CENTRAL BANK OF
THE REPUBLIC OF TURKEY

inflation report

2010-IV

Contents

1. OVERVIEW **1**

1.1. Inflation Developments 1

1.2. Monetary Policy 3

1.3. Inflation and Monetary Policy Outlook 3

1.4. Risks Factors and Monetary Policy 10

2. INTERNATIONAL ECONOMIC DEVELOPMENTS **13**

2.1. Global Growth 14

2.2. Commodity Prices 17

2.3. Global Inflation 18

2.4. Financial Conditions and Risk Indicators 19

2.5. Global Monetary Policy Developments 22

3. INFLATION DEVELOPMENTS **29**

3.1. Inflation 29

3.2. Expectations 36

4. SUPPLY AND DEMAND CONDITIONS **43**

4.1. Gross Domestic Product Developments and Domestic Demand 43

4.2. External Demand 47

4.3. Labor Market 50

5. FINANCIAL MARKETS AND FINANCIAL INTERMEDIATION **59**

5.1. Financial Markets 59

5.2. Financial Intermediation and Loans 68

6. PUBLIC FINANCE **79**

6.1. Budget Developments 80

6.2. Developments in Debt Stock 84

7. MEDIUM TERM PROJECTIONS **89**

7.1. Monetary Policy 89

7.2. Current State of the Economy, Short-Term Outlook and Assumptions 92

7.3. Medium Term Outlook 97

7.4. Risks and Monetary Policy 100

Boxes

Box 2.1. Capital Floes to Emerging Market Economies 25

Box 3.1. Changes in Wheat Prices and Their Effects on Consumer Prices 38

Box 4.1. Ramadan Effect on Economic Activity 54

Box 4.2. Uncertainty and Economic Activity 56

Box 5.1. The Financial Contagion Effect in Foreign Exchange and Capital Markets: Case of Turkey 73

Box 7.1. Import Price Projections 103

1. Overview

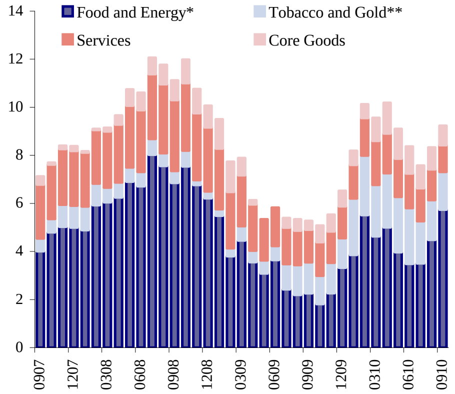
Global economic developments continued to dominate the domestic economic outlook in the third quarter. Recent data on economic activity strengthened the perceptions that the recovery in advanced economies would be slow and gradual. As a consequence, the probability that many advanced economies, which have already been pursuing exceptionally loose monetary policies, would adopt a second round of quantitative easing has increased. This development has boosted capital inflows to emerging markets, and led to significant increases in commodity prices.

Ample global liquidity and the increasing search for yield have affected many emerging markets, including Turkey. Favorable developments specific to Turkey have further exacerbated these effects. In particular, a better-than-expected recovery in the economic activity, signals of a possible updgrade from credit rating agencies, easing political uncertainty with the completion of the referendum process, and the updated Medium-Term Program (MTP), hinting that the fiscal discipline would be maintained, have all contributed to Turkey’s relatively better performance. Consequently, market rates have declined, the stock market has soared, and the Turkish lira has appreciated.

1.1. Inflation Developments

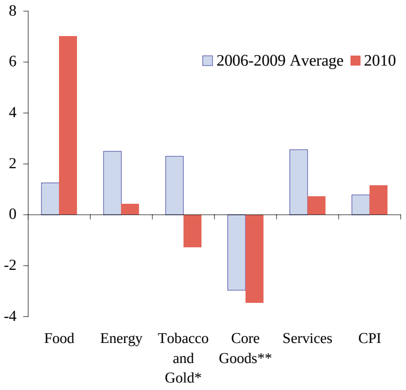
Consumer prices have increased by 1.15 percent in the third quarter, bringing annual inflation up to 9.24 percent. The rise in inflation can be attributed to the sharp increases in unprocessed food prices. Accordingly, the contribution of food prices to inflation have reached 4.2 percentage points (Graph 1.1.1). On the other hand, inflation in all CPI subcategories other than food have been significantly lower than the previous years’ averages (Graph 1.1.2).

Graph 1.1.1. Contribution to Annual CPI Inflation



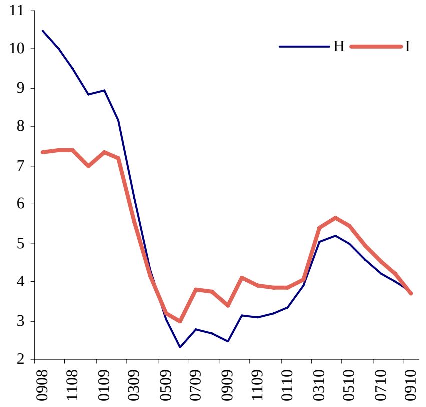
* Core goods: Goods excluding food, energy, alcoholic beverages, tobacco and gold.
** Food and energy: Food, non-alcoholic beverages and energy.
*** Tobacco and gold: Alcoholic beverages, tobacco and gold.
Source: TurkStat, CBRT.

Graph 1.1.2. CPI by Categories
(Third-Quarter, Annual Percentage Change)



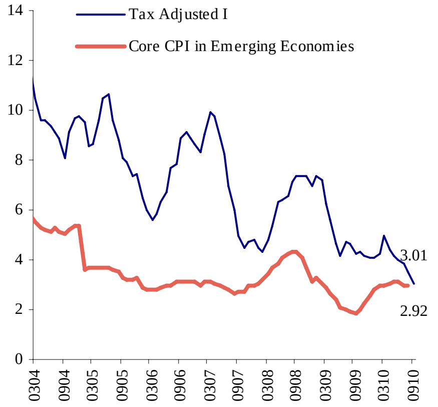
Core inflation indicators continued to trend downward in the third quarter (Graph 1.1.3), mainly owing to favorable effects of the stronger Turkish lira on core goods prices and more-than-expected slowdown in services inflation. Therefore, underlying inflation implied by the core indicators have also trended downwards. Accordingly, the gap between Turkish core inflation indicators and those of other emerging economies has continued to narrow (Graph 1.1.4).

Graph 1.1.3. Core Inflation Indicators H and I
(Annual Percentage Change)



Source: TurkStat, CBRT.

Graph 1.1.4. Core Inflation Indicators
(Annual Percentage Change)



Source: Bloomberg, Reuters, CBRT.

1.2. Monetary Policy

Although domestic demand was relatively stronger during the third quarter, aggregate demand conditions continued to support disinflation due to weak external demand, bringing core inflation to historically low levels. Therefore, the Monetary Policy Committee (the Committee) maintained the stance of keeping policy rates constant for some time, and low for a long period of time.

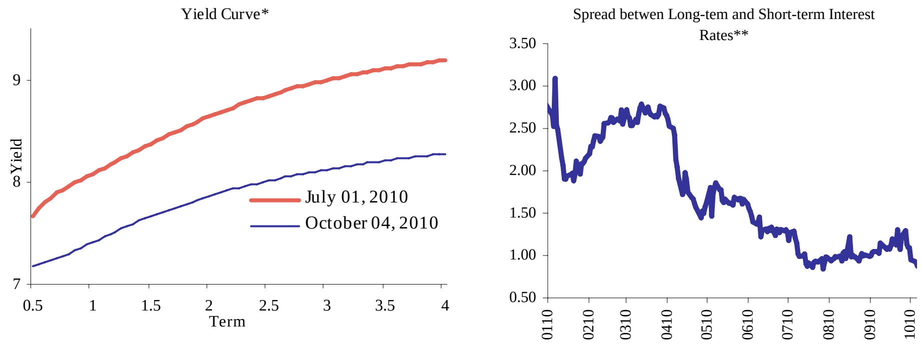
In consideration of the surge in capital inflows towards the end of the previous year, the CBRT anticipated that strong domestic demand and weak external demand conditions would continue, and thus, stated that rapid credit growth when coupled with current account deficit risks warrant caution in financial stability. In this respect, considering the favorable developments in the credit markets and the ongoing recovery in the economic activity, the CBRT, to a large extent, has completed the reversal of the temporary liquidity measures implemented during the crisis period. Accordingly, excess liquidity was gradually withdrawn, and required reserve ratios were increased. Moreover, to facilitate the use of alternative macroprudential policy tools, renumeration of required reserves was terminated, and the operational framework of liquidity management was changed. Finally, in order to be more flexible against the rapidly changing structure of capital flows, a new method for foreign exchange purchase auctions was designed and launched.

1.3. Inflation and Monetary Policy Outlook

Monetary and Financial Conditions

While the yield curve have shifted down across all maturities during the third quarter, the decline has been more significant at longer-term maturities. Although surging capital inflows towards emerging markets have been effective, Turkey-specific factors have also contributed to the downward shift in the yield curve. Faster-than-expected decline in core inflation has contributed to the downside movement in the short-term rates, while the drop in longer-term interest rates mostly reflects the perceptions that the improvement in the relative creditworthiness of Turkey would be permanent (Graph 1.3.1).

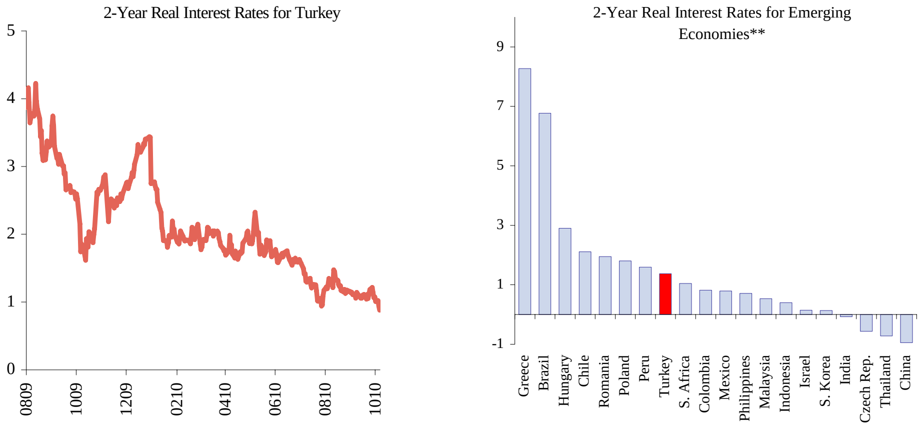
Graph 1.3.1. Term Structure of Market Interest Rates
(Percent)



* Calculated from the compounded returns on bonds quoted in ISE Bonds and Bills Market by using Extended Nelson-Siegel (ENS) method.
**The spread between 4-year and 6-month yields derived from the ENS yield curve, 5-day moving average.
Source: ISE, CBRT.

Along with the decreasing nominal interest rates, real interest rates have continued to hover at historically low levels during the third quarter. Moreover, Turkey's real interest rates do not differ significantly from other emerging markets (Graph 1.3.2).

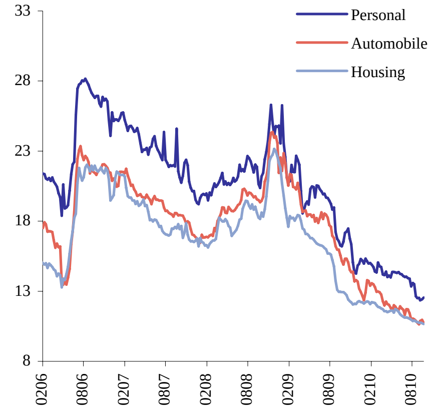
Graph 1.3.2. Medium-term Real Interest Rates Derived from Yield on GDBS*
(Percent)



* 2-year real interest rates are calculated using 2-year nominal interest rates derived from the ENS yield curve, and inflation expectations from the CBRT Survey of Expectations.
** As of October 6, 2010.
Source: ISE, Bloomberg, CBRT.

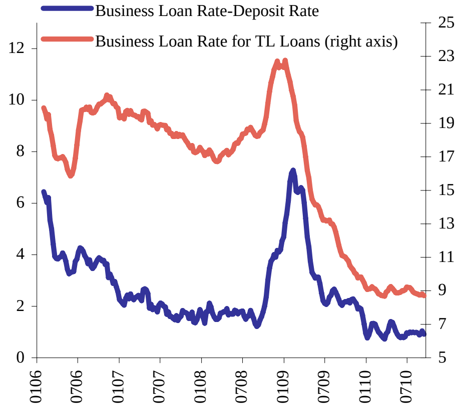
With the easing financial conditions, bank lending rates have also followed a declining path, and the increase in banks' appetite for extending loans have continued (Graph 1.3.3). Accordingly, the spread between business loan rate and deposit rates, an indicator of financial tightness, continued to remain at historically low levels (Graph 1.3.4).

Graph 1.3.3. Consumer Loan Rates
(Percent)



Source: CBRT.

Graph 1.3.4. Business Loan and Deposit Rates
(4-week Moving Average, Annual, Percent)



Source: CBRT.

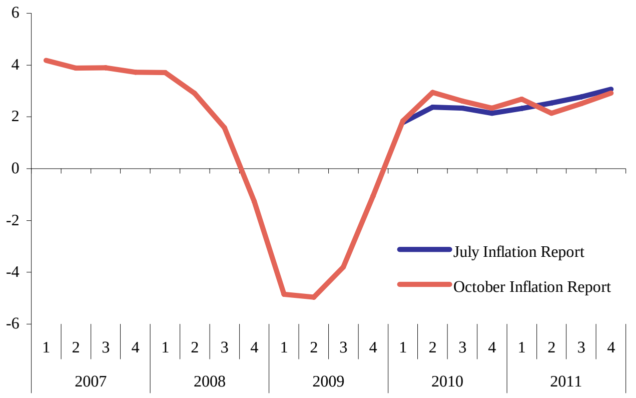
Low interest rates and easing credit risk indicators suggest that credit growth would be strong, and therefore, the credit channel should continue to support domestic demand over the forthcoming period.

Aggregate Demand Outlook

Data releases since the publication of the July Inflation Report suggest that economic activity recovered at a slightly stronger pace than expected. Although economic activity has slowed down in the third quarter relative to the previous quarter due to the lagged effects of the euro area fiscal problems, leading indicators for October suggest that this slowdown would be temporary. Consumption and investment spending are likely to accelerate in the final quarter of the year with the support from countercyclical monetary and fiscal policy stance as well as the recently strenghtening capital inflows.

Despite relatively strong pace of domestic demand, external demand outlook continues to remain weak amid signs of a slow global economic recovery. Revised forecasts regarding global economic activity do not indicate a significant improvement in our trading partners’ growth prospects (Graph 1.3.5). Accordingly, compared to the previous quarter, our forecasts do not envisage any significant changes regarding external demand conditions.

Graph 1.3.5. Export-Weighted Global Economic Activity*
(Annual Percentage Change)



* For methodology, see Inflation Report 2010-II, Box 2.1 “Foreign Demand Index for Turkey”.
Source: CBRT, Bloomberg, Consensus Forecasts.

Ongoing recovery in economic activity supported by strong domestic demand, has been leading to an improvement in labor market conditions. Although the strong recovery in the non-farm employment since the second quarter of 2009 seems to have paused during the third quarter of 2010, leading indicators suggest that this is likely to be temporary. However, given the relative slowdown in employment growth and the increased labor force participation rates, unempoyment rates are expected to remain elevated compared to the pre-crisis period. Therefore, no significant upside pressures on unit labor costs are anticipated in the forthcoming period.

In light of these developments, our revised inflation forecasts are based on an outlook where domestic demand is stronger compared to the previous reporting period, external demand continues to restrain economic activity, and thus aggregate demand conditions continue to support disinflation, albeit to a lesser degree.

Fiscal Policy

Regarding fiscal policy, our revised forecasts take the projections of the MTP as given. In this respect, we envisage that after a temporary acceleration in the final quarter of the year, the ratio of non-interest expenditures to GDP would decline gradually as of 2011. We also assume that fiscal policy would be countercyclical, in other words, any fiscal space that may arise due to stronger-than-expected economic activity would be used mostly to reduce the government debt stock. Thus, we assume a framework where debt-to-GDP ratio would further decline, and risk premium would remain constant over the forecast horizon. Moreover, our forecasts are based on the assumption that tax adjustments would be consistent with the inflation targets and automatic pricing mechanisms.

Revisions on the Main Forecast Assumptions

The July Inflation Report envisaged food inflation to be 7.5 percent at end-2010 and 7 percent for 2011 and 2012. However, worse-than-expected outcomes regarding vegetable prices and the slower-than-expected downward correction in meat prices led to an upward revision in the assumption for food inflation from 7.5 percent to 10.5 percent for 2010. This led to an upward revision of 0.8 percentage points to end-2010 inflation forecast. Food inflation assumptions for 2011 and onwards are maintained at 7 percent.

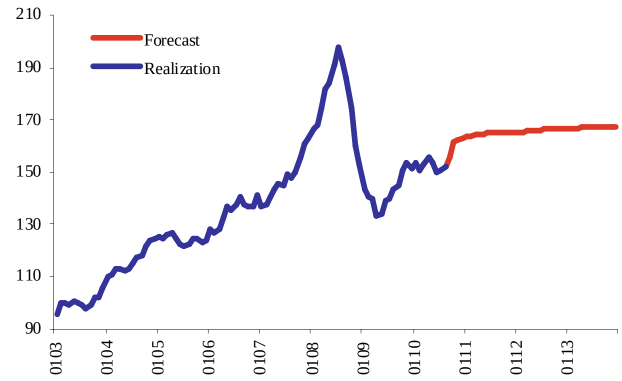
Although unprocessed food inflation was markedly higher than expected, the slowdown in core goods and services inflation was more significant than envisaged. In other words, the core inflation indicators which are critical for medium-term inflation forecasts, and reflect underlying inflation, has decreased at a faster-than-expected pace. Consequently, year-end inflation forecast was reduced by 0.8 percentage points, and the initial point of the medium-term forecasts was revised downward.

The last quarter's data signal a stronger-than-expected recovery in domestic demand, thus warranting an upward revision to output gap forecasts compared to the previous reporting period. In other words, the contribution of the aggregate demand conditions to disinflation in the revised forecast is slightly more limited in contrast to the previous Report. This update has not affected the short-term inflation forecasts, but had a slight upward impact on the medium-term forecasts.

Stronger expectations that advanced economies would continue to pursue expansionary monetary policy have caused commodity prices to soar recently. However, oil prices in the future markets as of October are still largely aligned with the assumptions of the July Inflation Report. In this context, the previous assumption for oil prices are maintained at 80 USD/bbl, 85 USD/bbl and 90 USD/bbl for 2010, 2011 and 2012, and onwards, respectively. Moreover, based on forward prices for commodities, import prices are assumed to follow a gradual upward trend throughout the forecast horizon (Graph 1.3.6).

Graph 1.3.6. Import Prices Index

(2003=100)

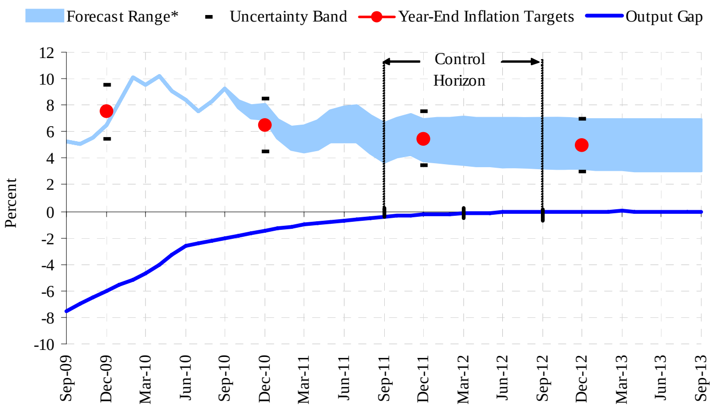


Source: TurkStat, CBRT.

Inflation Outlook

Against this background, assuming that the measures outlined in our exit strategy are completed by the end of the year, and that policy rates are kept constant at current levels for some time followed by limited increases starting from the last quarter, with policy rates staying at single digits throughout the 3-year forecast horizon, the medium-term forecasts suggest that, with 70 percent probability, inflation will be between 7 and 8 percent with a mid-point of 7.5 percent at end-2010, and between 3.9 and 6.9 percent with a mid-point of 5.4 percent by the end of 2011. Furthermore, inflation is expected to decline to 5.1 percent by the end of 2012 (Graph 1.3.7).

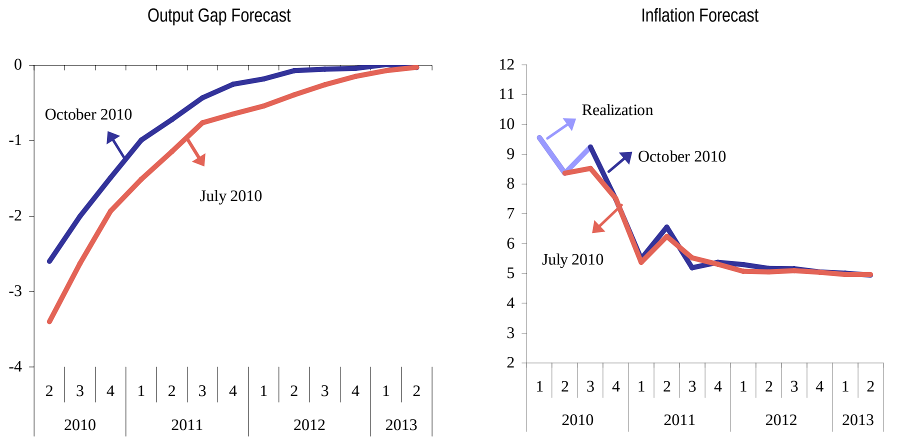
Graph 1.3.7. Inflation and Output Gap Forecasts*



*Shaded region indicates the 70 percent confidence interval for the forecast.

Overall, the upward revision in the food price assumption is offset by lower-than-expected non-food inflation, leading to an unchanged forecast at 7.5 percent for year-end inflation. Similarly, the impacts of different factors affecting the medium-term inflation outlook have equalized each other, and consequently, forecasts remained mainly constant. Considering the relatively stronger recovery in the domestic demand outlook and the second quarter GDP data, output gap estimates were revised upwards as of the second quarter. The impact of the upward revision in the output gap was largely offset by the downward revision in the underlying inflation trend. Consequently, medium-term inflation forecasts and the monetary policy outlook showed no significant change compared to the previous Report (Graph 1.3.8).

Graph 1.3.8. Comparison of July 2010 and October 2010 Forecasts



Source: CBRT.

Source: TurkStat, CBRT.

Our revised forecasts suggest that aggregate demand conditions would continue to support disinflation for a while, assuming that policy rates stay constant for some time, and remain at low levels for a long period. Inflation is expected to follow a downward trend over the next two quarters, and decline to levels consistent with medium-term targets by mid-2011 as the impact of the temporary inflationary factors taper off gradually. A sizeable room for disinflation is manifested when considering that the increases in unprocessed food and tobacco prices, which are insensitive to the monetary policy, account for 5 percentage points of current annual inflation.

It should be emphasized that any new data or information regarding inflation outlook may lead to a change in the monetary policy stance. Therefore, assumptions regarding the monetary policy outlook underlying the inflation forecast should not be perceived as a commitment on behalf of the CBRT.

1.4. Risk Factors and Monetary Policy

Developments regarding global economic activity continue to considerably drive inflation dynamics and the monetary policy outlook. Recently, leading indicators of economic activity continue to slow, underscoring the downside risks especially regarding the US economy. Furthermore, ongoing problems in credit, real estate and labor markets across advanced economies, and the uncertainties regarding the impact of a possible fiscal consolidation suggest that the downside risks regarding the pace of global growth are likely to persist for some time. Should the global economy face a longer-than-anticipated period of anemic growth, the monetary tightening envisaged during the final quarter of 2011 under the baseline scenario may be postponed. Moreover, an outcome whereby global economic problems intensify and contribute to a contraction of domestic economic activity may trigger a second round of easing. On the other hand, monetary tightening may be implemented in an earlier period, should the recovery in economic activity turn out to be faster than expected.

