials in the foreground, in explaining prolonged episodes of appreciation of the real exchange rate. The Balassa-Samuelson effect explains a significant part of sustained real exchange rate appreciation observed in EU accession countries. As a new accession country, Turkey's economy has been following a similar pattern in recent years. The simultaneous occurrence of the real appreciation trend of the YTL and the price

differential between tradable and non-tradable goods points to the need for a closer analysis of the sources of this relation. Rapid productivity growth has been contributing to this process in Turkey. The role of relative productivity growth may be significant in the relative price differential between tradables and non-tradables. Although this link seems to be broken by the effect of the 2001 crisis, the comovement of relative productivity and relative prices has been significant recently. Therefore, it can be argued that productivity developments have been playing a considerable role as a driving force of relative price differential and real exchange rate behavior in Turkey (Figure 6.4).[8]

Figure 6.4

Productivity and relative price differentials among tradable and non-tradable sectors



Source: ECB, CBT, and TURKSTAT.

At this point, it would be useful to mention that the link between productivity and real exchange rate represents a feedback relation in Turkey, rather than a one-way causality. Real appreciation also has a stimulating impact on investment demand, by inducing relatively cheaper imported capital goods, which in turn adds to the labor productivity in tradables

[8] Needless to say, the price differential between tradable and non-tradable goods cannot be totally attributed to productivity developments. For a more detailed discussion, see CBT's April 2006 Inflation Report, Box 3.1, pp 31–34.

through capital deepening. Thereby, real exchange rate appreciation is observed to generate its own inertia through a multiplier effect.

7. Summary and concluding remarks

The transition to the inflation targeting regime in Turkey has put short-term interest rates in the forefront in demand and expectations management. Besides the new role assigned to interest rates, the ongoing improvement in economic fundamentals subsequent to the regime shift has supported the increased effectiveness of monetary policy. Moreover, weakened fiscal dominance and dollarization, and diminished exchange rate pass-through to prices, have enhanced the effectiveness of monetary policy.

The May–June 2006 turbulence subjected monetary policy to scrutiny, and the CBT displayed its decisiveness in fighting inflation. As a result of interest rate hikes, credit use decelerated, economic activity slowed down, inflation expectations improved, and the domestic currency appreciated. The monetary tightening brought about the desired effects, which show the strengthened role of monetary policy in determining key macroeconomic variables.

The CBT has managed to align inflationary expectations towards its target, as evidenced by the narrowing credibility gap. Improved communication channels enable the CBT to reach its target with relatively less fluctuation in output compared to a state of high positive credibility gap.

The increased integration of global financial markets renders monetary policy a more challenging task, especially for a small open inflation targeter like Turkey, as it makes the Turkish economy more vulnerable to data disseminated by large open economies, particularly the US and the Euro area. However, financial integration accelerates economic reforms, transparency, and communication efforts.

There are also some domestic challenges for monetary policy in Turkey. Despite their declining trend, the levels of asset and liability dollarization indicate that more efforts are needed to further improve the store of value function of the domestic currency as well as the degree of risk awareness of the economic agents.

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