The weakness in the global economic outlook not only delays the recovery in the external demand, but also leads to continuing expansionary monetary policies across advanced economies, which in turn fuel domestic demand through an acceleration of capital inflows to emerging markets. Should the capital inflows continue, the divergence in the growth rates between domestic and external demand is likely to intensify in the forthcoming period. Additional policy instruments other than the short-term policy rates would be needed to curb risks emanating from this channel. In this respect, should the divergence between domestic demand and external demand continue, use of other policy instruments such as reserve requirement ratios and liquidity management facilities would be warranted in order to address financial stability concerns stemming from rapid credit expansion and deterioration in the current account balance.

Food and commodity price inflation has soared recently. Currently non-inflationary levels of output gap, and the strength of the Turkish lira has been limiting the pass-through from food and commodity prices to the prices of core goods and services. However, potential second-round effects continue to be risk if the increases in food and commodity prices persist. Should such a risk materialize and lead to a deterioration in the price-setting behavior, which in turn hampers attainment of the medium-term inflation targets, an earlier-than-envisaged tightening in the baseline scenario would be considered.

The CBRT continues to monitor fiscal policy developments closely while formulating monetary policy strategy. Under the present circumstances, raising public savings, and thus, commitment to fiscal discipline is essential to contain the risks associated with widening current account deficit driven by the discrepancy between domestic and external demand. In this regard, the medium-term perspective as presented by the updated MTP is seen as an important step towards this direction. Accordingly, our revised forecasts are based on MTP projections for public spending, and tax adjustments are assumed to be consistent with the inflation targets and automatic pricing mechanisms. Should the fiscal stance deviate significantly from this framework, and consequently, have an adverse effect on inflation outlook, a revision in the monetary policy stance may be considered.

Monetary policy in the period ahead will continue to focus on establishing price stability permanently. Fulfillment of the commitment to fiscal discipline, and strengthening the structural reform agenda would support the improvement of Turkey’s sovereign risk, and thus, facilitate macroeconomic and price stability. In this respect, timely implementation of the structural reforms envisaged by the MTP and the European Union accession process remains to be of utmost importance.

2. International Economic Developments

Data available since the release of the July Inflation Report indicate that 2010 global growth forecasts are slightly upgraded, but downside risks to the 2011 growth outlook have been more acute than in the previous reporting period. However, the evident growth discrepancy between advanced and emerging economies continued into the second quarter, with advanced economies remaining the key driver of global growth.

Having grown at a relatively stronger pace in early 2010, the US economy has slumped into a major slowdown by the second quarter. The downward revision of the latest growth figures and the Fed’s remarks suggest that the growth outlook is more clouded than in the previous reporting period. High unemployment rates, fragile stability of the real estate market and weak credit expansion weigh on consumption and heighten the downside risks to growth. Moreover, having little room for new fiscal measures and hitting the lower bound of its policy rate have urged Fed to buy bonds. Yet, there remains uncertainty over the size and timing of the Fed's bond-buying program and its impact on economic activity.

While the US economy had a gloomy outlook, the pace of recovery was more vigorous than expected across European economies, particularly in Germany, during the previous quarter. The relative depreciation of the euro has helped Germany to provide an added support for the regional economic activity. However, signs of another round of quantitative easing subsequent to the slowdown in the US economic growth have caused the euro to rally against the US dollar. In addition, the continuing divergence between core and periphery countries dampens the prospects for a sustained economic growth in Europe. In fact, large budget deficits in periphery countries such as Ireland, Spain, Portugal and Greece have raised concerns over debt sustainability, and added new downside risks to the European growth outlook.

Given the current economic climate, changes in debt ratios, savings rates and other balance sheet items should be closely monitored, especially in advanced economies. Following the crisis, firms and households now tend to reduce their debts and boost their saving. Meanwhile, ongoing balance sheet restructuring urges financial sector firms to remain cautious about extending new credit. Observations on previous crisis episodes demonstrate that the downsizing of balance sheets may weaken the credit channel for quite some time, causing growth and employment to decline significantly in the medium term. A resulting further deterioration in the growth outlook might add to the weakening of financial stability, creating a vicious circle.

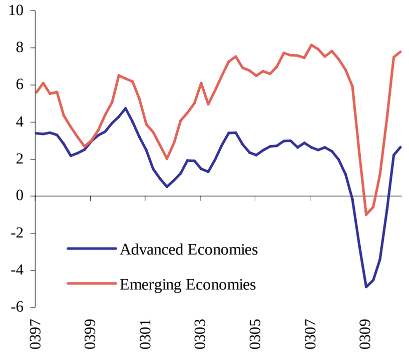
Despite ongoing fragilities in advanced economies, emerging economies continue to post relatively stronger growth. Although the overall outlook for emerging economies is benign, the ongoing turmoil in the global economy poses some risks. If downside risks to advanced economies materialize and economic activity slows, the rapidly recovering emerging economies, particularly China, may be exposed to contagion via several channels, especially through external trade.

Recently, major central banks are expected to embark on a new round of quantitative easing, leading global funds to switch towards high-yield assets. In turn, emerging economies attract more capital flows as they offer higher yields, and grow at a more rapid pace than advanced economies. Capital flows should be closely monitored since massive capital inflows may lead to rapid credit expansion, and thus raise concerns over financial stability (Box 2.1). Moreover, the shift towards high-yield assets also increases the volatility of commodity prices, thus posing a risk to the short-term inflation outlook for emerging economies with consumer prices sensitive to commodity prices. However, the appreciation of emerging market currencies limits these risks.

2.1. Global Growth

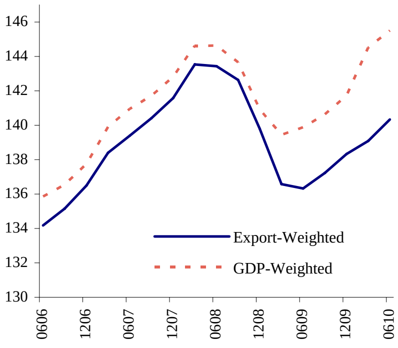
According to data available since the July Inflation Report, global economy is less likely to slide into a subsequent recession, yet, will recover very slowly and gradually. Emerging economies, particularly Asia-Pacific and Latin American economies, continued to be the main drivers of global growth in the second quarter of 2010 (Graph 2.1.1). However, uncertainties about the euro area and the US economy may have a downward pressure on the growth outlook for emerging economies.

Graph 2.1.1. Aggregated Growth Rates
(Percent)



Source: Bloomberg, CBRT.

Graph 2.1.2 Export and GDP-Weighted Global Production Index
(1996=100)



Source: Bloomberg, CBRT.

Global growth forecasts for end-2010 were slightly upgraded during the previous quarter (Table 2.1.1). Among major advanced economies, Germany’s faster-than-expected growth in the second quarter has been the main trigger for this upward revision. Yet, the pessimistic outlook for the US economy due to slower-than-expected growth in the second quarter has clouded the growth outlook for the export-oriented economies, putting a cap on the upward revision for end-2010 and deteriorating global growth expectations for 2011.

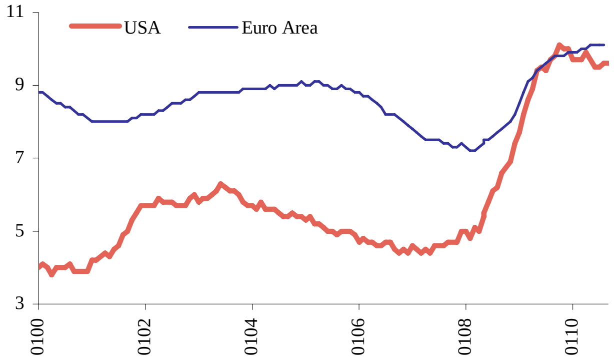
Table 2.1.1. Growth Forecasts
(Annual Percentage Change)

	2010		2011	
	July	October	July	October
World	3.5	3.7	3.3	3.1
United States	3.1	2.7	3.0	2.4
Euro Area	1.1	1.6	1.4	1.4
Eastern Europe	3.9	4.0	4.0	3.9
Latin America	4.9	5.4	3.8	4.0
Asia-Pacific	6.3	6.4	5.2	5.1

Source: Consensus Forecasts.

A comparison between the global production index weighted by the share of each country in Turkey’s exports and the GDP-weighted global production index shows that these indices have been diverging since the onset of the global recovery in early 2009 (Graph 2.1.2). The GDP-weighted index returned to its pre-crisis level in early 2010, while the export-weighted index is still below the pre-crisis level as of the second quarter, indicating that Turkey's export destinations are recovering more slowly.

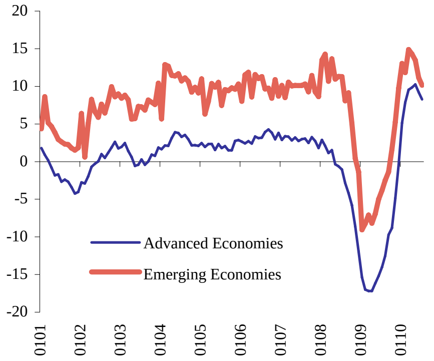
Graph 2.1.3. Unemployment in Advanced Economies
(Percent)



Source: Bloomberg.

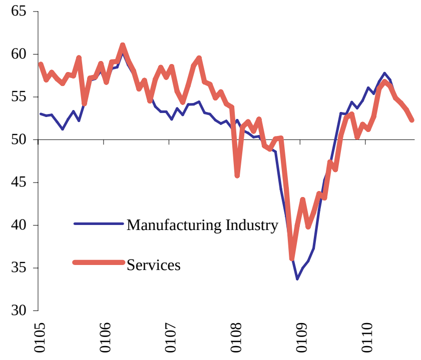
The labor market outlook for advanced economies remains weak. The unemployment rate stands at 9.6 percent in the US as of September, and at 10.1 percent in the euro area as of August. This confirms the slow growth course in these economies while pointing to a protracted recovery for labor markets (Graph 2.1.3).

Graph 2.1.4. Industrial Production in Advanced and Emerging Economies
(Annual Percentage Change)



Source: Bloomberg.

Graph 2.1.5. JP Morgan Global PMI



Source: Bloomberg.

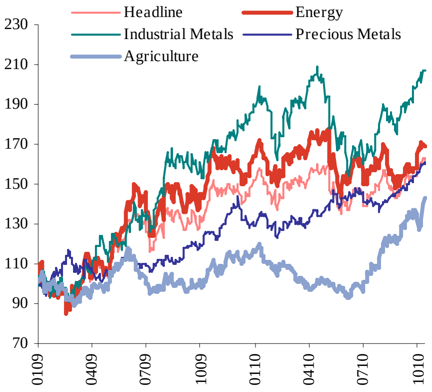
Industrial production data available since the July Inflation Report indicate that the global economic recovery has slowed. The growth rates of the industrial production indices in both advanced and emerging economies dropped during June and July (Graph 2.1.4). Similarly, the JP Morgan Global PMI continued to trend down in the third quarter, converging to the neutral level of 50 (Graph 2.1.5).

Global growth forecasts for end-2011 by Consensus Forecasts have been lowered to 3.1 percent, down from 3.3 percent in the July Inflation Report. This has been mainly due to the significant downgrade in end-2011 growth forecasts as a result of heightened concerns over a sluggish US economic recovery. On the euro area side, despite Germany's robust performance, worries about the sustainability of export-led growth and the ongoing fragility of periphery economies caused the euro area growth forecast to remain unchanged from the July Inflation Report (Table 2.1.1). Forecast for export-weighted global growth index, calculated using growth forecasts for Turkey's export destinations, also remains largely unchanged for 2011.

2.2. Commodity Prices

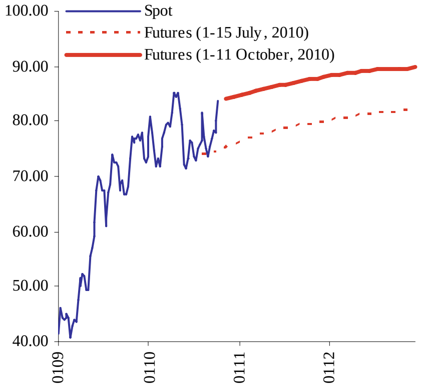
Commodity prices were generally on the rise in the third quarter (Graph 2.2.1). Prices of agricultural products moved significantly upwards amid supply shortages due to adverse weather conditions. Industrial metal prices continued to soar on strong Chinese demand. Precious metal prices reached their peak in recent years amid growing expectations of another round of quantitative easing by major central banks. Oil prices remained mostly flat due to the slackening global economy, but started picking up as of September on weak US dollar (Graph 2.2.2).

Graph 2.2.1. S&P Goldman Sachs Commodity Prices*



* January 2008=100.
Source: Goldman Sachs.

Graph 2.2.2. Crude Oil (Brent) Prices
(USD/bbl)



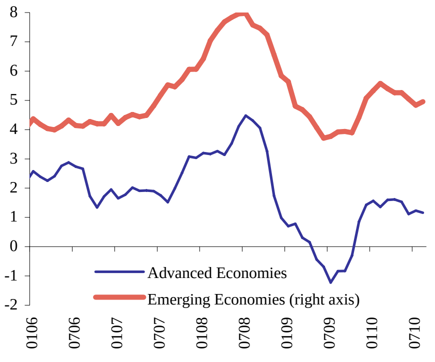
Source: Bloomberg.

In the upcoming period, the growth outlook for advanced economies is expected to be the main driver of energy prices, and oil prices in particular. In this regard, given the weak growth outlook, oil prices are not expected to rise sharply (Graph 2.2.2). Accordingly, the oil price assumptions underlying our forecasts in the final chapter are left unchanged from the July Inflation Report. Meanwhile, the fact that some emerging economies, especially China, continue to grow at a relatively faster pace suggests that metal prices may rise further.

2.3. Global Inflation

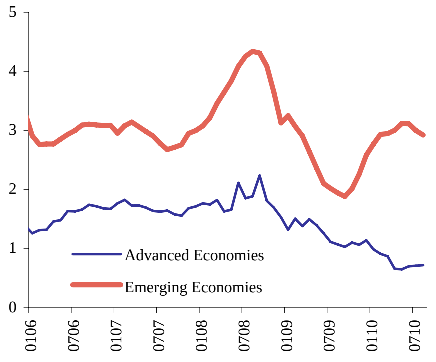
During the previous quarter, CPI inflation decreased marginally in advanced economies, while the downtrend in core inflation paused. Although core inflation has recently stabilized around 0.7 percent in advanced economies, this low inflation rate keeps fears of deflation alive. In emerging economies, inflation remained stable at 5.0 percent, whereas core inflation fell by 0.2 percentage points to 2.9 percent. Meanwhile, core inflation continued to diverge among emerging economies. Core inflation remains elevated in the relatively more robust Asian economies and in Brazil, but tends to slow down in other emerging economies (Graphs 2.3.1 and 2.3.2).

Graph 2.3.1. CPI Inflation in Advanced and Emerging Economies
(Annual Percentage Change)



Source: Bloomberg, CBRT.

Graph 2.3.2. CPI Inflation in Advanced and Emerging Economies
(Annual Percentage Change)



Source: Bloomberg, Datastream, CBRT.

According to Consensus Forecasts figures, inflation expectations are likely to remain stable for end-2011 (Table 2.3.1). Inflation expectations continue to hover below inflation targets in advanced economies, allowing policy makers to take new measures to stimulate the economy. In fact, in his

August 27, 2010 speech, the Fed Chairman hinted at embarking on another round of quantitative easing, if necessary.

Table 2.3.1. Inflation Forecasts
(Annual Percentage Change)

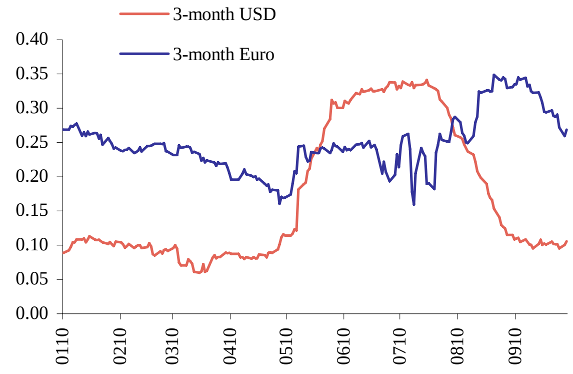
	2011	
	July	October
World	2.6	2.6
United States	1.5	1.5
Euro Area	1.5	1.6
Emerging Economies		
Eastern Europe	5.5	5.7
Latin America	7.0	7.1
Asia-Pacific	2.4	2.3

Source: Consensus Forecasts.

2.4. Financial Conditions and Risk Indicators

The US dollar market and the euro market showed different patterns during the third quarter. The US dollar market has been normalizing since early July, while the OIS spread has stabilized slightly above the early 2010 level as of September (Graph 2.4.1). On the other hand, having completed its covered bond purchase program in early July, the ECB withdrew some of the liquidity injected into the market, leading to a liquidity squeeze in the euro market, and higher borrowing rates due to uncertainty and heightened counterparty risk concerns.

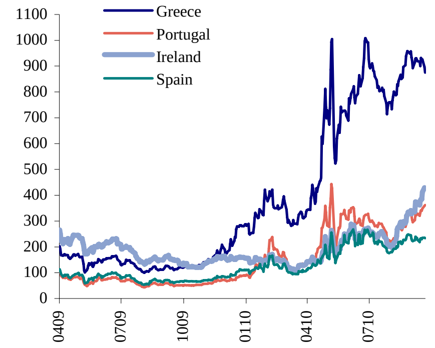
Graph 2.4.1. OIS Spread
(Percent)



Source: Bloomberg.

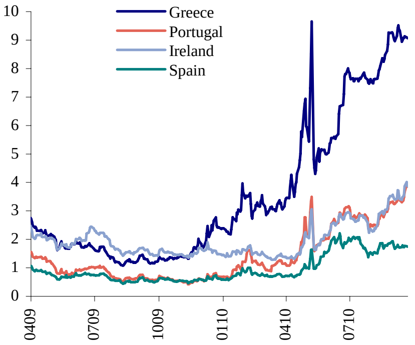
In the euro area, sovereign debt risks and borrowing costs continued to soar in the third quarter (Graphs 2.4.2 and 2.4.3). Stress tests for assessing the resilience of the European banks helped allay concerns over the banking system, despite questions about whether the parameters were stringent enough. Moreover, the fact that the new Basel III framework calling for an increase in the minimum capital requirement to strengthen the resilience of the global banking system to be adopted gradually over a long period of time significantly helps ease the pressure on banks, especially in the euro area, to raise additional capital.

Graph 2.4.2. CDS Rates in Selected Countries
(Basis Point)



Source: Bloomberg.

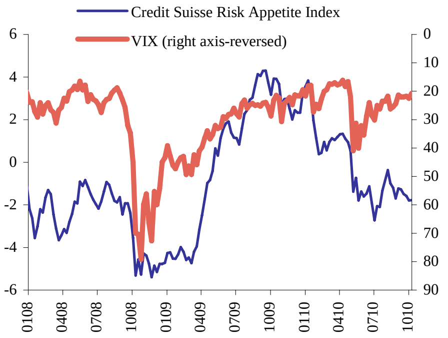
Graph 2.4.3. Bond Spreads in Selected Countries over German Bonds
(10-Year, Percent)



Source: Bloomberg.

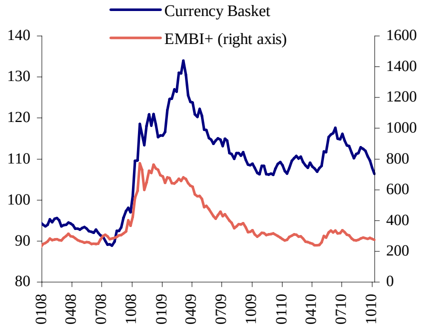
Investors’ risk appetite increased in the past three months (Graph 2.4.4). Risk premiums for emerging economies declined quarter-on-quarter during the third quarter, whereas the demand for high-yield assets continued to accelerate (Graphs 2.4.5 and 2.4.6).

Graph 2.4.4. Global Risk Appetite



Source: Bloomberg.

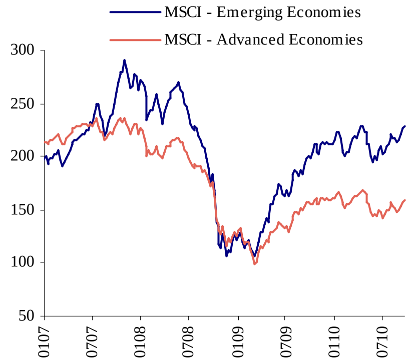
Graph 2.4.5. Exchange Rate and Risk Premium Indicators for Emerging Economies*



*Arithmetical average of the exchange rates of emerging market currencies against the currency basket of 1 euro and 1 US dollar. Equals 100 on June 2007 and an upward movement denotes depreciation in emerging market currencies.
Source: Bloomberg.

Given the current economic outlook and expectations, emerging economies continue to attract more capital flows. In addition to the increasing consensus that advanced economies would grow more slowly than emerging economies in the upcoming period, and their central banks would keep policy rates at low levels for a long time, the declining risk sentiment towards emerging economies has attracted capital flows into these economies (Graph 2.4.7). Putting appreciation pressure on emerging market currencies, these capital inflows may also cause credit expansion, rapid increases in asset prices, current account deficits and inflationary pressures.

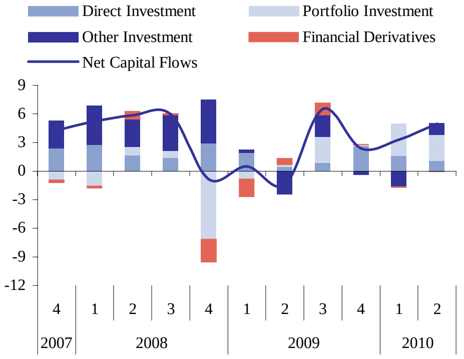
Graph 2.4.6. Global Stock Markets



Source: Bloomberg.

Graph 2.4.7. Net Capital Flows to Selected Emerging Economies*

(Percent of GDP)

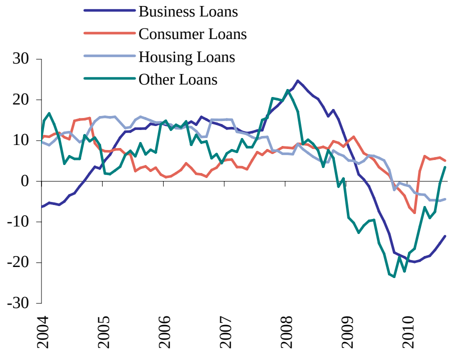


* Hungary, Czech Republic, Poland, Brazil, Chile, Indonesia, South Africa, Turkey.
Source: Relevant central banks.

Global credit markets continued to recover in the third quarter. Among subcategories, US home loans dropped further, while the contraction in business loans moderated and consumer loans increased (Graph 2.4.8). Moreover, positive data on non-performing consumer loans suggest that households tend to restructure their balance sheets in order to ease debt burden. In the euro area, rising housing loans and other consumer loans added to the increase in credit volume, while business loans remained subdued (Graph 2.4.9).

Graph 2.4.8. Credit Developments in the US

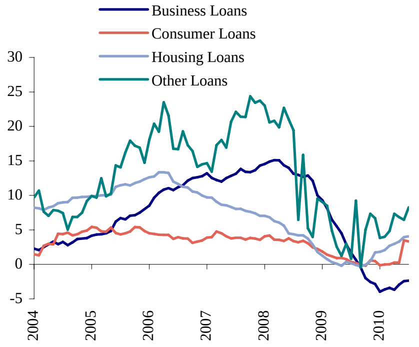
(Annual Percentage Change)



*Off-balance sheet items have been consolidated into consumer loans and adjusted accordingly as of April 2010.
Source: Fed.

Graph 2.4.9. Credit Developments in the Euro Area

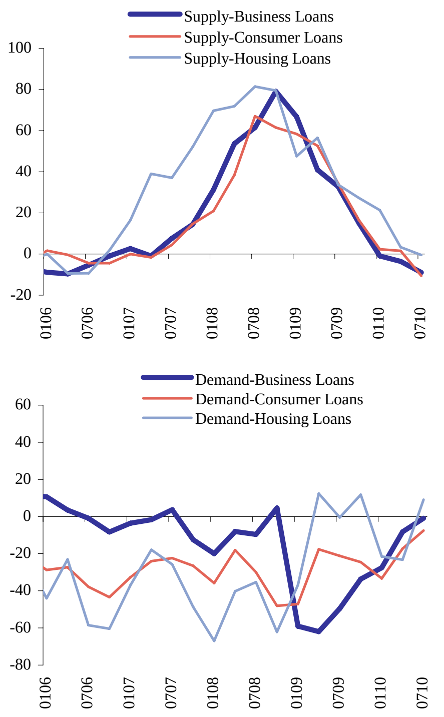
(Annual Percentage Change)



* 2008Q4 figures for insurance corporations and pension funds have been revised.
Source: ECB.

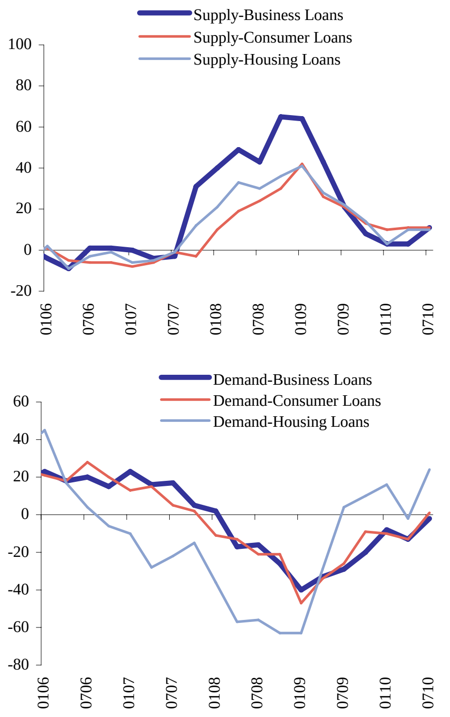
The lending surveys of Fed and ECB for the second quarter of 2010 painted different pictures (Graphs 2.4.10 and 2.4.11). Lending conditions started to ease in the US, whereas credit conditions in the euro area have been tighter due to constraints in access to funding. Meanwhile, the demand for loans was overall higher.

Graph 2.4.10. Fed Lending Survey*
(Percent, Net)



Source: Fed.

Graph 2.4.11. ECB Lending Survey*
(Percent, Net)



Source: ECB.

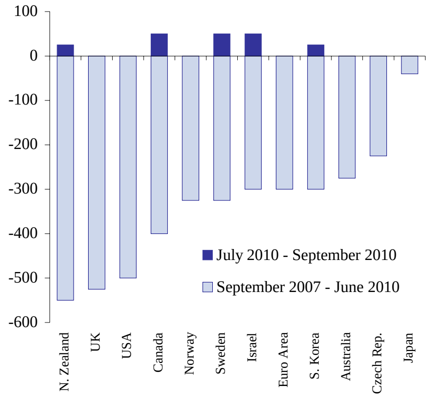
* A negative value for supply implies an increase, and a negative value for demand implies a decrease.

2.5. Global Monetary Policy Developments

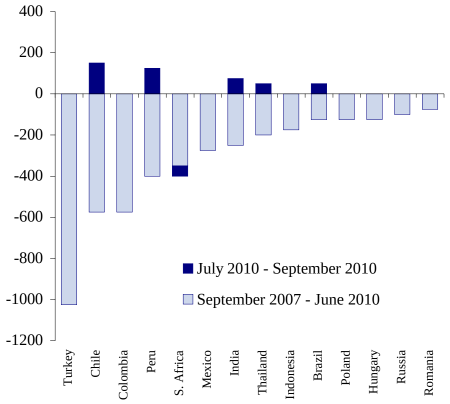
In the previous reporting period, central banks were expected to postpone their policy normalization process due to uncertainties surrounding global growth. Correspondingly, both advanced and emerging economies maintained their commitment to keeping policy rates at low levels for an extended period during the third quarter. In addition, the growing consensus that the global economy would recover at a slower-than-expected pace may urge advanced economies to resort to unconventional monetary policy instruments. In fact, Fed, Bank of England and the Bank of Japan have started to argue that unconventional instruments could prompt additional easing. Unlike its major counterparts, the ECB seems reluctant to engage in quantitative easing to boost additional monetary expansion. On the other hand, despite having made a faster progress towards normalization process than any other advanced economies, Australia slowed the normalization process in the last quarter, and left policy rates on hold (Graph 2.5.1).

Across emerging economies, central banks in the rapidly recovering Latin America and Asia-Pacific were among the first to take a step towards monetary normalization. Although normalizing monetary conditions was common over the previous quarter, some economies have suspended monetary tightening amid heightened downside risks to the global economy. For example, despite expectations of an aggressive policy rate hike in the previous quarter, the Central Bank of Brazil left policy rates unchanged after a 50 basis point increase in July, and hinted at a prolonged pause in rate hikes in the face of lower-than-expected growth figures (Graph 2.5.2).

Graph 2.5.1. Policy Rate Changes in Advanced Economies*
(Basis Point)



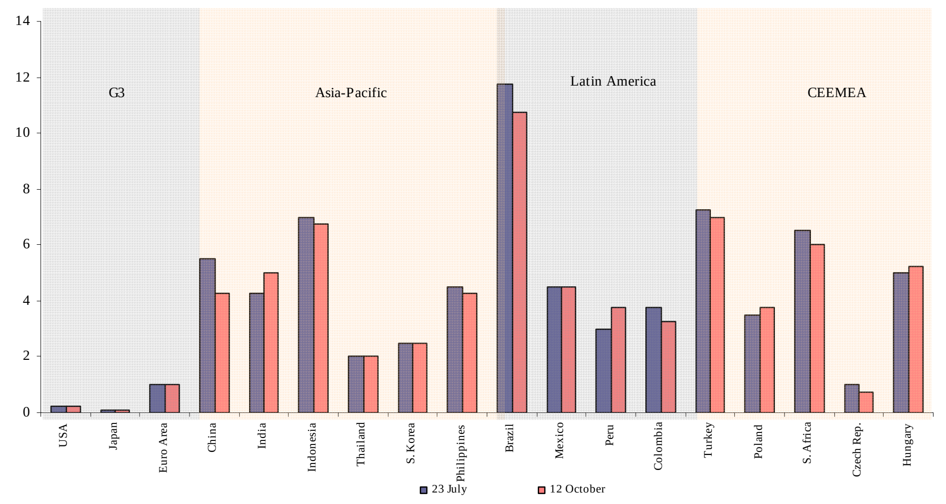
Graph 2.5.2. Policy Rate Changes in Emerging Economies*
(Basis Point)



* As of end-September 2010.
Source: Bloomberg.

The July Inflation Report indicated that emerging economies had postponed their policy normalization process owing to expectation that the ongoing low interest rate environment across advanced economies would be kept for a long period, and the mounting belief that the global economy would recover at a slower-than-expected pace. Similarly, based on the expected policy rates on October 12, end-2010 policy rate forecasts for most emerging economies are either lower or left unchanged from the previous reporting period, in other words, normalization is further postponed. However, having shifted towards monetary tightening in the second quarter, India and Peru are unlikely to postpone normalization. Although Poland and Hungary are yet to lift policy rates, their hint of a possible rate hike after their August meeting led to an upward revision to end-2010 policy rate forecasts compared to the previous reporting period (Graph 2.5.3).

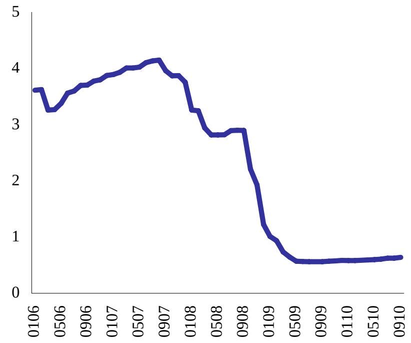
Graph 2.5.3 Expected Policy Rates for end-2010



Source: Bloomberg.

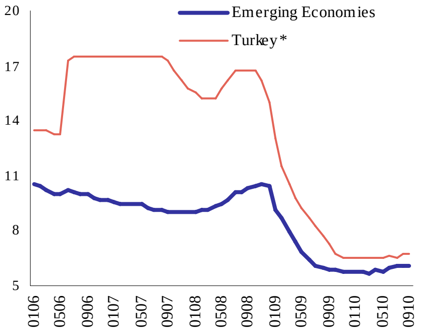
In aggregated indices, global policy rates remain flat. As most central banks of advanced economies continued to keep policy rates low, and only a few of them raised rates during the third quarter, the composite policy rate for advanced economies ended September at 0.64 percent, basically unchanged from 0.61 percent in the end of the second quarter (Graph 2.5.4). Similarly, the composite policy rate for emerging economies hovered around its second quarter level, ending September at 6.1 percent (Graph 2.5.5).

Graph 2.5.4. Policy Rates in Advanced Economies
(Percent)



Source: Bloomberg, CBRT.

Graph 2.5.5. Policy Rates in Inflation-Targeting Emerging Economies
(Percent)



*CBRT's overnight borrowing rate for the Interbank market.
Source: Bloomberg, CBRT.

Box 2.1

Capital Flows to Emerging Market Economies

In the post-crisis period, expansionary policies of advanced economies and ample global liquidity drive investors towards risky and high-yield assets. Given the improved growth outlook for emerging economies, and their relatively higher interest rates and lower risk ratings, the increased risk appetite helps these economies attract massive capital inflows.

Past experiences have shown that massive capital inflows are accompanied by various financial and macroeconomic risks to emerging market economies. First, capital inflows can boost imports by increasing external finance and lead to local currency appreciations, thereby widening the current account deficit. The widening impact of capital inflows is a significant risk factor for economies running high current account deficits. Moreover, short-term portfolio investments, so-called hot money, are extremely sensitive to fluctuations in risk perceptions, thereby posing a risk to financial stability in emerging economies. In addition, massive capital inflows may challenge financial stability by causing asset price bubbles, rapid and uncontrolled credit expansion, and consequently, higher inflation. The effectiveness of capital controls in order to counterbalance these risks is still a controversial issue. Many economists believe that capital controls cannot restrict massive capital inflows, but can affect their composition.[1] Another widely cited view asserts that implementing tight fiscal policy can curb domestic demand growth and contribute to macroeconomic and financial stability in periods of massive capital inflows.[2]

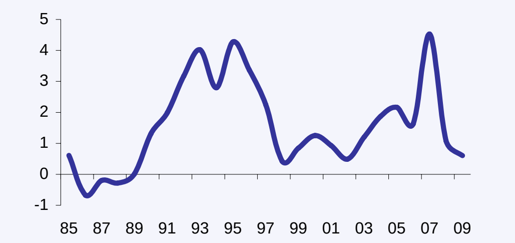
Historically, emerging economies experienced two episodes of massive capital inflows (Graph 1). The first episode started in 1990 and ended with the Asian crisis in 1997. Subsequent financial strains in many emerging economies caused a major capital flow downturn. Capital inflows accelerated again in 2002 and peaked in 2007 before contracting due to the latest financial crisis.

---

[1] See Campion & Neumann, 2003 "Compositional Effects of Capital Controls: Theory and Evidence", *World Economy*, 26, pp. 957-973., Carlson & Hernandez, 2002 "Determinants and Repercussion of the Composition of Capital Inflows", *IMF Working Paper*, no: 02/86., and Edwards, 1999 "How Effective Are Capital Controls?", *Journal of Economic Perspectives*, 13 (4), pp. 65-84.

[2] For a detailed review, see IMF World Economic Outlook 2007, *Chapter 3, Managing Large Capital Inflows.*

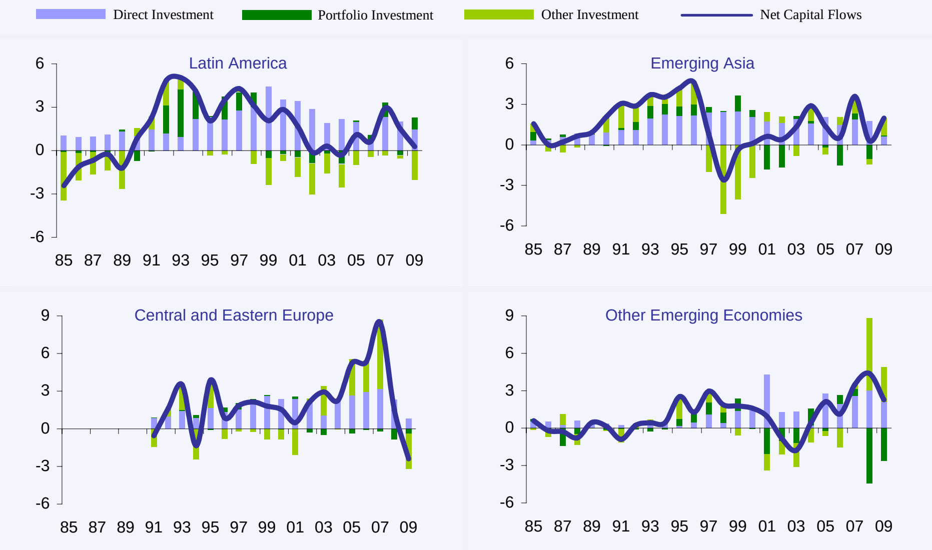
Graph 1. Capital Flows to Emerging Market Economies
(Net, Percent of GDP, Annual)*



* Excludes official capital flows.
Source: IMF.

During these episodes, capital inflows varied across regions – a pattern also observed during and after the recent global crisis. In fact, capital flows declined across all regions with the deepening of the crisis in 2008, and continued to fall across Europe and Latin America also in 2009. Capital flows to the relatively stronger Asian economies were up again in 2009. The contraction in capital flows was especially acute in Central and Eastern Europe. Moreover, direct investment flows to Latin American economies were only slightly affected by the crisis. In other emerging economies, portfolio outflows were compensated by other capital inflows (Graph 2).

Grafik 2. Sub-items of Capital Flows to Emerging Economies by Region
(Net, Percent of GDP, Annual)*



* Excludes official capital flows.
Latin America: Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, Venezuela, Paraguay and Uruguay.
Emerging Asia: China, India, Pakistan, Indonesia, Malaysia, Philippines, Vietnam, South Korea, Hong Kong, Thailand, Singapore.
Central and Eastern Europe: Bulgaria, Czech Republic, Estonia, Lithuania, Latvia, Hungary, Croatia, Poland, Romania, Russia, Slovenia, Slovakia, Ukraine, Turkey.
Other Emerging Economies: Albania, Egypt, Greek Cypriot Administration, Morocco, Malta, Israel, Libya, Tunisia, South Africa.
Source: IMF.

Capital inflows to emerging market economies are expected to remain robust over the upcoming period. One factor supporting capital inflows has been the improved risk sentiment towards emerging economies following the crisis. In addition, the diverging pace of recovery between advanced and emerging economies, in favor of the latter, is expected to help bolster capital flows to emerging market economies. Furthermore, although advanced economies are likely to maintain their current expansionary monetary stance for quite a long time, emerging economies have already started raising policy rates as part of the process of normalization. This heterogeneity in monetary policies can potentially encourage capital flows to emerging market economies via interest rate differentials. Indeed, the Institute of International Finance (IIF) estimates suggest that net capital flows to emerging market economies are likely to be increasingly stronger in 2011 (Table 1). Moreover, the IMF and IIF estimates for 2010 and 2011 indicate that the emerging Europe, including Turkey, would account for an increasing share of capital flows, while that of emerging Asia is likely to fall.

Table 1. Net Private Capital Flows to Emerging Economies
(Billion USD)

	2008	2009	2010*	2011*
Net Private Capital Flows	594.4	581.4	825.0	833.5
By Type				
Direct Investment	508.5	341.8	366.5	406.5
Portfolio Investment	-86.2	148.7	186.5	143.0
Other	172.1	91.0	272.0	283.9
By Region				
Emerging Asia	121.8	337.0	342.9	317.3
Latin America	124.6	137.2	213.6	201.5
Emerging Europe	260.0	60.7	182.5	229.6
Africa and Middle East	88.0	46.5	86.0	85.0

* Forecast.
Latin America: Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Venezuela.
Emerging Asia: China, India, Indonesia, Malaysia, Philippines, South Korea and Thailand.
Emerging Europe: Bulgaria, Czech Republic, Hungary, Poland, Romania, Russia, Ukraine and Turkey.
Africa and Middle East: Egypt, Lebanon, Morocco, Niger, Saudi Arabia, United Arab Emirates and South Africa.
Source: IIF, 4 October 2010, *Capital Flows to Emerging Market Economies,* Research Note.

In sum, given the expected global economic outlook, emerging economies are likely to attract further capital flows in coming months. This may pose a risk to the macroeconomic and financial stability in emerging economies. In order to limit risks for Turkey, the CBRT will closely monitor capital movements, and use its monetary policy tools, including tools for reserve requirement and liquidity management, if necessary.

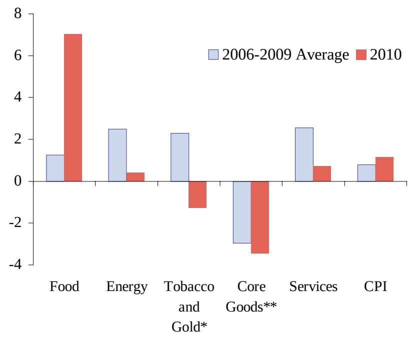
3. Inflation Developments

3.1. Inflation

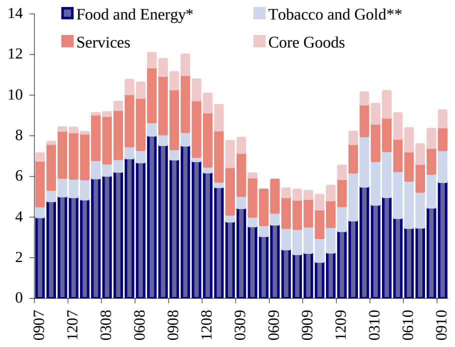
Consumer prices increased by 1.15 percent during the third quarter of 2010, while annual inflation edged up to 9.24 percent amid soaring food prices. In fact, non-food consumer prices were down by 1 percent in the third quarter, bringing non-food inflation down to 6.94 percent year-on-year. Meanwhile, annual services inflation continued to fall, prices of core goods remained moderate, and underlying inflation remained on track with medium-term targets.

After plummeting in the previous quarter, food prices surged dramatically in the third quarter due to skyrocketing unprocessed food prices (Graph 3.1.1). Thus, the food price contribution to annual inflation reached 4.2 percentage points at the end of the third quarter (Graph 3.1.2). On the other hand, the quarterly rate of change in all categories other than food fell significantly below the average for previous years (Graph 3.1.1). Oil prices remained stable amid lower international oil prices, while the annual inflation in core goods and services continued to decline steadily. The annual rate of increase in prices of services excluding catering and transportation, which are relatively more demand-sensitive, plunged to an all-time low. Similarly, the rate of increase in prices of core goods (goods excluding food, energy, alcoholic beverages, tobacco and gold) continued to slow year-on-year. Seasonally adjusted underlying inflation has also remained consistent with medium-term targets.

Graph 3.1.1. CPI by Categories
(Third-Quarter, Annual Percentage Change)



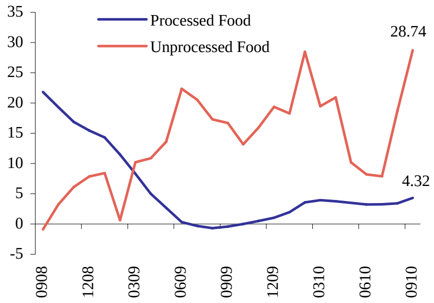
Graph 3.1.2. Contribution to Annual CPI Inflation



* Core goods: Goods excluding food, energy, alcoholic beverages, tobacco and gold.
** Food and energy: Food, non-alcoholic beverages and energy.
*** Tobacco and gold: Alcoholic beverages, tobacco and gold.
Source: TurkStat, CBRT.

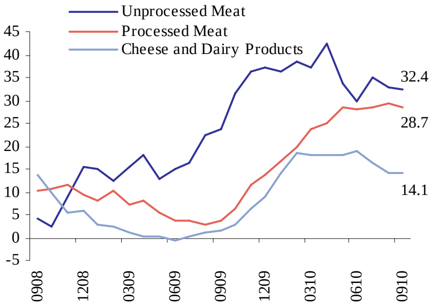
Unprocessed food prices had a significant impact on consumer prices during the third quarter. After plunging sharply in the previous quarter, unprocessed food prices experienced the historically steepest rise during the third quarter. In fact, despite having dropped by 1.32 percent from the average of previous years, unprocessed food prices jumped by 13.16 percent quarter-on-quarter in the third quarter, pushing annual unprocessed food inflation up to an all-time high of 28.74 percent (Graph 3.1.3). This increase was largely due to higher fresh fruit and vegetable prices, and the heightened volatility in unprocessed food prices and thus in CPI inflation added to the forecast uncertainty. Another factor that additionally boosted unprocessed food prices was the ongoing surge in meat prices. The direct contribution of meat prices to annual CPI inflation rose to 1.56 percentage points at the end of the third quarter. However, the reduced customs duties on imported livestock and the lifted ban on imported frozen meat are expected to contain the unprocessed food inflation over the upcoming period. Therefore, unprocessed food price assumptions for the fourth quarter are based on an outlook with stable meat prices.

Graph 3.1.3. Food Prices
(Annual Percentage Change)



Source: TurkStat, CBRT.

Graph 3.1.4. Prices of Animal Products
(Annual Percentage Change)

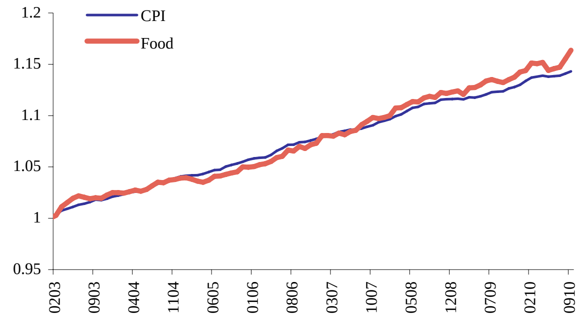


Source: TurkStat, CBRT.

Although higher meat prices put upward pressure on processed meat prices, annual processed food inflation rose slightly to 4.32 percent in the third quarter due to lower prices across other subcategories (Graphs 3.1.3 and 3.1.4). Yet, the recent increase in domestic wheat prices driven by rising global wheat prices poses risk on processed food prices through bread and cereal prices (Box 3.1). In fact, bread prices are likely to pick up soon.

In sum, annual food inflation rose markedly from 5.62 percent in the second quarter to 15.33 percent in the third quarter, exceeding the July forecast. On the other hand, long-term data suggest that food prices followed the same pattern as overall consumer prices in the long run (Graph 3.1.5). Although seasonally adjusted data show that the gap between the food prices index and overall CPI widened in the third quarter after narrowing in the second quarter, food prices inflation is likely to converge to the overall CPI inflation in coming months. In fact, given the fruit and vegetable production forecasts for 2010, fruit and vegetable prices seem to have increased only temporarily, and are headed for a correction in the final quarter, bringing annual food inflation back on a downward track. Moreover, the new regulations on imported meat are expected to contain the rise in meat prices, and thus, in food prices.

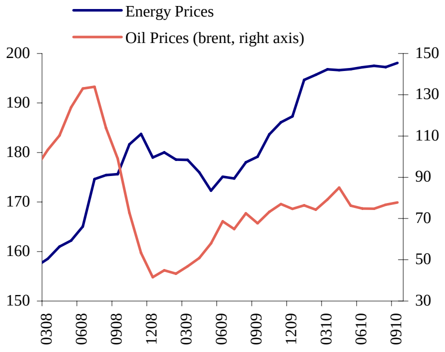
Graph 3.1.5. CPI and Food Prices Index
(Seasonally Adjusted, January 2003=1)



Source: TurkStat, CBRT.

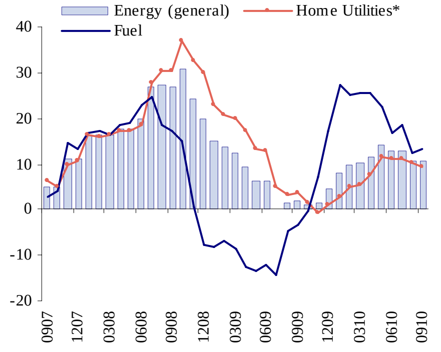
Energy prices were stable over the third quarter (Graph 3.1.6). Fuel prices remained unchanged amid lower international oil prices. Among home utilities, solid fuel prices continued to fall, while bottled gas prices increased. Annual energy inflation slowed to 10.56 percent due to high base effects from a year earlier (Graph 3.1.7). The annual rate of increase in energy prices is expected to decline further in the final quarter.

Graph 3.1.6. Energy and Oil Prices



Source: TurkStat, Bloomberg, CBRT.

Graph 3.1.7. Energy Prices
(Annual Percentage Change)



* Home utilities include electricity, water, natural gas, bottled gas and solid fuel.
Source: TurkStat, CBRT.

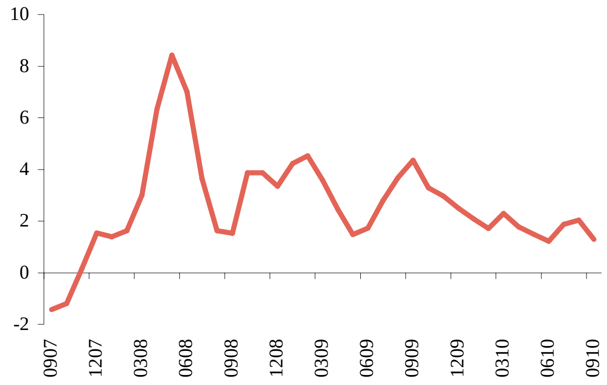
Table 3.1.1. Prices of Goods and Services
(Annual Percentage Change)

	2009			2010		
	III	IV	Annual	I	II	III
CPI	**0.34**	**4.26**	**6.53**	**3.93**	**-0.33**	**1.15**
1. Goods	**-0.22**	**5.32**	**7.01**	**4.50**	**-0.38**	**1.29**
Energy	2.32	4.54	4.64	5.08	0.21	0.43
Unprocessed Food	-4.90	15.00	19.35	13.40	-12.76	13.16
Processed Food	0.61	1.27	1.04	1.93	-0.62	1.69
Goods excl. Energy and Food	0.17	3.65	6.15	1.81	5.07	-2.96
Core Goods	-2.32	4.08	2.56	-3.27	6.16	-3.45
Durable Goods	2.70	4.18	3.76	1.32	1.30	-0.53
Durable Goods excl. Gold	2.83	3.25	1.22	1.32	0.36	-0.34
Semi-Durable Goods	-1.65	5.33	4.55	-0.73	6.20	-2.98
Non-Durable Goods	0.04	5.62	9.80	9.17	-5.08	4.92
2. Services	**1.96**	**1.28**	**5.13**	**2.32**	**-0.17**	**0.73**
Rent	1.43	1.10	5.28	0.96	0.65	1.30
Restaurants and Hotels	1.73	2.32	7.31	3.30	2.28	1.56
Transportation	1.15	1.25	2.53	2.44	1.32	1.83
Other	2.57	0.87	4.96	2.42	-2.13	-0.29

Source: TurkStat, CBRT.

The year-on-year rate of increase in the price of core goods (goods excluding food, energy, alcoholic beverages, tobacco and gold) dropped by 1.2 percentage points quarter-on-quarter to 3.18 percent owing to the high base effects from the partially withdrawn tax incentives on durable goods a year ago. Yet, adjusted for tax changes, annual core goods price inflation was down by 0.63 percentage points. Among subcategories of core goods, annual durable goods price inflation declined quarter-on-quarter on a tax-adjusted basis, whereas – after rising in July and August – annual clothing and footwear price inflation slowed in September and remained unchanged from the previous quarter. Overall, underlying core goods price inflation continues to hover around low levels as of the end of the third quarter (Graph 3.1.8).

Graph 3.1.8. Prices of Core Goods
(Adjusted for Seasonal and Tax Effects, 3-Month Average, Annual Percentage Change)



Source: TurkStat, CBRT.

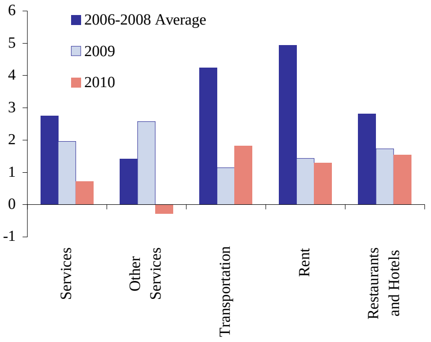
Table 3.1.2. Prices of Core Goods
(Annual Percentage Change)

	2009			2010		
	III	IV	Annual	I	II	III
Core Goods	**-2.32**	**4.08**	**2.56**	**-3.27**	**6.16**	**-3.45**
Clothing	**-11.91**	**10.27**	**3.39**	**-12.62**	**23.73**	**-11.90**
Durable Goods Excl. Gold	**2.83**	**3.25**	**1.22**	**1.32**	**0.36**	**-0.34**
Furniture	1.03	7.86	-2.51	1.41	3.76	1.77
Electrical and Non-Electrical Appliances	3.53	-1.11	-4.47	-0.16	-1.01	-0.85
Automobile	3.20	4.72	6.49	2.17	-0.11	-0.61
Other Durable Goods	1.81	0.41	2.79	0.56	2.17	-1.81
Pharmaceuticals	**0.00**	**-1.51**	**6.02**	**-1.77**	**0.00**	**0.77**
Other	**0.72**	**0.34**	**3.14**	**-0.86**	**0.12**	**0.55**

Source: TurkStat, CBRT.

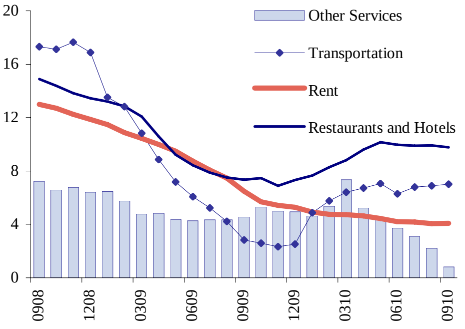
Annual services price inflation continues to edge down. Prices of services increased by 0.73 percent in the third quarter, recording the historically lowest third-quarter increase, while annual services price inflation fell by 1.28 percentage points quarter-on-quarter to 4.2 percent. Inflation slowed down across all subcategories of services, particularly in the subcategory of other services (Graph 3.1.9). The increased competition in prepaid plans continued to put downward pressure on mobile call rates in the third quarter, while annual rental inflation fell further, albeit more slowly (Graph 3.1.10).

Graph 3.1.9. Prices of Services by Subcategories
(Third-Quarter, Annual Percentage Change)



Source: TurkStat, CBRT.

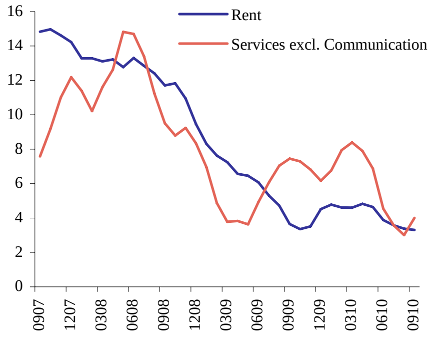
Graph 3.1.10. Prices of Services by Subcategories
(Annual Percentage Change)



Source: TurkStat, CBRT.

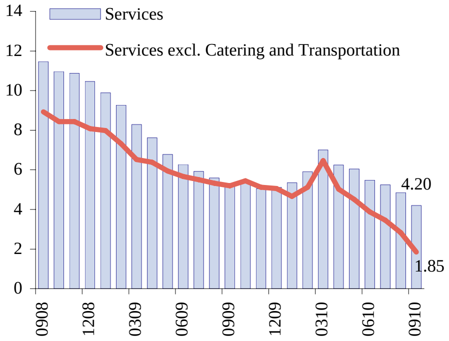
Seasonally adjusted data confirm the slowdown in services price inflation (Graph 3.1.11). Although employment and demand conditions have recovered, the persistently high level of unemployment continues to restrain services price inflation. In fact, the annual rate of increase in prices of services excluding catering and transportation, which are relatively more demand-sensitive, declined to an all-time low of 1.85 percent. Although rising unprocessed food prices are likely to put upward pressure on catering prices, given the current outlook, annual services price inflation is expected to remain in check.

Graph 3.1.11. Prices of Services
(Seasonally Adjusted, 3-Month Average, Annual Percentage Change)



Source: TurkStat, CBRT.

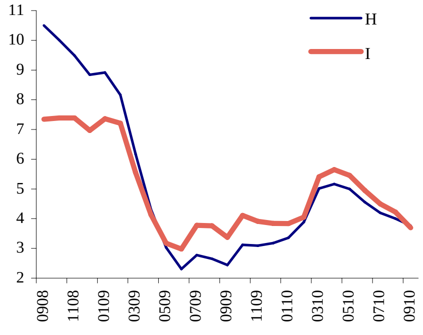
Graph 3.1.12. Prices of Services Excluding Catering and Transportation
(Annual Percentage Change)



Source: TurkStat, CBRT.

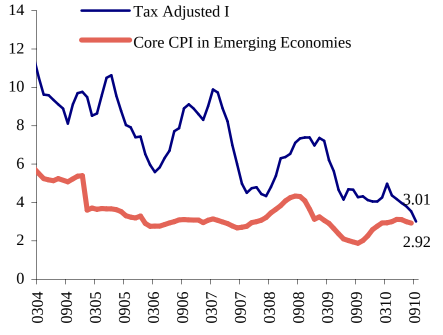
Core inflation indicators continued to slow in the third quarter (Graph 3.1.13). Adjusted for temporary tax changes, annual inflation was down by about 0.6 and 1 percentage points in core CPI measures H and I, respectively. The base effects from the 2009 tax incentives will completely fade by October, and thus, H and I inflation are expected to decline by 0.5 and 0.7 percentage points, respectively, in the same month. With the recent improvements in underlying inflation, the core inflation gap between Turkey and other emerging economies has narrowed (Graph 3.1.14).

Graph 3.1.13. Core Inflation Indicators H and I
(Annual Percentage Change)



Source: TurkStat, CBRT.

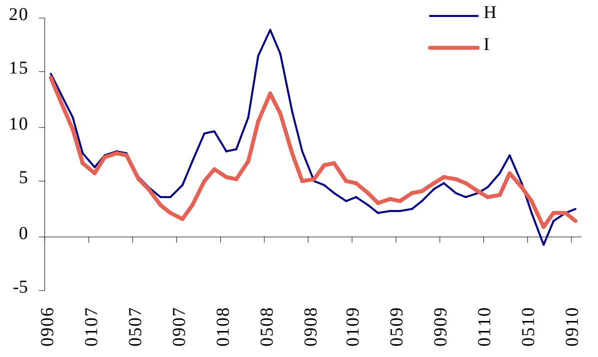
Graph 3.1.14. Core Inflation Indicators
(Annual Percentage Change)



Source: Bloomberg, Reuters, CBRT.

As a key gauge of underlying inflation, the 3-month averages of seasonally adjusted monthly changes in core CPI measures show that inflation continued to slow markedly in the third quarter and core inflation remained in consistent with medium-term targets (Graph 3.1.15).

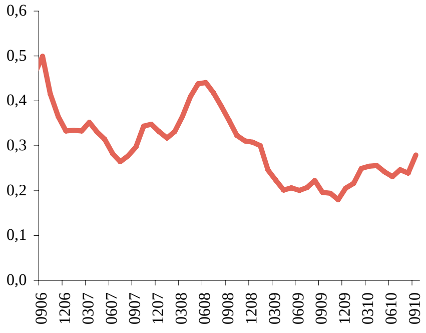
Graph 3.1.15. Core Inflation Indicators H and I
(Adjusted for Seasonal and Tax Effects, 3-Month Average, Annual Percentage Change)



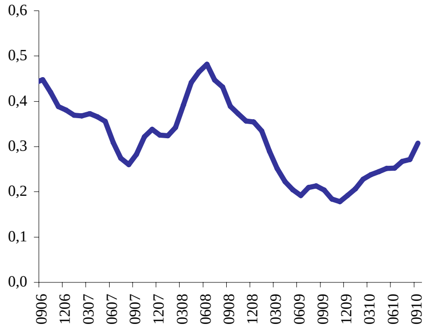
Source: TurkStat, CBRT.

The rate of pass through of individual price increases to general price level is measured by diffusion indices that are calculated using the number of data items indicating a price increase and a price decrease. Despite having slightly increased recently, the seasonally adjusted diffusion indices remain at relatively low levels (Graphs 3.1.16 and 3.1.17).

Graph 3.1.16. CPI Diffusion Index*
(Seasonally Adjusted, 3-Month Average)



Graph 3.1.17. Core CPI H Diffusion Index*
(Seasonally Adjusted, 3-Month Average)



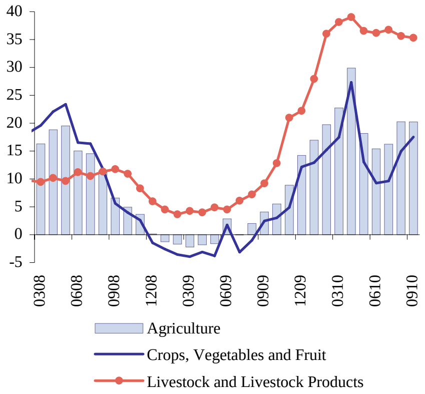
*Diffusion Index is calculated as the ratio of the difference between number of items with price increase and number of items with price decrease in a given month to the total number of items.

Source: TurkStat, CBRT.

Source: TurkStat, CBRT.

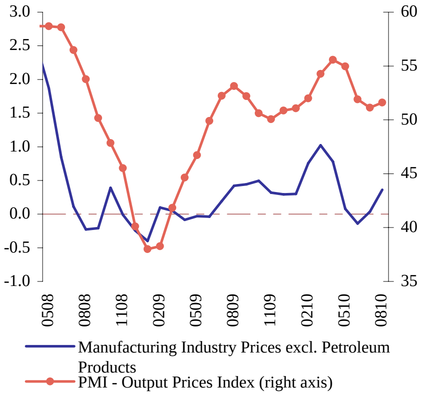
The third quarter was marked by the growing impact of producer prices on consumer prices. Producer prices rose by 1.50 percent, while higher agricultural and livestock prices continued to put upward pressure on consumer prices. Agricultural prices were up by 1.71 percent on rising fruit, vegetable, livestock and wheat prices, thereby pushing annual agricultural inflation up to 20.22 percent (Graph 3.1.18). Currently, consumer prices to a large extent, reflect the increase in fruit, vegetable and livestock prices. Moreover, the ongoing rise in wheat prices puts upward pressure on the CPI subcategory of bread and cereals.

Graph 3.1.18. Agricultural Prices
(Annual Percentage Change)



Source: TurkStat.

Graph 3.1.19. Manufacturing Industry Prices and PMI Output Prices
(3-Month Average, Annual Percentage Change)



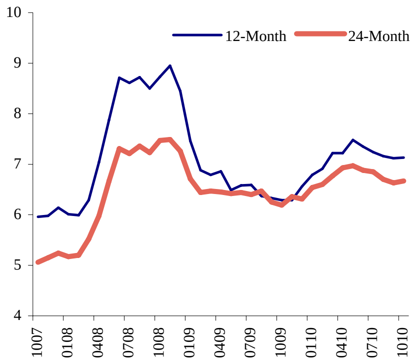
Source: TurkStat, Markit, CBRT.

Manufacturing industry prices increased by 0.99 percent during the third quarter due to rising prices for base metals and food production (Graph 3.1.19). Prices for base metals soared amid higher international prices, while prices for food production increased on rising prices for meat and meat products. The cumulative increases in livestock prices driven by ongoing supply shortages continued to push prices for meat production and consumer prices higher. Meanwhile, rising cotton prices put a slight upward pressure on annual clothing inflation. Overall, the increase in producer prices of agricultural and livestock products, and therefore food, had a significant effect on consumer prices in the third quarter, while the inflationary pressure from other manufacturing industry prices remained relatively subdued.

3.2. Expectations

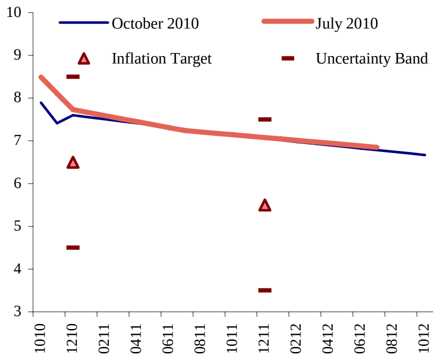
Trending down since the second quarter, medium-term inflation expectations slowed only modestly during the third quarter (Graph 3.2.1). Despite the run-up in consumer inflation, core inflation indicators have declined steadily, helping to anchor medium-term expectations. Near-term inflation expectations are revised slightly down quarter-on-quarter, while longer-term expectations remained stable quarter-on-quarter (Graph 3.2.2). Currently, inflation expectations are 1.1 percentage points above the end-2010 target of 6.5 percent. 12- and 24-month ahead inflation expectations hover slightly above the year-end targets of 5.5 and 5 percent for 2011 and 2012, respectively.

Graph 3.2.1. 12- and 24-Month Ahead CPI Expectations*
(Annual Percentage Change)



* CBRT Survey of Expectations, second survey period results.
Source: CBRT.

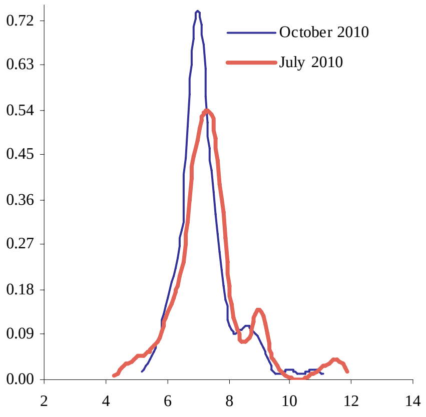
Graph 3.2.2. Inflation Expectations Curve*
(Annual Percentage Change)



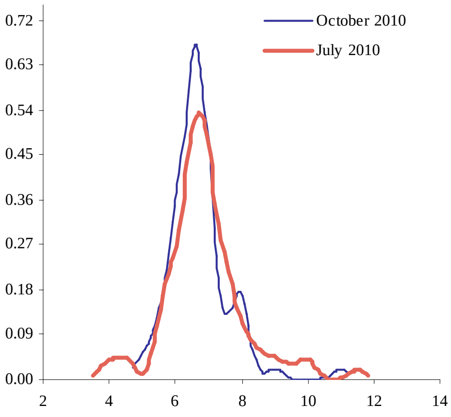
* Calculated by linear interpolation of expectations at different maturities in the CBRT Survey of Expectations. Expectation figures are from the second survey period results of the CBRT Survey of Expectations.
Source: CBRT.

The dispersion of participants' 12- and 24-month ahead inflation expectations increased considerably from July, pointing to a reduced inflation uncertainty (Graphs 3.2.3 and 3.2.4).

Graph 3.2.3. Distribution of 12-Month Ahead Inflation Expectations*



Graph 3.2.4. Distribution of 24-Month Ahead Inflation Expectations*



*Horizontal axis shows inflation rate, vertical axis indicates the Kernel forecast. Expectation figures are from the CBRT Survey of Expectations, second survey period results.
Source: CBRT.

Box 3.1

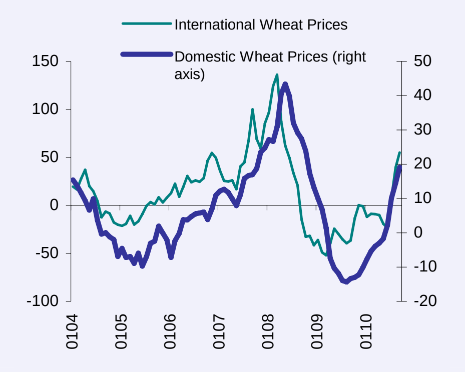
Changes in Wheat Prices and Their Effects on Consumer Prices

Changes in wheat prices have implications for both domestic and foreign food price inflation. In fact, as wheat prices hit an all-time high in 2008, food price inflation climbed to unprecedented levels across the globe, particularly in emerging economies. International wheat prices have spiked again in recent months (since July) due to weather-related supply losses and export quotas implemented in some countries. Even though this recent price increase is not as sharp as in 2008, past experiences show that it may put upward pressure on food prices. Therefore, this Box analyzes how and to what extent soaring wheat prices would affect consumer prices in Turkey.

Recent Changes in Wheat Prices

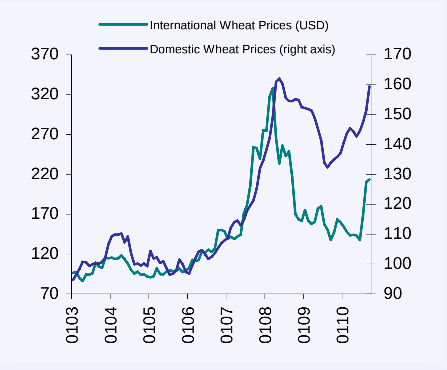
Domestic wheat prices are largely following the global trend, with international prices leading domestic prices (Graph 1). This parallelism can also be driven by common factors such as global weather conditions. However, some variation in prices may be due to local dynamics (changes in consumption/production, the Soil Products Office's (SPO) buying/selling prices, etc.). In fact, global wheat prices slowed after 2008 and rose sharply over the past three months, whereas, domestic wheat prices have been on a gradual uptrend since August 2009, diverging dramatically from international prices (Graph 2).

Graph 1. International and Domestic Wheat Prices (Annual Percentage Change)



Source: TurkStat, Bloomberg.

Graph 2. International and Domestic Wheat Price Indices (2003=100)



Source: TurkStat, Bloomberg, CBRT.

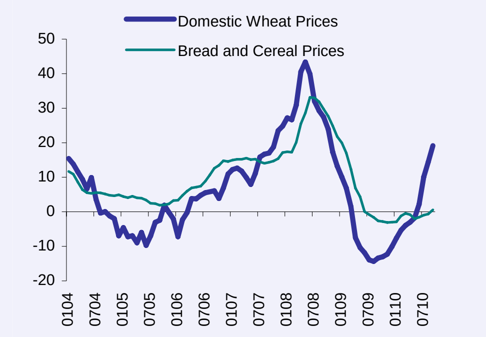
Another striking point is domestic wheat prices are relatively less volatile. For example, domestic wheat prices increased by about 20 percent since August 2009, while international prices soared around 55 percent (47.5 percent in Turkish lira terms) in the last three months.

The uptrend in domestic wheat prices was enhanced by the post-June climb in international wheat prices. In addition, the buying and selling prices announced by the SPO, a major player in the market, hinted at a gradual upward trend.[1] Thus, monitoring changes in domestic wheat prices and how price increases would affect consumer prices has gained importance.

The Impact of Wheat Prices on Consumer Prices

Changes in wheat prices affect consumer prices mostly through subcategories of bread and cereals that account for a significant portion of the processed food category (Graph 3). Indeed, the primary use of wheat is for producing bread, wheat flour, pasta, bulgur, starch and crackers, which make up more than 90 percent of the bread and cereals subcategory in the inflation basket. Thus, the following analysis assessing the potential impact of wheat prices on consumer prices is based on prices of bread and cereals. In order to analyze the pass-through of international wheat prices to domestic wheat prices and thereby to domestic consumer prices, a 4-variable VAR model has been estimated. Based on a ranking for identifying the shocks, these variables are international wheat prices in Turkish lira, SPO domestic selling prices, domestic wheat prices (PPI) and prices for bread and cereals (CPI).[2] The model uses the monthly logarithmic difference in variables.

Graph 3. Wheat and Processed Food Prices
(Annual Percentage Change)



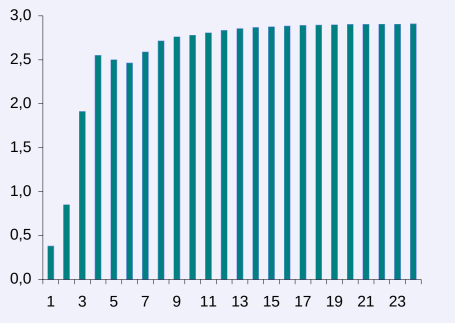
Source: TurkStat.

---

[1] SPO's (bread) wheat buying prices for 2010 increased by about 10 percent year-on-year.

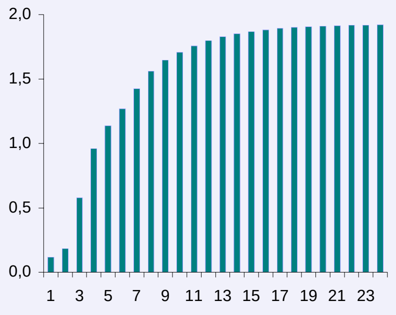
[2] International wheat prices are from S&P's wheat price index (SPGCWT). Domestic wheat prices are from the PPI subcategory of wheat prices, while prices of bread and cereals are from the CPI code 0111. The estimated model covers the period from 2003:04 to 2010:09. LR, FPE and AIC findings suggested a lag length of two months.

Graph 4. Cumulative Response of Domestic Wheat Prices to a 10-Percent Increase in International Wheat Prices
(Percent)

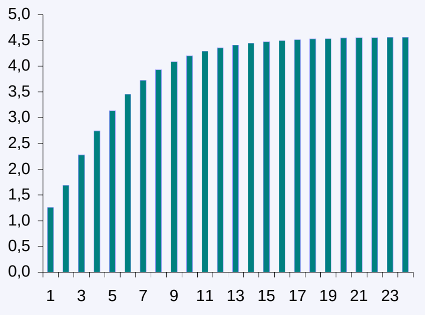


According to the impulse-response analysis, a 10-percent increase in international wheat prices (in Turkish liras) leads to an increase of 2.9 percent in domestic wheat prices at the end of a year (Graph 4).[3] Findings indicate that a major portion of the changes in international prices are rapidly passed through to domestic prices within the first four months; whereas, in response to a 10-percent increase in international prices (in Turkish lira), bread and cereal prices increase by 1.9 percent, gradually throughout the year (Graph 5).

Graph 5. Cumulative Response of Bread and Cereal Prices to a 10-Percent Increase in International Wheat Prices
(Percent)



Graph 6. Cumulative Response of Bread and Cereal Prices to a 10-Percent Increase in Domestic Wheat Prices
(Percent)



Graph 3 shows the relation between changes in domestic wheat prices and changes in prices of bread and cereals, a major subcategory of food expenditure in the CPI basket. According to a similar impulse-response analysis on the pass-through of domestic wheat prices to bread and cereal prices, a 10-percent increase in domestic wheat prices leads to a 4.6 percent increase in bread and cereal prices (Graph 6). Findings show that the pass-through is complete within a year, as in the case of international wheat prices. This impact makes a direct contribution of about 0.25 percentage points to consumer price inflation. It should be noted that this estimation does not include indirect effects of bread and cereal prices on consumer prices (such as through an increase in prices of catering services). Therefore, this impact can be considered to be a lower bound for assessing pass-through on consumer prices.

---

[3] Cumulative effects are estimated assuming a one-time, permanent 10-percent shock to the relevant variable that remains constant afterwards.

Factors Limiting the Pass-through of Increasing Wheat Prices

Currently, there are many factors that could limit the extent of pass-through discussed in this analysis. Firstly, latest updates on global and domestic markets suggest that the shortage in wheat supply is not as serious as anticipated. The International Grains Council (IGC) forecasts the 2010-11 world wheat output at 644 million tons (Table 1). Moreover, with carryover stocks of 196 million tons from 2009-10, the total wheat supply is expected to be 840 million tons, while the total consumption including trade is expected to be 657 million tons. Thus, the closing stock at the end of 2010-11 is expected to be 183 million tons, the third highest level in the last decade.

Table 1. World Wheat Supply and Demand
(Million Tons)

	2006-07	2007-08	2008-09	2009-10 (Estimate)	2010-11 (Forecast)
Production	598	609	686	677	644
Trade*	111	110	136	126	119
Consumption	610	613	638	649	657
Closing Stocks	124	121	168	196	183

* IGC Wheat trade, July-June.
Source: IGC (Last update: September 23, 2010).

Turkey's total wheat supply does not signal a negative outlook for 2010. Wheat production has been 20.6 million tons in Turkey during 2009. According to TurkStat's preliminary estimates of crop production, wheat production is expected to be 19.5 million tons in 2010, and hence, total wheat stock is expected to be 21.5 million tons with SPO's estimate of carryover stocks from 2009. [4] The SPO announced that Turkey's annual wheat consumption of around 18 million tons is expected to be met by 2010 wheat stocks. On the other hand, although the US Department of Agriculture’s production forecasts for 2010 are more pessimistic than those of the SPO, these forecasts also confirm that Turkey's total wheat supply can easily meet the consumption (Table 2). In fact, at SPO's September sale intended to contain the potential pass-through of the volatility in world grain markets, only 50,617 out of 334 thousand tons of wheat was sold.[5]

---

[4] Public announcement by SPO on September 1, 2010.

[5] Public announcement by SPO on September 30, 2010.

Table 2. Wheat Supply and Demand in Turkey by Years
(Million Tons)

	2006-07	2007-08	2008-09	2009-10	2010-11
Opening Stocks	1.07	1.28	0.42	1.55	1.74
Production	17.50	15.50	16.80	18.45	17.00
Imports	1.74	2.16	3.47	3.22	3.50
Total Supply	20.31	18.94	20.68	23.21	22.24
Exports	2.38	1.72	2.24	4.37	4.00
Total Domestic Consumption	16.65	16.80	16.90	17.10	17.20
Feed Production and Other	0.80	0.80	0.70	0.80	0.70
Consumption	15.85	16.00	16.20	16.30	16.50
Total Demand	19.03	18.52	19.14	21.47	21.20
Closing Stocks	1.28	0.42	1.55	1.74	1.04

Source: US Department of Agriculture.

Another factor that could limit the pass through of international prices to domestic prices is the fact that domestic wheat prices have already been on rise since August 2009 (differing from international prices), and currently are well above international prices. Finally, despite providing less support for disinflation than in previous periods, the current outlook for demand conditions stands as another factor that may limit the pass through of rising wheat prices on consumer prices.

4. Supply and Demand Conditions

The second-quarter national accounts data are consistent with the outlook presented in the July Inflation Report. Domestic demand continued to recover at a relatively stable pace, while exports of goods and services accelerated. Exports and public construction investments increased rapidly quarter-on-quarter, boosting quarterly GDP, whereas, non-government GDP grew more moderately.

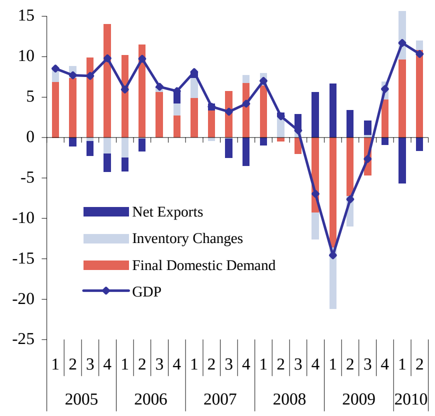
Recent data releases indicate that the economy has been expanding more modestly in the second half of 2010, while the patterns of recovery in domestic and external demand have been evidently diverse. Near-term indicators suggest that domestic demand continues to recover steadily, whereas exports of goods and services remain flat after the rapid increase in the second quarter. Given the supportive monetary and fiscal policies, and the decreased political uncertainty, domestic demand is expected to recover further in coming months. In addition, the improving labor market conditions help domestic demand remain robust. However, weak external demand and uncertainties surrounding the global economy increase the downside risks to the pace of economic recovery.

4.1. Gross Domestic Product Developments and Domestic Demand

According to the national accounts data released by TurkStat, GDP growth has been 10.3 percent year-on-year during the second quarter of 2010 (Graph 4.1.1). The second quarter growth has largely been provided by private investments, and the negative contribution of the net external demand has decreased given the recovery in exports.

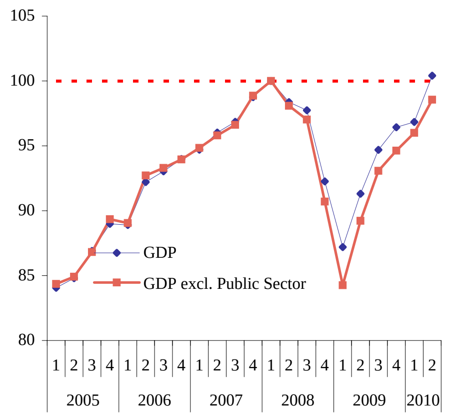
After a pause in the first quarter, GDP grew by a robust 3.7 percent quarter-on-quarter on a seasonally adjusted basis, owing to rising public construction investments and exports (Graph 4.1.2). Except for government spending, GDP grew steadily at a relatively moderate rate. In fact, while overall GDP returned to pre-crisis levels as of the second quarter, GDP excluding government spending still remains below pre-crisis levels.

Graph 4.1.1. Annual GDP Growth by Quarters and Contribution to GDP Growth from Demand Components
(Percent)



Source: TurkStat.

Graph 4.1.2. GDP
(Seasonally Adjusted, 2008Q1=100)

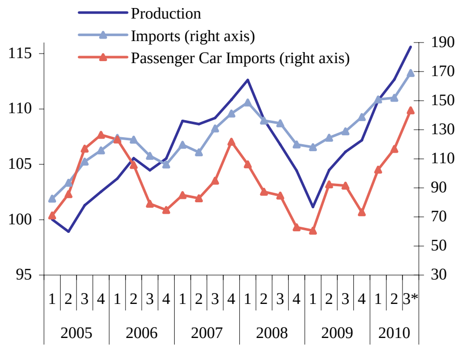


Source: TurkStat, CBRT.

Recent data show that domestic demand continued to recover steadily. Among indicators of private consumption demand, production and imports of consumption goods were up during July and August from the second quarter (Graph 4.1.3). In view of the data on production and external demand, private consumption demand is estimated to have recovered further in the third quarter (Box 4.1).

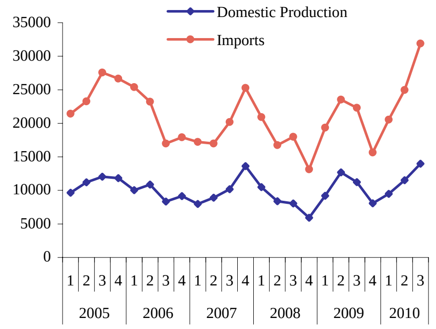
Recently, the demand for imported automobiles has been strong due to relatively lower prices, and favorable monetary and credit conditions (Graph 4.1.4). Although, consumer loans reflect the rise in automobile loans, the rate of increase in total consumer loans slowed slightly due to housing loans (Graph 4.1.5). In seasonally adjusted terms, the fact that the CBRT's Consumer Confidence Index improved markedly in September, and that the CNBC-e Consumer Confidence Index was up in September's final and October's preliminary readings subsequent to the decline in September's preliminary readings, signals a pick up in consumer confidence in the near term (Graph 4.1.6). Thus, given the decreased political uncertainty, both the monetary and fiscal incentives as well as the improving labor market conditions are expected to have a more pronounced impact on private consumption, spurring a rebound in consumer demand over the fourth quarter.

Graph 4.1.3. Production and Import Quantity Indices of Consumption Goods
(Seasonally Adjusted)



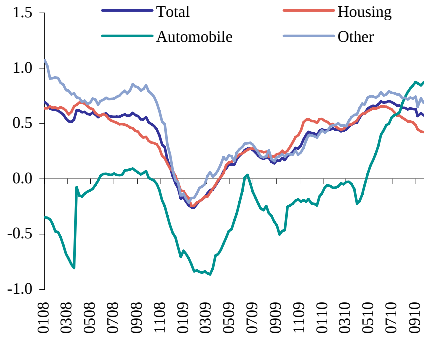
* July-August figures.
Source: TurkStat, CBRT.

Graph 4.1.4. Automobile Sales
(Seasonally Adjusted)



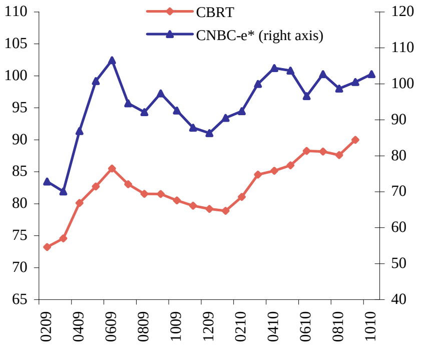
Source: Automotive Distributors' Association, CBRT.

Graph 4.1.5. Consumer Loans
(13-week Moving Average, Percent)



Source: CBRT.

Graph 4.1.6. Consumer Confidence
(Seasonally Adjusted)

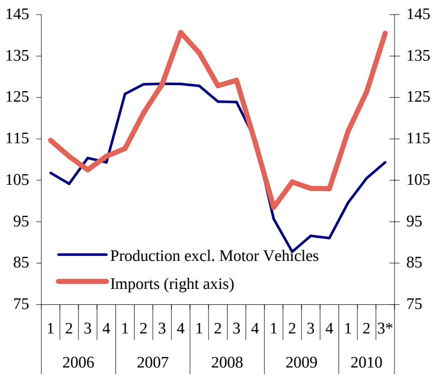


* Provisional figures.
Source: Turkstat, CNBC-e, CBRT.

Production and imports of investment goods were up during July and August from the previous quarter (Graph 4.1.7). Indicators for the third quarter show that private investments slow slightly quarter-on-quarter, but will continue to grow rapidly year-on-year.

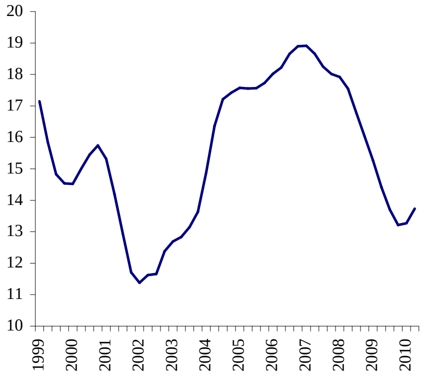
The ratio of investment spending to GDP still remains below pre-crisis levels (Graph 4.1.8). Yet, given the reduced domestic demand uncertainty and favorable financial conditions, investment spending is likely to increase further in the upcoming period (Box 4.2). In fact, despite weaker expectations for new orders, and low capacity utilization rates, firms' expectations for investment spending remained upbeat, rising significantly in September (Graph 4.1.9). However, uncertainties about external demand may weigh on the recovery in investment, particularly in the manufacturing industry.

Graph 4.1.7. Production and Import Quantity Indices of Capital Goods
(Seasonally Adjusted, 2005=100)



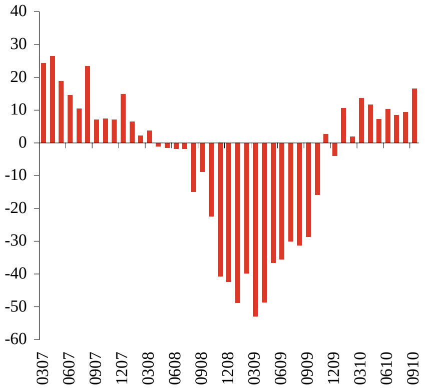
*July-August figures.
Source: TurkStat, CBRT.

Graph 4.1.8. Private Investment to GDP
(4-Quarter Moving Average, Percent)



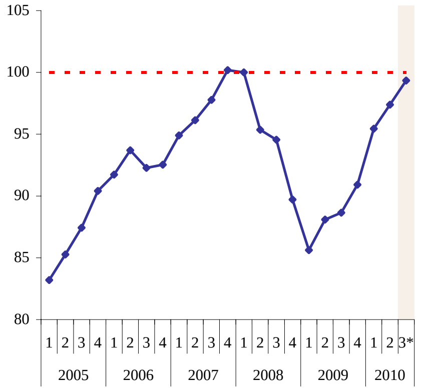
Source: TurkStat.

Graph 4.1.9. 12-Month Ahead BTS Expectations for Investment
(Seasonally Adjusted, Up-Down)



Source: CBRT.

Graph 4.1.10. Private Demand
(Seasonally Adjusted, 2008Q1=100)

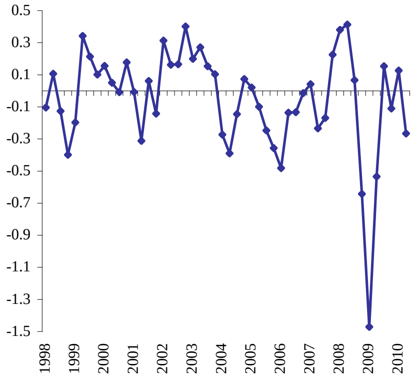


* Estimate.
Source: TurkStat, CBRT.

In sum, the steady recovery in private demand may continue into the third quarter, followed by a relatively stronger rebound in the final quarter (Graph 4.1.10).

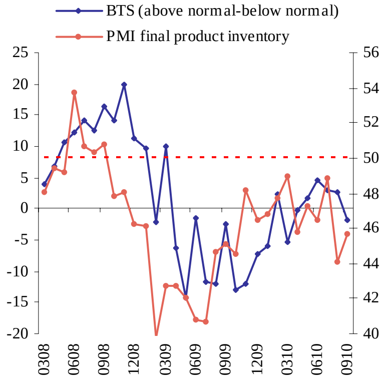
Despite the stable economic growth since the second quarter of 2009, inventories have yet to build up permanently, as in the post-2001 crisis period suggesting that firms remain uncertain about aggregate demand (Graph 4.1.11). In fact, the BTS and the PMI indicate that inventory buildups have been very slow as of the third quarter (Graph 4.1.12).

Graph 4.1.11. Inventory Changes
(Seasonally Adjusted, 1998 Prices, Billion TL)



Source: TurkStat, CBRT.

Graph 4.1.12. BTS and PMI Inventory Indicators
(Seasonally Adjusted)

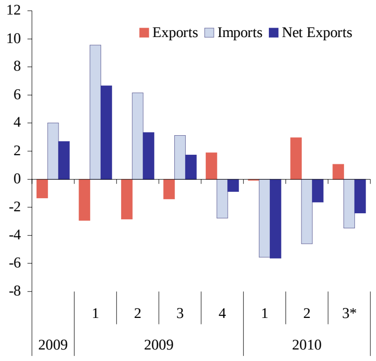


Source: Markit, CBRT.

4.2. External Demand

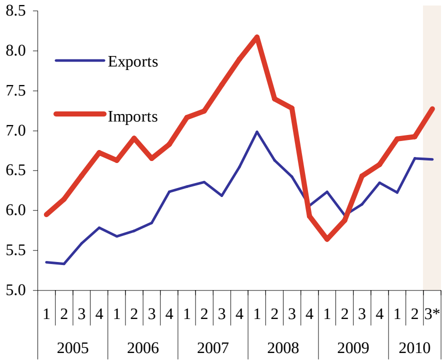
The outlook for net external demand was broadly consistent with the July Inflation Report forecasts in the second quarter. After remaining mostly flat year-on-year during the first quarter, exports of goods and services increased by 12.1 percent in the second quarter, while imports of goods and services were up by 17.8 percent year-on-year. Thus, the negative contribution of net exports to GDP declined quarter-on-quarter (Graph 4.2.1). In seasonally adjusted terms, after the first-quarter drop, exports increased remarkably in the second quarter, whereas imports remained stable quarter-on-quarter (Graph 4.2.2).

Graph 4.2.1. Contribution to Annual GDP Growth from Exports, Imports and Net Exports
(Percent)



* Estimate.
Source: TurkStat, CBRT.

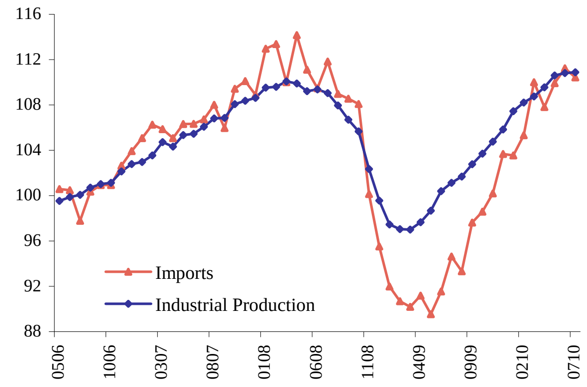
Graph 4.2.2. Exports and Imports of Goods and Services
(Seasonally Adjusted, 1998 Prices, Billion TL)



* Estimate.
Source: TurkStat, CBRT.

Recent data releases indicate that exports have flattened out during the third quarter, after accelerating in the second quarter. The global economic recovery has slowed after May (Graph 4.2.3). The export quantity index, excluding gold, fell in June and July amid weaker external demand conditions (Graph 4.2.4). Although exports excluding gold were up in August, the figures by the Turkish Exporters' Assembly do not suggest a recovery in September. Therefore, exports of goods and services are expected to contribute less to the GDP growth in the third quarter (Graph 4.2.2).

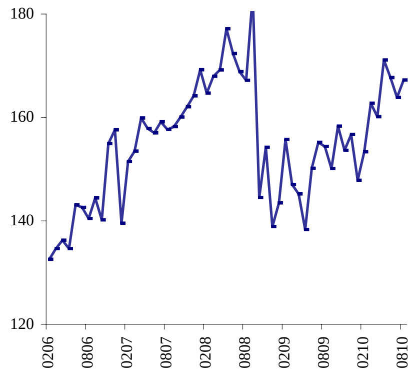
Graph 4.2.3. Imports and Industrial Production Index for the Global Economy
(Seasonally Adjusted, 2006=100)



Source: Netherlands Bureau for Economic Policy Analysis.

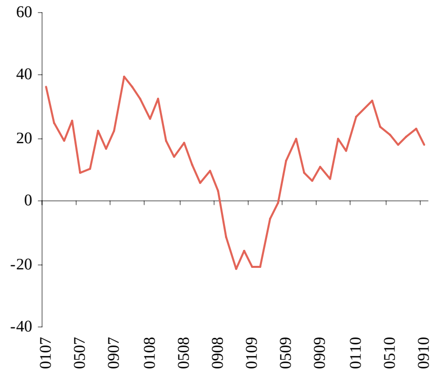
The global economic outlook suggests that risks concerning external growth remains. In fact, the post-March slowdown in 3-month ahead expectations for export orders continued into September (Graph 4.2.5). Thus, the weak external demand is likely to weigh on resource utilization, and add to the uncertainty about aggregate demand.

Graph 4.2.4. Quantity Index for Exports Excluding Gold
(Seasonally Adjusted, 2003=100)



Source: TurkStat, CBRT.

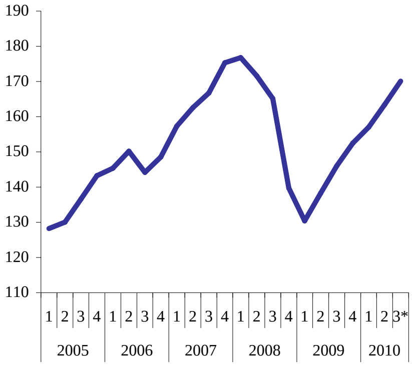
Graph 4.2.5. 3-Month Ahead BTS Expectations for Export Orders
(Seasonally Adjusted)



Source: CBRT.

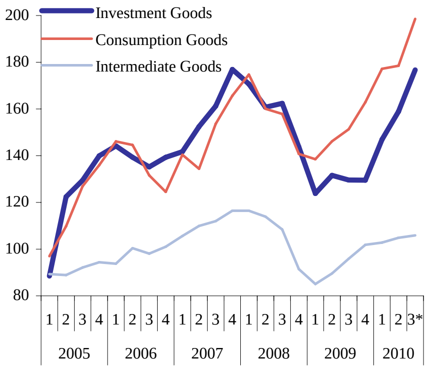
Imports continue to grow as domestic demand recovers steadily. In seasonally adjusted terms, imports continued to increase rapidly during July and August (Graph 4.2.6). The shift in the demand composition in favor of domestic demand is also evident across subcategories of the quantity index for imports (Graph 4.2.7). Imports of intermediate goods increased at a less marked rate amid slowing production, whereas imports of consumption and investment goods remained robust. Given the weak external demand and the stable recovery in domestic demand, net exports are expected to make an increased negative contribution to GDP growth in the upcoming period.

Graph 4.2.6. Quantity Index for Imports
(Seasonally Adjusted, 2003=100)



* July-August figures.
Source: TurkStat, CBRT.

Graph 4.2.7. Quantity Index for Imports by Subcategories
(Seasonally Adjusted, 2005=100)



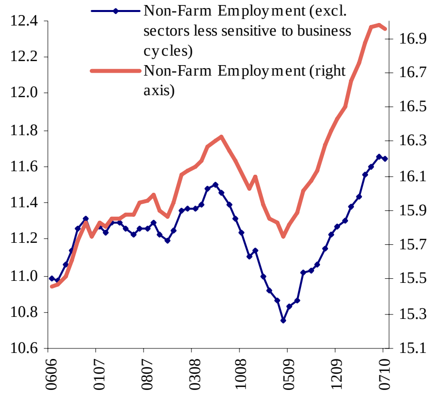
* July-August figures.
Source: TurkStat, CBRT.

To sum up, ongoing problems in the global economy marks the gap between domestic and external demand. In other words, on one hand, the sluggish recovery in advanced economies keeps global interest rates at low levels and boosts capital flows into emerging markets, but on the other hand, feeds into heightened risks on external demand. Turkey's relatively robust economy, and thus easier access to external finance are likely to help increase loanable funds, and ease credit conditions in the upcoming period. Moreover, the improved labor market and the decreased political uncertainty are expected to support the recovery in consumer confidence. Therefore, given the countercyclical responses of monetary and fiscal policy, domestic demand is expected to continue to recover more steadily than external demand.

4.3. Labor Market

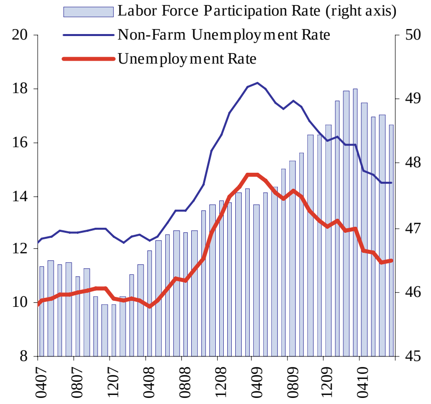
The steady growth in non-farm employment since the second quarter of 2009 paused at the beginning of the third quarter of 2010 due to the fall in services employment (Graph 4.3.1). Meanwhile, industrial employment continued to recover, albeit slowly. Despite the pause in non-farm employment, the unemployment rate was down from the second quarter amid higher farm employment and falling labor force participation rate (Graph 4.3.2).

Graph 4.3.1. Non-Farm Employment
(Seasonally Adjusted, Million)



* Sectors less sensitive to business cycles are community, finance, real estate and business services.
Source: TurkStat, CBRT.

Graph 4.3.2. Unemployment
(Seasonally Adjusted, Percent)

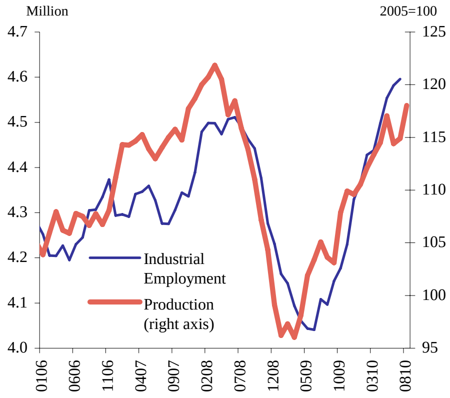


Source: TurkStat, CBRT.

Industrial employment continued to grow, albeit slowly, during June and July (Graph 4.3.3). Non-farm employment growth was interrupted by changes in the services sector. Across the services sector, finance, real estate and business services dropped in June, while the trade sector was down in July. The fact that the decline in employment is driven by different sub-sectors suggests that the fall in non-farm employment is temporary rather than permanent.

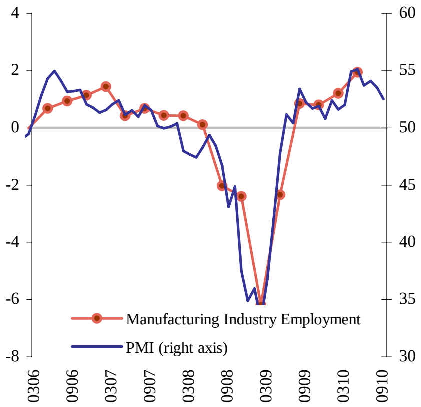
The PMI employment index shows that industrial employment continues to rise, albeit at a slower pace, in the third quarter (Graph 4.3.4). However, uncertainties about the pace of recovery in external demand continue to dampen industrial employment.

Graph 4.3.3. Industrial Employment and Production
(Seasonally Adjusted)



Source: TurkStat, CBRT.

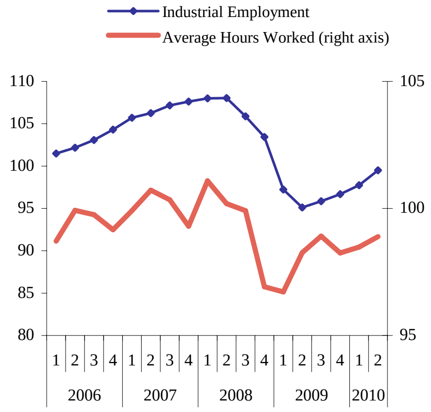
Graph 4.3.4. Manufacturing Industry and PMI Employment Index
(Seasonally Adjusted)



Source: TurkStat, CBRT.

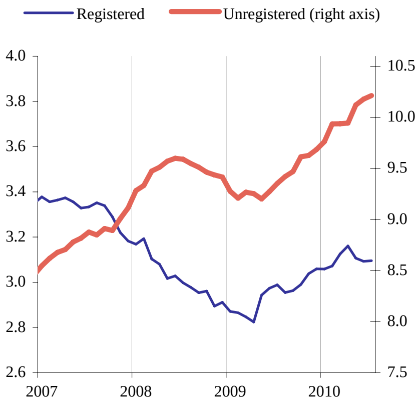
The Labor Input Indicators providing insight into industrial employment confirm the recovery in employment. Including data on registered labor and relatively larger firms, these data sources suggest that industrial employment has increased as of the second quarter, yet, remains below pre-crisis levels (Graph 4.3.5).[1] Average hours worked per person in the industrial sector increased for the second consecutive quarter, but is still below pre-crisis levels.

Graph 4.3.5. Industrial Employment and Hours Worked
(Seasonally Adjusted)



Source: TurkStat, CBRT.

Graph 4.3.6. Non-Farm Salary or Daily Wage Workers
(Seasonally Adjusted, Million)



Source: TurkStat, CBRT.

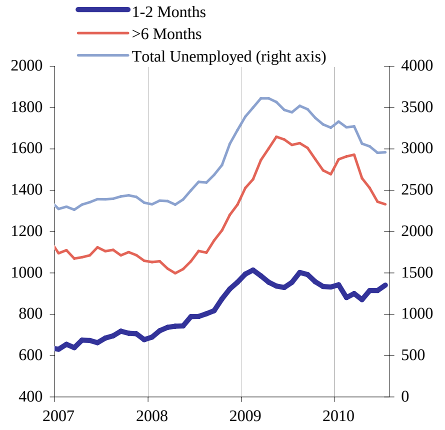
---

[1] See Inflation Report 2010-III, Box 4.2.

Changes in the quality of employment is critical for a better evaluation of the economic recovery. It should be noted that unregistered labor accounts for a significant portion of the post-crisis growth in non-farm employment (Graph 4.3.6). However, the recent relatively more rapid recovery in registered labor employment signals an improvement in employment conditions.

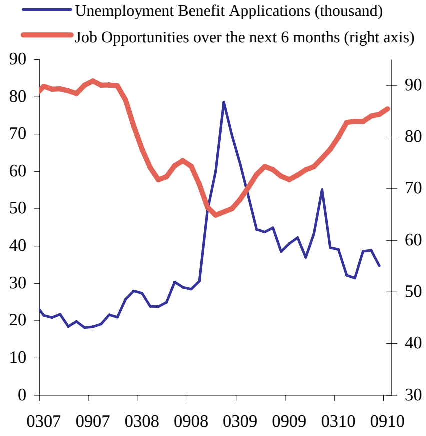
Lately, there has been some improvement in other important labor market indicators as well. The number of unemployed looking for a job for more than 6 months fell in seasonally adjusted terms, while that for 1 to 2 months remained flat (Graph 4.3.7). The narrowing gap between long-term and short-term job seekers indicate that the average duration of unemployment has fallen. Meanwhile, the job opportunities index derived from the consumer confidence index has regained pre-crisis levels. Similarly, applications for unemployment benefits, as released by the Turkish Employment Agency, continued to decline amid decreased employment losses (Graph 4.3.8).

Graph 4.3.7. Unemployed by Duration of Job Search
(Seasonally Adjusted, Thousand)



Source: TurkStat, CBRT.

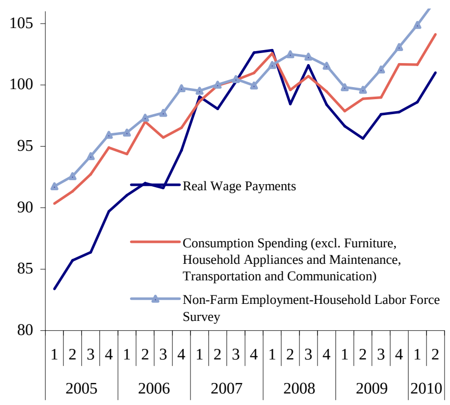
Graph 4.3.8. Job Opportunities and Unemployment Benefit Applications



Source: TurkStat, CBRT.

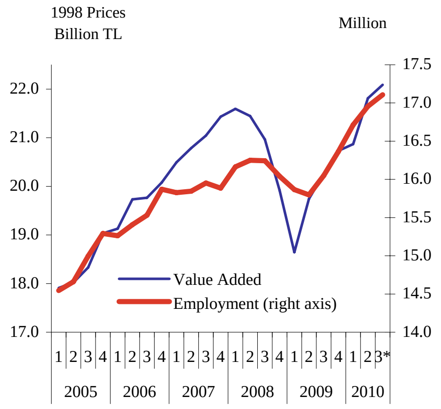
The Labor Input Indicators derived from firm survey data show that real wages continued to recover gradually, returning to pre-crisis levels (Graph 4.3.9). Leading indicators for the third quarter suggest that non-farm employment would continue to rise at a slower pace (Graph 4.3.10).

Graph 4.3.9. Household Spending, Real Wages * and Non-Farm Employment
(Seasonally Adjusted, 2007=100)



*Calculated by the weighted average of total wages paid in industrial, construction, trade, restaurants and hotels, transportation and communication sectors. Converted to a real index by using the household consumption deflator.
Source: TURKSTAT, CBRT.

Graph 4.3.10. Non-Farm Value Added and Employment
(Seasonally Adjusted)



*Estimate.
Source: TurkStat, CBRT.

In sum, the improved labor market conditions support domestic demand through disposable income channel due to increases in employment and labor payments, and through expectations channel due to falling unemployment and growing job opportunities. However, the unemployment rate is likely to remain well above pre-crisis levels for some time, and therefore, will exert no significant pressure on unit labor costs in the upcoming period.

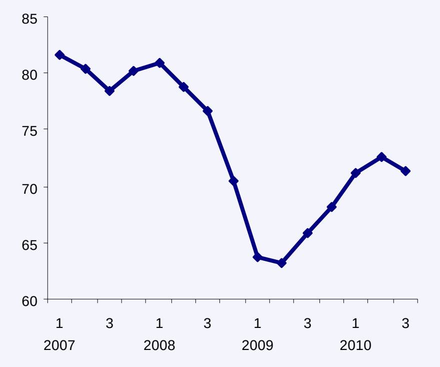
Box 4.1

Ramadan Effect on Economic Activity

Seasonal variations can lead to misinterpretation of economic data. Apart from seasonality defined as the periodical recurring movements, the moving holiday, the shift of religious holidays from year-to-year due to lunar calendar, is also critically important in analyzing economic data regarding its effect on working days. Demand-driven effects as well changes in working hours may lead to unusual production behavior during Ramadan, making it difficult to monitor underlying trend in economic activity. In fact, a recent CBRT study reveals that the month of Ramadan can cause temporary fluctuations in economic activity beyond seasonal and calendar effects.[2]

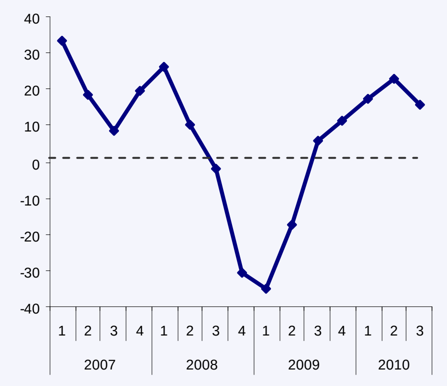
In order to separate the Ramadan effect from other seasonal and calendar effects, Atabek-Demirhan (2010) study tests the effect of Ramadan on economic activity by setting a deterministic variable for the month of Ramadan and incorporating this variable into seasonal models developed for the industrial production index. Econometric findings suggest that the economic activity slows down temporarily during the month of Ramadan.

Graph 1. Capacity Utilization in Manufacturing Industry
(Seasonally Adjusted)



Source: CBRT.

Graph 2. BTS Production Capacity
(Seasonally Adjusted)

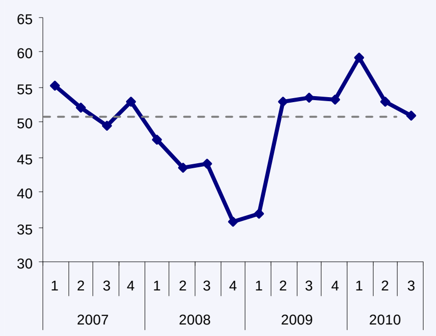


Source: CBRT.

---

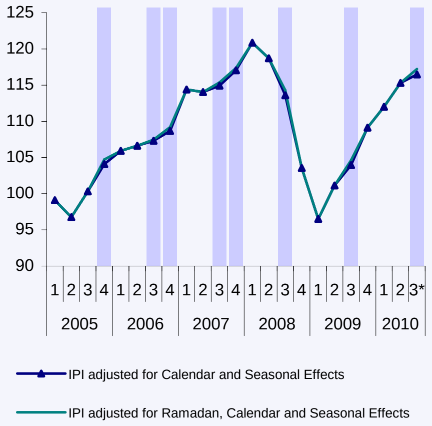
[2] Atabek-Demirhan, A. (2010) "The Effect of Ramadan on Production", CBRT Economic Notes, No. 2010-14.

Graph 3. PMI Production
(Seasonally Adjusted)



Source: Markit.

Graph 4. IPI Adjusted for Ramadan, Calendar and Seasonal Effects



* July-August average.

Seasonally adjusted data on economic activity point to a slowdown for the third quarter of 2010 (Graph 1-3). Adjusted only for calendar and seasonal effects, average production for July-August indicates a fall quarter-on-quarter. At first glance, these observations imply a marked slowdown in economic activity during the third quarter. However, adjusted for Ramadan's effect on production, in addition to the regular seasonal effects, by using the method designed by Atabek-Demirhan (2010), the production outlook remains positive for the third quarter (Graph 4). These findings also support the CBRT's view that the economy continues to recover in the third quarter, and highlight the importance of the Ramadan effect in interpreting the quarterly changes in industrial production that are used in analyzing the current economic climate.

Box 4.2

Uncertainty and Economic Activity

The unfavorable implications of uncertainty for investment and consumption decisions, and thus for economic activity remain controversial in the economic literature. In other words, in the face on an increased uncertainty, manufacturers postpone investment and employment decisions, and adopt a “wait-and-see”' approach, thereby intensifying the negative effects of economic recessions. In this context, Bloom (2009) and Bloom *et al* (2009) showed that uncertainties could have major effects on economic activity. This box analyzes the relationship between uncertainty and economic activity in Turkey using BTS data.

BTS is a tendency survey that contains retrospective evaluations of manufacturing firms, their views on the current situation, and their future expectations. The survey has been conducted by the CBRT every month since December 1987.[3] Between 1987 and 2006, the survey was only limited to Turkey's first and second top 500 industrial enterprises ranked by the Istanbul Chamber of Industry, but since 2007, by extending the coverage, the survey has included firms that are subject to TurkStat's 2005 industrial production index.[4]

The BTS contains information on orders for domestic and external markets received during the past 3 months, and expected to be received over the next 3 months, thus enabling to track firms' expectation errors. Table 1 shows these expectation errors, and the assigned weights to these errors. For example, if a firm expects an increase (decrease) over the next 3 months at time t, but indicates a decrease (increase) or no change for the past 3 months at time t+3, the firm is considered to have made a negative (positive) expectation error at time t. Assuming that expectation errors are driven by economic uncertainties, the weighted average of squared errors is used as a measure of uncertainty in this study.

Table 1. Weights of Expectation errors

		For the Past 3 Months (t+3)		
		Up	Stable	Down
Over the Next 3 Months (t)	Up	0	-1/2	-1
	Stable	½	0	-1/2
	Down	1	1/2	0

---

[3] For more information about the BTS, see www.tcmb.gov.tr.

[4] Following the process of harmonization with international standards in 2007, the questionnaire and enterprises covered in the survey have been modified to fully comply with the European Union's Industry Survey. This study yields similar results if the analysis is conducted using pre-2007 data.

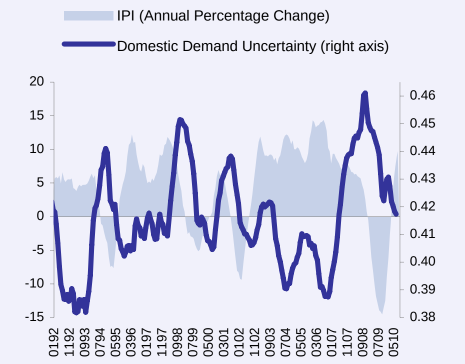
Thus, we estimated measures of uncertainty associated with the BTS questions regarding domestic and export orders expected over the next three months and received for the last three months. Table 2 shows the BTS questions used in this study.

Table 2. BTS Questions

Question 15	3-month ahead expectation for domestic orders	(Up/Stable/Down)
Question 14	Amount of domestic orders received over the last 3 month	(Up/Stable/Down)
Question 11	3-month ahead expectation for export orders	(Up/Stable/Down)
Question 10	Amount of export orders received over the last 3 months	(Up/Stable/Down)

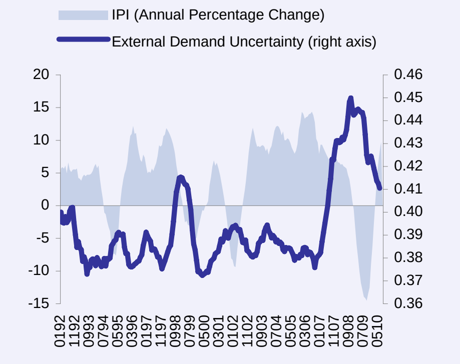
Graphs 1 and 2 show the expectation errors related to questions. In order to better gauge the expectation errors in the figures and the cyclical movements in the Industrial Production Index (IPI), 12-month moving averages of annual percent changes have been used. Accordingly, significant expectation errors are found regarding domestic orders in all contraction periods between 1992 and 2010. On the other hand, expectation errors on export orders increased markedly during periods of weaker external demand, especially during the East Asian financial crisis in 1997, the Russian crisis in 1998 and the global crisis in 2008, whereas expectations errors remained unchanged in other contraction periods.

Graph 1. Domestic Demand Uncertainty and Industrial Production (12-Month Moving Average)



Source: CBRT.

Graph 2. External Demand Uncertainty and Industrial Production (12-Month Moving Average)



Source: CBRT.

Recently, expectation errors on domestic and external demand have been trending downwards, pointing to a decline in firms' perception of uncertainty. Expectation errors on domestic demand are reverting to their historical average, while expectation errors on external demand are still elevated despite the downward trend. The recent improvement in uncertainty perception, especially about domestic demand, helps resume postponed spending on employment and investment, and supports the recovery in economic activity.

References

Bloom, N. (2009), “The Impact of Uncertainty Shocks”, *Econometrica*, 77: 623–685.

Bloom, N., Floetotto, M. and N. Jaimovich (2009), “Really Uncertain Business Cycles”, mimeo, Stanford University.

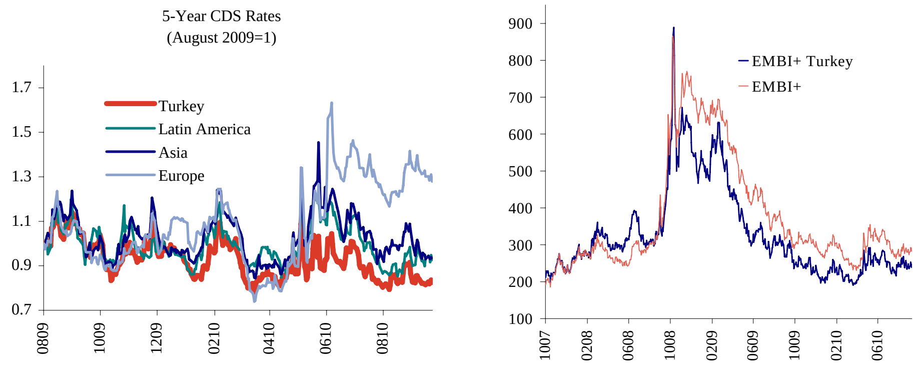
5. Financial Markets and Financial Intermediation

5.1. Financial Markets

Third-quarter data suggest that a double-dip global recession is less likely, but the recovery has slowed quarter-on-quarter. While emerging economies recovered steadily, advanced economies remained vulnerable to downside risks. In fact, the recovery of the debt-burden of households and corporate balance sheets continue in advanced economies, and therefore, saving rates remain well-above pre-crisis levels and long-term averages. Accordingly, as a major component of GDP in advanced economies, private consumption is contributing less to the economic recovery. The slow and unstable improvement in credit markets and employment conditions adds to this outlook.

Downside risks to the recovery in advanced economies enhanced the prospects for a prolonged period of expansionary monetary policy, thereby easing concerns about European sovereign debt, and pushed investors towards riskier assets. As a result, risk premiums for emerging economies have decreased. During this period, Turkey's risk premium indicators had a more benign outlook than many other economies, and remained below pre-crisis levels (Graph 5.1.1).

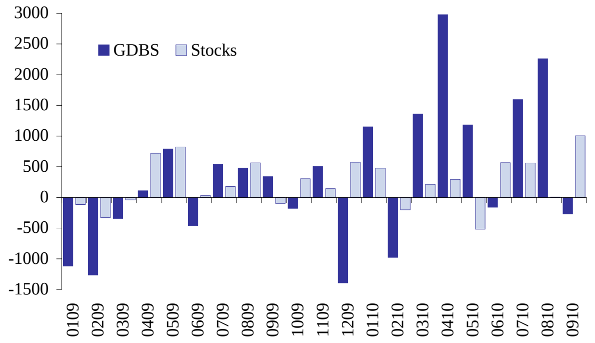
Graph 5.1.1. Risk Premium Indicators for Emerging Economies



Source: Bloomberg, CBRT.

The increased risk appetite for high-yield assets in the third quarter helped emerging economies attract more capital inflows in the form of portfolio investments. Both the bonds and bills market, and the stock market in Turkey received capital inflows (Graph 5.1.2).

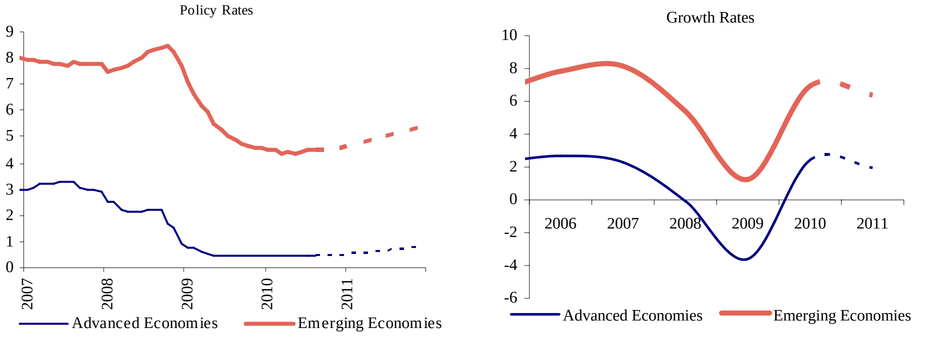
Graph 5.1.2. Net Portfolio of Non-Residents
(Adjusted for Index and Interest Rate Effect, Million USD)



Source: CBRT.

Capital flows into emerging economies are likely to further increase over the coming period. One factor supporting capital inflows has been the improved post-crisis risk sentiment towards emerging economies. Risk premium indicators below pre-crisis levels and credit rating upgrades by rating agencies are an indication of the change in sovereign risks of many emerging economies (Graph 5.1.1). Moreover, emerging economies recover at a faster pace than advanced economies. This discrepancy in the pace of recovery is expected to spur more capital flows into emerging economies amid easing sovereign risks in coming months (Graph 5.1.3).

Graph 5.1.3. Growth and Policy Rates in Advanced and Emerging Economies*
(Percent)



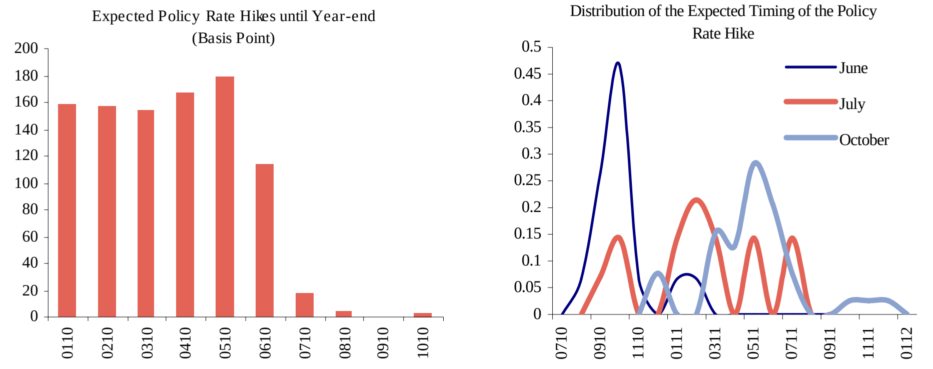
* Advanced Economies: USA, EU, Japan. Emerging Economies: China, India, Brazil, South Korea, Mexico, Russia, Turkey, Poland, Indonesia, South Africa, Thailand, Malaysia, Israel, Czech Republic, Hungary, Colombia, Philippines.
Source:Bloomberg, CBRT.

Another factor attracting capital flows from advanced to emerging economies is the divergence in monetary policies. In fact, advanced economies are likely to maintain the current expansionary monetary stance for quite a long time, whereas, emerging economies are already in the process of normalization

(Graph 5.1.3). Accordingly, many emerging market central banks, including the CBRT, are withdrawing liquidity measures that were introduced during the crisis, while some have started raising policy rates. The fact that the policy rates in advanced economies are expected to remain low for a long time, while those in emerging economies already started to increase, is likely to boost portfolio flows into emerging economies through interest rate differentials.

In the third quarter, year-end expectations for policy rates were revised down in many emerging economies amid sluggish global economic recovery. Likewise, there are growing expectations that Turkey would also postpone the tightening process and raise policy rates more moderately. This is also supported by the CBRT's communication policy. In fact, expectations of a postponed tightening have been more pronounced after July Inflation Report. This report stated that policy rates would be raised in 2011 as implied by the baseline scenario, the timing and extent of monetary tightening would vary depending on the course of economic activity, and a second round of monetary easing would be warranted if the economy plunges into another recession. Amid the increased credibility of the CBRT, many financial institutions have revised their policy rate forecasts for year-end in 2010 and 2011 downwards, following the release of the July Inflation Report. Moreover, the gap between market expectations about the timing of policy rate hikes has been closing (Graph 5.1.4).

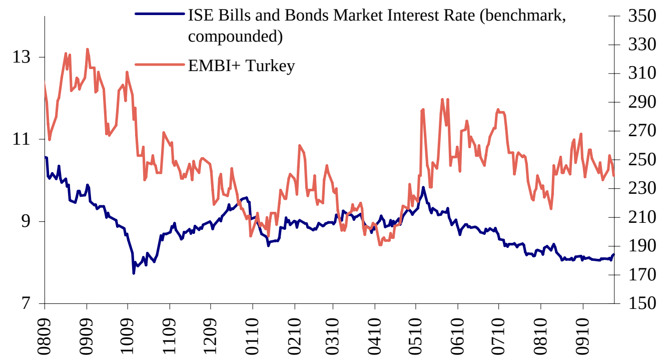
Graph 5.1.4. Policy Rate Expectations



Source: Reuters, CBRT.

Market rates also reflect the growing expectations of delay and moderation in the rate-hike cycle. Accordingly, benchmark bond yields fell quarter-on-quarter during the third quarter amid the improved global risk sentiment. This decline is also a result of the drop in inflation expectations driven by the CBRT's accurate prediction of inflation. Moreover, market rates were less sensitive to global risk sentiment and more affected by changes in the domestic economy, during the third quarter (Graph 5.1.5).

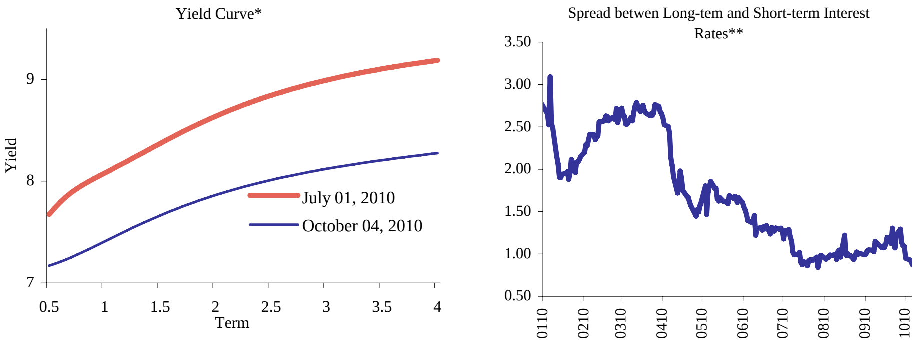
Graph 5.1.5. Interest Rates
(Percent)



Source: ISE, CBRT.

Market rates are down at every maturity and more sharply at longer maturities. Short-term interest rates reflect the revisions to policy rate forecasts, while long-term interest rates were markedly down on Turkey's improved risk rating. Besides, long-term interest rates continuing to hover around historic lows despite the volatile risk sentiment in the world, points to a permanent decline in interest rates in Turkey. The more pronounced downturn in market rates with longer maturities caused the yield curve to flatten out quarter-on-quarter (Graph 5.1.6).

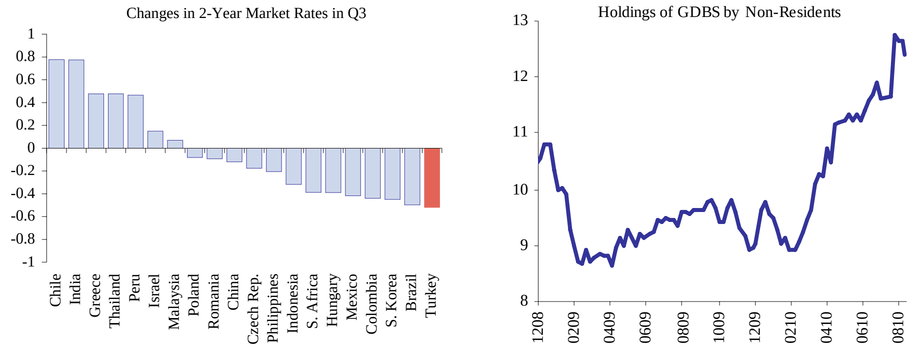
Graph 5.1.6. Term Structure of Market Interest Rates
(Percent)



* Calculated from the compounded returns on bonds quoted in ISE Bonds and Bills Market by using ENS method.
**Spread between 4-year and 6-month yields derived from the ENS yield curve, 5-day moving average.
Source: ISE, CBRT.

The fall in medium-term interest rates in Turkey is well above the average for emerging economies. In fact, the amount of decline in 2-year market rates during the third quarter was the highest in Turkey across selected emerging economies. In the meantime, the share of foreign capital in the bonds and bills market continued to increase even though market rates were at all-time lows (Graph 5.1.7).

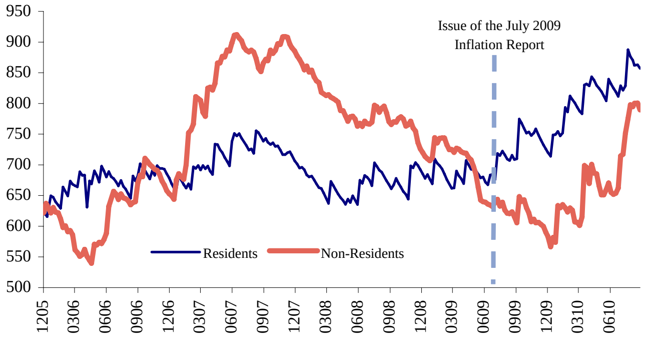
Graph 5.1.7. Market Rates and Foreign Inflows
(Percent)



Source: Bloomberg, CBRT.

The post-crisis downtrend in market rates was accompanied by the increase in the average number of days-to-maturity for GDBS held by residents and non-residents. The increase in maturities of GDBS held by residents has been more pronounced since the July 2009 Inflation Report (Graph 5.1.8). As may be recalled, the CBRT offered a solid perspective on the future of monetary policy in the July 2009 Inflation Report, and stated that policy rates would remain at single-digit levels over the forecast horizon if fiscal discipline was restored. The eased uncertainty about monetary policy following the release of the Report stimulated the demand for longer-term GDBS. Moreover, the simultaneous disclosure of the MTP helped boost the investors' confidence. Despite having narrowed in many countries following the crisis, the fact that the debt maturities have been extended in Turkey during the same period is the result of the permanent improvement in risk sentiment towards Turkey.

Graph 5.1.8. Day-to-Maturity of GDBS Holdings

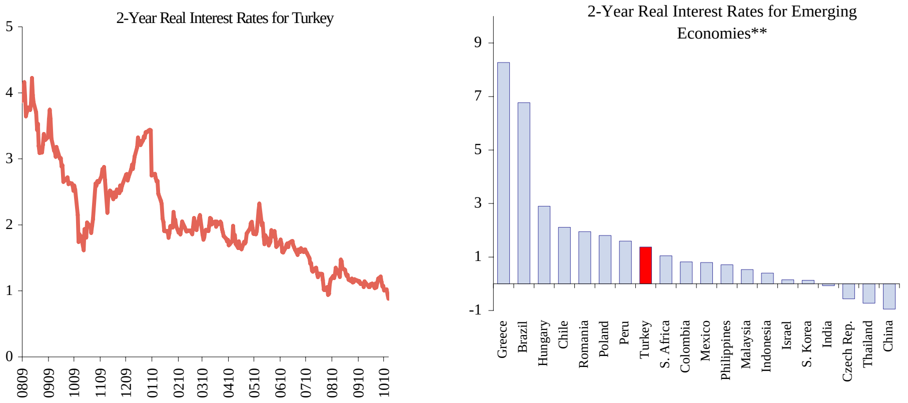


Source: Treasury, CBRT.

The stable downtrend in market rates is partly due to fiscal policy actions intended to ease concerns about restoring fiscal discipline. In fact, budget developments for the rest of 2010 show that the additional revenue created by the faster-than-expected economic recovery is largely used to pay-off public debt. Fiscal discipline measures and debt indicators are expected to have an increasingly significant effect on market rates in the future. In this regard, fiscal discipline should be further strengthened by institutional improvements in order to maintain lower interest rates.

The third-quarter decline in market rates passed through to real interest rates and real medium-term rates continued to hover at historically low levels. Moreover, the easing of the additional tightening in financial conditions during crisis increased the effectiveness of monetary policy on the credit market, thereby strengthening the pass-through from falling real interest rates to loan rates (Graph 5.2.10). Yet, the level of real market rates in Turkey does not differ from other emerging economies (Graph 5.1.9).

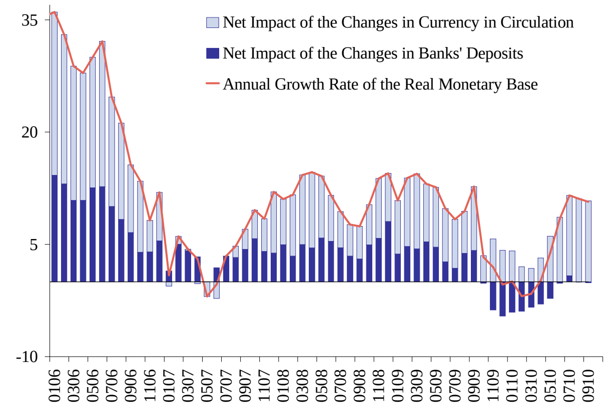
Graph 5.1.9. Medium-term Real Interest Rates Derived from Yield on GDBS*
(Percent)



* 2-year real interest rates are calculated using 2-year nominal interest rates derived from the ENS yield curve, and inflation expectations from the CBRT Survey of Expectations.
** As of October 6, 2010.
Source: ISE, Bloomberg, CBRT.

Despite the recent volatility in financial markets, economic activity continues to recover amid lower policy rates and CBRT's countercyclical liquidity measures. This can also be followed through improved monetary indicators. In fact, the surge in consumer demand led to further real year-on-year growth in the currency in circulation during the third quarter (Graph 5.1.10). Adjusted for the CBRT's revision to Turkish lira reserve requirement ratio, banks’ deposits also increased slightly year-on-year. In sum, changes in the monetary base continue to indicate further economic recovery and normalized risk sentiment following the crisis.

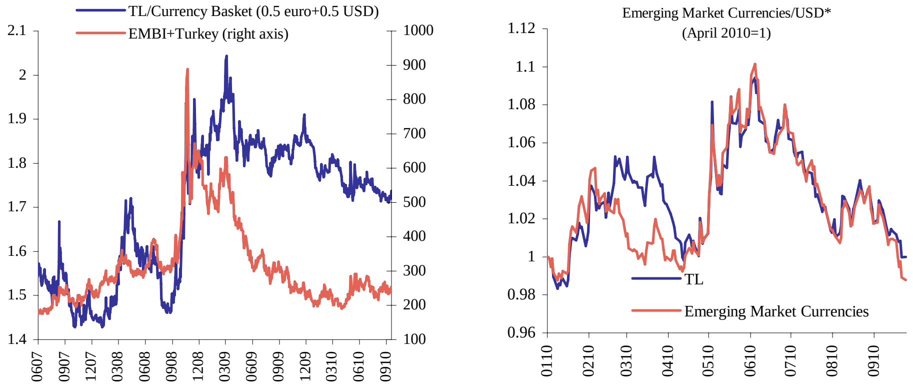
Graph 5.1.10. Annual Growth of the Real Monetary Base
(Percent)



Source: CBRT.

The third-quarter rebound in global risk appetite has also affected the foreign exchange market, with the Turkish lira appreciating against the currency basket of the US dollar and the euro. This outlook reflects global trends, rather than country-specific conditions, and the Turkish lira was broadly in line with the general trend in emerging market currencies as in the previous quarter (Graph 5.1.11 and Box 5.1).

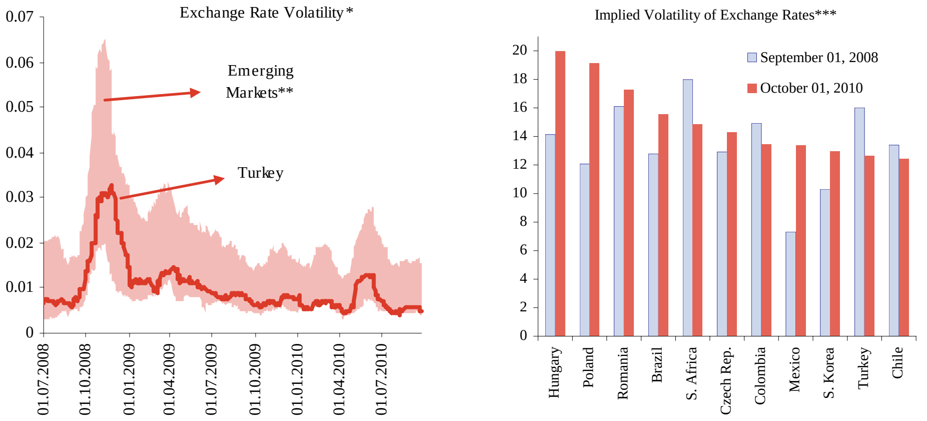
Graph 5.1.11. Performance of the Turkish Lira



*Average of emerging market currencies, including Brazil, Chile, Czech Republic, Hungary, Mexico, Poland, South Africa, South Korea and Colombia.
Source: Bloomberg, CBRT.

Meanwhile, having been historically volatile and extremely sensitive to global risk appetite, the relatively stable course of the Turkish lira during and after the crisis has continued into the third quarter. Country-specific conditions are likely to unfold in coming months, and hence, currencies of economies with lower risk ratings, positive debt dynamics, strong economic fundamentals and prospects of rapid growth are expected to be more stable. The Turkish lira, therefore, is likely to remain among the most stable currencies. This is, in fact, confirmed by implied volatility figures obtained from currency options, a gauge of expectations for future currency swings. Being one of the currencies with the highest implied volatility before the crisis, the Turkish lira is now among currencies with the lowest implied volatility, mainly owing to the improved post-crisis investor sentiment towards Turkey (Graph 5.1.12).

Graph 5.1.12. Exchange Rate Stability Indicators



Exchange Rate Volatility*

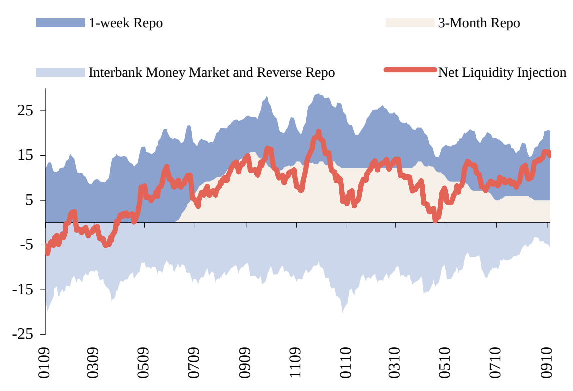
Implied Volatility of Exchange Rates***

* 50-day standard deviation of emerging market currencies against USD (highest and lowest values).
** Brazil, Chile, Czech Republic, Hungary, Mexico, New Zealand, Poland, South Africa, South Korea and Colombia.
*** Implied volatility on 1-year currency options, in percent.
Source: Bloomberg, CBRT.

With the easing of the global liquidity shortage and the restored stability in foreign exchange markets, the CBRT, continued with the foreign exchange buying auctions that were resumed on August 4, 2009, in line with its general strategy to maintain a strong foreign exchange position. Observing steadily strengthening capital flows into Turkey as well other emerging economies, the amount of daily purchase and options was raised to 40 million USD on August 2, 2010 in order to accelerate the reserve accumulation. Accordingly, a total of 3.22 billion USD was bought from the market in the third quarter, generating a liquidity of 4.88 billion TL. Effective as of October 4, 2010, the CBRT announced that additional foreign exchange would be bought in case of improved liquidity conditions and stronger capital inflows, provided that the weekly amount of purchase is announced on the first working day of the week. In order to maintain the operational flexibility and diversity of liquidity tools, GDBS buying auctions that were resumed on December 23, 2009 continued, and a liquidity injection of 1.67 billion TL was provided into the market, corresponding to a total nominal value of 1.7 billion TL of GDBS. Both GDBS and foreign exchange buying auctions boosted liquidity. On September 23, 2010, the TL reserve requirement ratio was raised from 5 to 5.5 percent, draining about 2.1 billion TL of liquidity from the banking system. Furthermore, the growth in the Treasury's account at the CBRT, and in the monetary base, put downward pressure on liquidity. As a result, the net liquidity shortage in the banking system trended upward in the third quarter (Graph 5.1.13).

The continuing foreign exchange purchases of the CBRT and the reduction in the Treasury's account at the CBRT would occasionally ease the liquidity crunch in the period ahead. Therefore, in view of the normalized credit conditions and in order to effectively implement the current framework for liquidity management, the CBRT has ended the 3-month repo auctions as of October 15, 2010.

Graph 5.1.13. Market Liquidity
(Billion TL)



Source: CBRT.

In the third quarter, the CBRT continued to implement the exit strategy announced on April 14, 2010. Accordingly, as the second step of the technical rate adjustment process, the differential between 1-week auction rate and the overnight borrowing rate was raised to 75 basis points at the September and October meetings of the Monetary Policy Committee. By doing so, the CBRT aims to encourage liquidity operations among banks. Hence, the total liquidity would spread evenly over the banking system, and the excess liquidity absorbed by the CBRT at the end of the day would decrease.

Apart from the technical rate adjustment, the CBRT raised the TL and foreign exchange reserve requirement ratios by 0.5 and 1 percentage points, respectively, on September 23, 2010. Thus, the foreign exchange reserve requirement ratio increased back to its pre-crisis level, while the TL reserve requirement ratio increased to 5.5 percent, a half point below its pre-crisis level. Moreover, the interest payment on TL reserve requirements is terminated.

In order to better evaluate the CBRT's decisions on reserve requirements, it is critical to understand the purpose of these decisions properly. Recently, the pace of recovery continues to diverge between domestic and external demand. Amid surging capital flows into emerging economies, this divergence may grow in coming months, and jeopardize current account balance and financial stability. Currently, there are no concerns over financial stability. However, in order to mitigate macroeconomic and financial risks before they materialize in the future, the CBRT plans to complete the exit strategy by the end of 2010, and more effectively use the alternative monetary policy tools, such as reserve requirements and liquidity management in order to maintain financial stability in the period ahead. The reserve requirement decision taken in September is a part of this process.

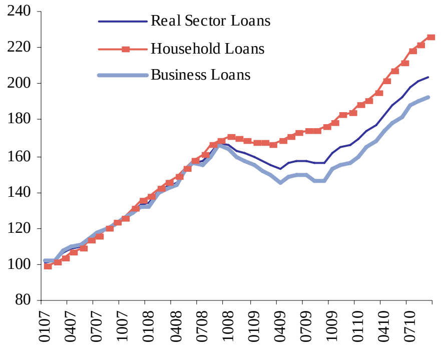
5.2. Financial Intermediation and Loans

Credit markets continued to improve in the third quarter. Real sector loans offered by domestic banks continued to grow, albeit more slowly than in the previous quarter. Among subcategories, the slowdown was more pronounced in business loans (Graph 5.2.1). Despite the slowing loan growth during the third quarter, the ratio of credit volume to GDP continues to rise. Recently, there also have been signs of recovery in external loans, an important pre-crisis source of funding for firms. In fact, excluding loans borrowed from foreign branches of domestic banks, external loans increased in July, for the first time since the second quarter of 2008 (Graph 5.2.2).[1]

---

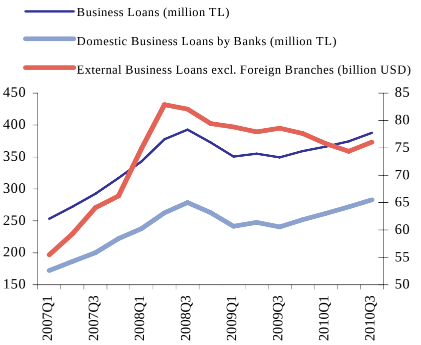
[1] In the balance of payments statistics, corporate loans borrowed from foreign branches of domestic banks are classified as external loans.

Graph 5.2.1. Real Sector Loans*
(2007=100)



**Real sector loans are composed of household loans and business loans.
Source: CBRT.

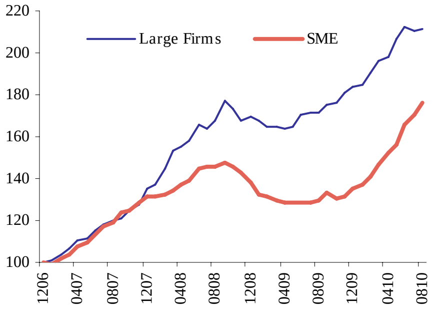
Graph 5.2.2. Domestic and External Business Loans



Source: CBRT.

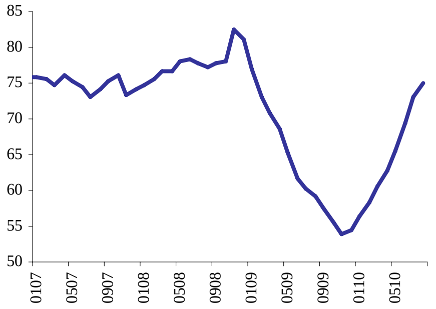
During the first two months of the third quarter, large business loans remained flat, while SME loans continued to recover (Graph 5.2.3). Another point that should be emphasized during this period is the steady uptrend in the number of sectors benefiting from credit expansion. In fact, the sectoral diffusion index for loans continued to rise in third quarter (Graph 5.2.4).

Graph 5.2.3. Business Loans by Firm Size*



*As of August 2010.
Source: BRSA.

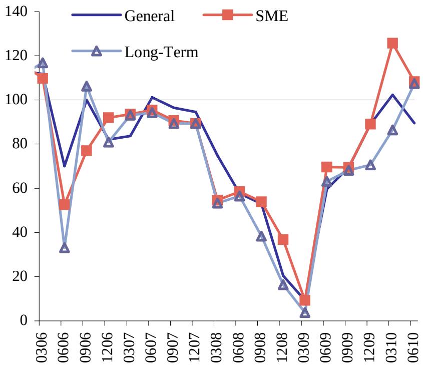
Graph 5.2.4. Loan Diffusion Index*



*Derived from 12-month moving averages of the ratio of the number of sectors with increased credit volume to the total number of sectors.
Source: CBRT.

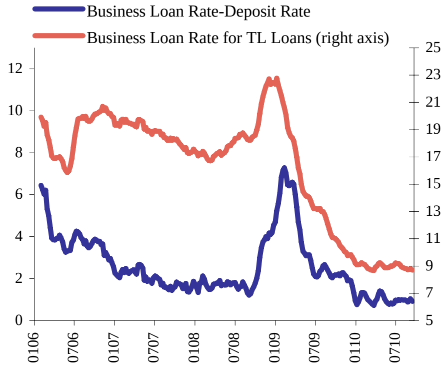
As the adverse effects of the crisis on financial and credit markets wane, banks have been more willing to lend. Accordingly, the CBRT's Lending Survey shows that the tightening in the size and maturity standards for business loans has ended as of the second quarter, while the conditions and rules for loan rates, and the maturities of loans have improved (Graph 5.2.5). Yet, the survey reports that banks expect loan standards to continue to ease slightly in the upcoming period. The ongoing economic recovery, which is the main determinant of the tightness in loan standards, and the resulting improvement in credit risk indicators provide the necessary framework to meet these expectations. In fact, given the current increase in business loans across an increasing number of sectors, the historically low spread between business loan rates and deposit rates points to some easing in credit supply (Graph 5.2.6).

Graph 5.2.5. Business Loan Standards*
(Percent)



*Positive/negative values denote easing/tightening in standards.
Source: CBRT.

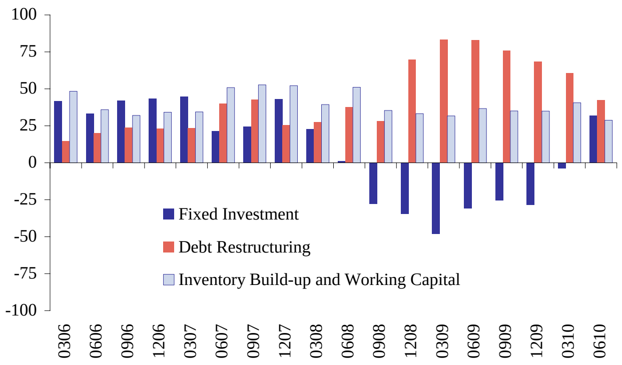
Graph 5.2.6. Business Loan and Deposit Rates
(4-Week Moving Average, Annual, Percent)



Source: CBRT.

Since supply-side constraints have widely subsided, loan realizations mostly reflect demand dynamics. The Lending Survey results suggest that the borrowing motivation of firms tends to change in the post-crisis period. Firms used to demand loans to facilitate debt rollover or to finance their working capital during the crisis. However, as the effects of the crisis tapered off, the loan demand for debt rollover decreased, while the demand for investment loans increased (Graph 5.2.7). Both the increased demand for long-term loans, as evidenced by the survey, and the uptrend in the share of medium and long-term loans have supported this observation. Moreover, the GDP data in the first half, and other indicators of economic activity signaling a rise in investment demand suggest an outlook consistent with the recovery in the demand for investment loans.

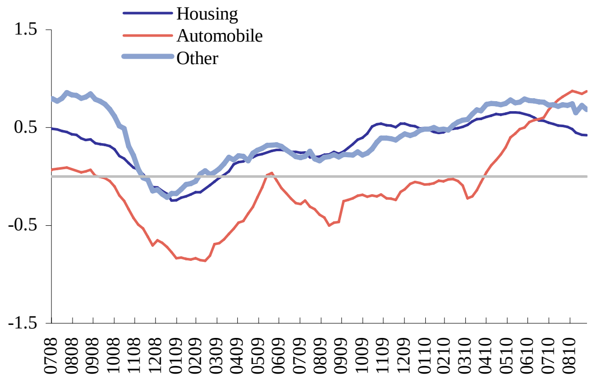
Graph 5.2.7. Factors Affecting Demand for Corporate Loans



*Positive/negative values denote easing/tightening in standards.
Source: CBRT.

Despite the decline in business loans, consumer loans continued to grow markedly in the third quarter. Yet, the rate of increase differed across subcategories of consumer loans. Accordingly, the growth in home loans slowed, while the growth in automobile loans remained robust. Meanwhile, the subcategory of other loans continued to increase rapidly (Graph 5.2.8).

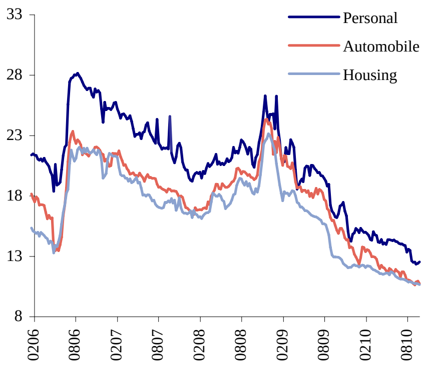
Graph 5.2.8. Consumer Loans
(13-week Moving Average, Percent)



Source: CBRT.

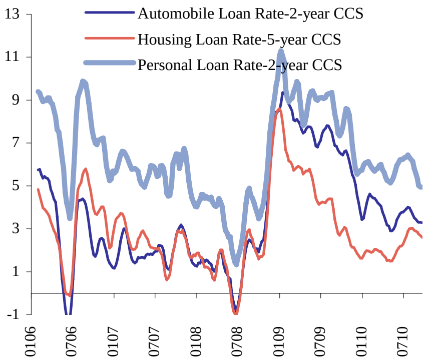
Consumer loan rates declined in the third quarter, reflecting both the fall in domestic long-term interest rates, and the increased competition and willingness to lend, as evidenced by the Lending Survey (Graph 5.2.9). In fact, the sharp decreases in interest rates on CCS that largely represent the cost of financing on consumer loans, were passed through to consumer loan rates at relevant maturities, albeit partially and with a lag (Graph 5.2.10).

Graph 5.2.9. Consumer Loan Rates
(Percent)



Source: CBRT.

Graph 5.2.10. Spread Between Loan Rates and Cost of Financing
(Percent)



Source: Bloomberg, CBRT.

As detailed in the Financial Markets section, the CBRT decided to raise the TL and foreign exchange reserve requirements on September 23, 2010, and to terminate the interest payment on TL reserve requirements in order to use reserve requirements more effectively as a policy tool. This will raise the cost of funding for banks in question, bringing loan rates up, and therefore putting some downward pressure on loan demand.

In sum, credit markets continued to recover in the third quarter. Loan demand has increased amid economic recovery and reduced uncertainty, while the credit crunch has eased. The easing of the credit crunch has also enhanced the effectiveness of monetary policy on loan rates, and therefore on economic activity.

Meanwhile, the current account deficit widened rapidly when the recovery in loans and domestic demand combined with the weak external demand. The share of foreign direct investments in financing the current account deficit is expected to remain below pre-crisis levels in coming months. In addition, the external public debt is unlikely to increase significantly compared to the current account deficit. Therefore, capital inflows in the form of portfolio investment, and external private debt are further critical for sustaining credit expansion. Both continuing relative increase in the risk appetite for emerging economies and the ongoing monetary expansion in advanced economies suggest that banks are unlikely to encounter constraints in accessing external funds over the upcoming period. Thus, the credit channel is expected to further support domestic demand in the period ahead. The pace of recovery would therefore continue to diverge between domestic and external demand, warranting the use of reserve requirements as an active policy tool.

Box 5.1

The Financial Contagion Effect in Foreign Exchange and Capital Markets: Case of Turkey

Financial contagion is defined as the case where the presence of a financial crisis in one country increases the probability of a crisis in another country. The literature discusses different definitions of contagion. One of the commonly cited definitions of contagion is shift contagion.[2] According to this definition, an increase in the simultaneous interaction between asset prices in times of crisis is due to a structural change in the effects of common shocks on the countries.[3]

Measures taken to ease the mid-crisis fragility arising from external shocks can be more effective if transmission channels are better understood. In other words, whether a financial shock is transmitted through crisis-specific channels or through channels effective at all times matters for the proper selection of policy measures. For example, empirical studies show that shock transmission in some economies during crisis episodes occurs through channels effective in all circumstances. In such cases, short-term measures (foreign exchange intervention, a tight monetary policy, etc.) taken to alleviate the fragility arising from external shocks are believed to be ineffective.[4]

The US sub-prime mortgage crisis that started in 2007-2008 adversely affected the entire global economy, and has become one of the most widely debated issues in the economics and finance literature. Most economies faced different degrees of exposure to the global crisis. The above framework requires a more detailed analysis on whether the exposure varied across countries. Therefore, based on the theoretical and empirical studies in the literature, this box tests whether the degree of Turkey's exposure to common shocks (shift contagion) has differed in the latest global crisis. By using data from 2002:01-2010:08, the method outlined in Gravelle *et al* (2006) was applied to a large group of countries including Turkey and periods of high volatility for common shock are defined as financial crisis.

---

[2] In addition shift contagion, one of the other most widely cited definitions in the crisis literature is pure contagion. Pure contagion is associated with the transmission of individual (idiosyncratic) shocks, while shift contagion aims to analyze the transmission of common shocks. For details on definitions and the transmission channels of contagion, see Dornbusch *et al* (2000), Moser (2003), and Pericoli and Sbracia (2003).

[3] Forbes and Rigobon (2001) proposed and promoted the term "shift contagion".

[4] See Forbes and Rigobon (2002).

In the model, asset returns in two different economies (Turkey and the other economy) are explained by the constant (μ_i), common shock (z_{ct}) and individual (idiosyncratic) shock (z_{it}) as shown in equation (1). The expected values and correlations for common and individual shocks are taken as zero. Therefore, the constant term corresponds to the expected return.

$$r_{it} = \mu_i + \sigma_{cit} z_{ct} + \sigma_{it} z_{it} \quad i = 1,2 \tag{1}$$

Coefficients σ_{cit} and σ_{it} shows the effect of structural shocks on returns. The variances of these shocks are normalized to one. Therefore, these coefficients can also be interpreted as the standard deviations of the shocks. Coefficients may vary during periods of high volatility. This variation in coefficients can be described using a Markov-switching model as follows:

$$\sigma_{cit} = \sigma_{ci}(1 - S_{ct}) + \sigma^{*}_{ci} S_{ct} \tag{2}$$

$$\sigma_{it} = \sigma_i(1 - S_{it}) + \sigma^{*}_{i} S_{it} \tag{3}$$

Here, $S_{it} = (0,1), i = 1, 2, c$ takes value 0 in normal periods, and 1 in periods of turbulence. Those marked with an asterisk are coefficients in the high-volatility regime. The model also enables the expected returns to vary over time depending on the regime of the common shock. For example, expected returns can be affected by changes in the risk premium depending on the level of volatility.

$$\mu_{it} = \mu_i(1 - S_{ct}) + \mu^{*}_{i} S_{ct} \qquad i = 1,2 \tag{4}$$

To examine how the interaction between two assets varies over time, common shock coefficient (σ_{cit}) is used. For example, assuming that the increase in the simultaneous increase in two assets during a financial crisis is caused by larger common shocks transmitted through standard channels, both σ_{c1t} and σ_{c2t} will take greater values in crisis episodes. However, both will increase in line with the size of the common shock, and the ratio of the coefficients ($\sigma_{c1} / \sigma_{c2}$) will not differ before and after the start of the crisis. However, as seen in shift contagion, assuming a structural change in the transmission of common shocks to two countries in times of crisis, the rate of coefficients will differ between normal periods and periods of crisis. This difference, i.e. shift contagion, is tested by the following null and alternative hypotheses:

$$H_0 \ : \ \frac{\sigma^{*}_{c1}}{\sigma^{*}_{c2}} = \frac{\sigma_{c1}}{\sigma_{c2}} \text{ ve } H_1 \ : \ \frac{\sigma^{*}_{c1}}{\sigma^{*}_{c2}} \neq \frac{\sigma_{c1}}{\sigma_{c2}} \tag{5}$$

The dataset consists of weekly stock and foreign exchange returns in Turkey, other emerging economies and in advanced economies. In order to focus on the effects of the recent global crisis and to exclude the late 1990s and early 2000s crises in emerging economies, the sample covers the period 2002:01-2010:08.

Forecasts for capital markets and exchange rates are summarized in Tables 1 and 2. Common shock coefficients[5] are significant for the countries and country groups in the sample, and tend to increase in periods of high volatility.[6]

Table 1. Stock Market Forecasts and Contagion Tests

Country/Country Groups	**σ_{c1}**	**σ_{c2}**	**σ_{c1}^{*}**	**σ_{c2}^{*}**	**LR-SC**
Europe	1.55^{***}	3.82^{***}	8.21^{***}	10.18^{***}	3.61^{*}
Euro Area	1.40^{***}	4.46^{***}	8.03^{***}	8.91^{***}	3.85^{**}
Emerging Europe	3.22^{***}	3.39^{***}	10.09^{***}	8.06^{***}	9.14^{***}
UK	1.80^{***}	2.79^{***}	8.51^{***}	9.80^{***}	4.45^{**}
Japan	1.30^{***}	2.48^{***}	3.26^{***}	5.43^{***}	0.01
Emerging Asia	1.99^{***}	2.84^{***}	6.06^{***}	8.39^{***}	0.03
ABD	1.47^{***}	2.54^{***}	6.48^{***}	10.73^{***}	0.00
Latin America	3.23^{***}	3.50^{***}	16.18^{***}	14.76^{***}	0.82

* , **, *** denote 1, 5 and 10 percent statistical significance, respectively.

Table 2. Foreign Exchange Market Forecast and Contagion Tests

Country/Country Groups	σ_{c1}	σ_{c2}	σ_{c1}^{*}	σ_{c2}^{*}	LR-SC
Euro Area	1.07***	0.59***	1.91***	0.67*	1.05
Emerging Europe					
Bulgaria	1.04***	1.61***	1.93***	0.69***	0.92
Hungary	1.04***	1.03***	2.99***	2.96***	0.00
Poland	1.19***	0.90***	3.70***	2.80***	0.00
Romania	0.66***	0.68***	2.43***	1.79***	1.53
UK	0.75***	0.75***	3.33***	3.17***	0.04
Japan	0.01	0.01	0.02	0.02	0.00
Emerging Asia					
Indonesia	0.31**	0.46***	0.98***	1.48***	0.00
Philippines	0.13*	0.83***	0.66***	1.25***	0.89
S. Korea	0.72	0.65	3.72***	3.26***	0.00
Latin America					
Brazil	1.00***	1.12***	3.23***	3.61***	0.00
Chile	1.09***	0.61***	4.13***	1.90**	0.01
Mexico	0.76***	0.85***	4.00***	3.37***	1.09
S. Africa	1.18***	1.27***	3.61***	3.96***	0.00

* , **, *** denote 1, 5 and 10 percent statistical significance, respectively.

---

[5] Common shock coefficients are σ_{c1} for other countries and σ_{c2} for Turkey.

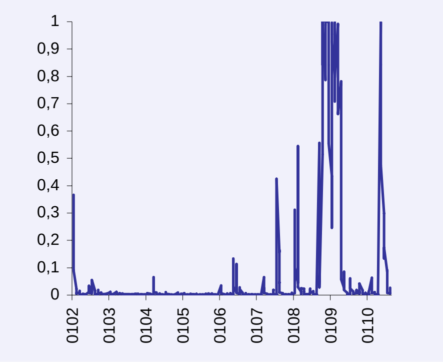
[6] One exception is the coefficients for Japan and Turkey's common exchange rate shock. These coefficients are not statistically significant during normal and crisis periods.

In order to understand if the changes in common shock coefficients point to a financial contagion, the last columns of the tables show shift contagion tests. Shift contagion tests indicate that Turkey differs significantly from the euro area, the UK and especially emerging Europe during periods of crisis affecting capital markets. Statistical analysis shows that the latest crisis episodes had a milder impact on Turkey's stock market than in Europe. For example, the ratio of $\sigma^{*}_{c1} / \sigma^{*}_{c2}$ calculated for emerging European and Turkish capital markets is 1.25, while the ratio of $\sigma_{c1} / \sigma_{c2}$ is 0.95, and these two ratios are statistically different from each other. On the other hand, results of shift contagion tests for foreign exchange markets show that the effects of these crisis episodes are not statistically different between Turkey and other countries. In other words, the response of Turkey's foreign exchange market to common shocks has not differed from other countries during periods of crisis.

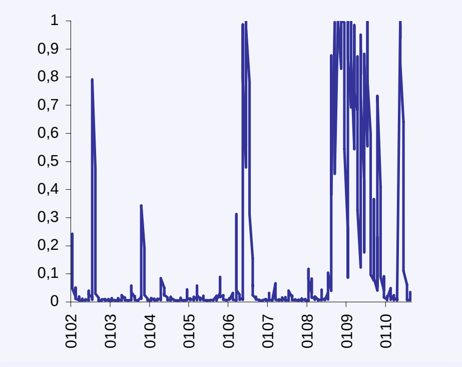
The crisis periods endogenously derived from the Markov regime-switching model are mainly the US sub-prime mortgage crisis and the European sovereign debt crisis. For example, Graphs 1 and 2 show the periods of high volatility of the common shock affecting capital markets in the euro area and Turkey, and that for emerging Europe and Turkey, respectively. [7] The periods of crisis as presented in Graph 2 are consistent with those shown in Graph1, but point to a larger number of common shocks. In addition, the effects of US sub-prime crisis on emerging economies seem to have been relatively long-lived.

In sum, the empirical findings contained in this box confirm that, having maintained a sound financial system owing to the structural measures adopted after the 2001crisis, Turkey has been relatively less affected by the recent global crisis.

Graph 1. Regime-Switching Probability of Common Shocks to Capital Markets in EU and Turkey



Graph 2. Regime-Switching Probability of Common Shocks to Capital Markets in Emerging Europe and Turkey



---

[7] Periods of high-volatility are periods with higher probability of regime-switching as determined by the model.

Bibliography

Dornbusch, R., Park, Y. and S. Claessens, 2000. Contagion: Understanding how it spreads. *The World Bank Research Observer*, 15 (2), 177-197.

Forbes, K.J. and R.J. Rigobon, 2001. Measuring contagion: Conceptual and Empirical Issues. *International Financial Contagion* (editors S. Claessens and K.J. Forbes), Kluwer Academic Publishers, Boston.

Forbes, K.J. and R.J. Rigobon, 2002. No contagion, only interdependence: Measuring stock market co-movements. *Journal of Finance*, 57 (5), 2223-2261.

Gravelle, T., Kichian, M., and J. Morley, 2006. Detecting shift-contagion in currency and bond markets. *Journal of International Economics*, 68 (2), 409-423.

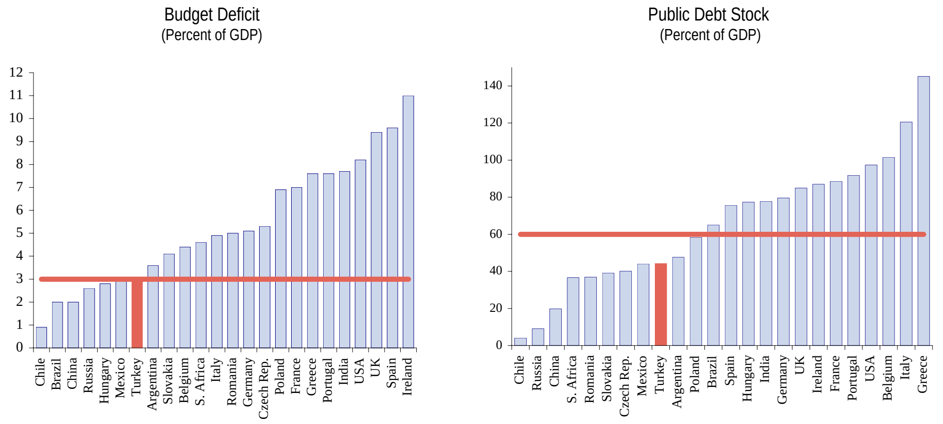
Moser, T., 2003. What is international financial contagion? International Finance, 6 (2), 157-178.

Pericoli, M. and M. Sbracia, 2003. A primer on financial contagion. *Journal of Economic Surveys*, Vol. 17 (4), 571- 607.

6. Public Finance

The global economic contraction slashing government revenues and the massive fiscal stimulus packages intended to alleviate the effects of the global crisis led to larger fiscal deficits and debt stocks on a global scale, especially in advanced economies. Emerging economies, including Turkey, are on a more stable fiscal footing, as they have adopted more modest fiscal stimulus measures, recovered more swiftly, and entered the global crisis with relatively smaller budget deficits and debt stocks (Graph 6.1).

Graph 6.1. Budget Deficit and Public Debt Stock Forecasts for 2011



Budget Deficit (Percent of GDP)

Public Debt Stock (Percent of GDP)

Source: IMF Fiscal Monitor, May 2010.

The faster-than-expected recovery in economic activity and falling interest expenditures improved Turkey's fiscal outlook in 2010. The increase in tax revenues amid rapid economic growth and tax adjustments have been the major driver of the improved budget balance, while the relative slowdown in the growth of non-interest expenditures as well as the steep decline in interest expenditures driven by falling domestic borrowing rates supported the budget balance.

The MTP for 2011-2013 was publicly announced in October. Fiscal indicators available in the MTP suggest that the fiscal outlook would continue to improve in the upcoming period thanks to the earlier and stronger-than-expected economic recovery (Table 6.1). The goal of fiscal policy during this period is to stabilize growth, increase employment and improve fiscal balances. Moreover, in compliance with this goal, budget deficit and debt-to-GDP ratio will be reduced over the next three years.

The MTP projects non-interest expenditures to be gradually reduced by 2010. In addition, interest expenditures are also expected to decrease amid falling domestic borrowing rates. Tax revenues are planned to be raised by legal and administrative measures aiming at enhancing tax audits and expanding the tax base. The gradual reduction of budget deficits may lead to a fall in the debt-to-GDP ratio by 2010 (Table 6.1).

Table 6.1. Central Government Budget Balance and EU-Defined Debt Stock
(Percent of GDP)

	2009	2010*	2011**	2012**	2013**
Budget Revenues	22.5	23.0	23.0	22.9	22.5
Budget Expenditures	28.0	27.0	25.7	25.3	24.2
Budget Balance	**-5.5**	**-4.0**	**-2.8**	**-2.4**	**-1.6**
Budget Balance (Program-Defined)	21.0	21.8	21.8	21.7	21.6
Non-Interest Expenditures (Program-Defined)	22.5	22.5	21.8	21.3	20.8
Primary Balance (Program-Defined)	**-1.5**	**-0.7**	**0.0**	**0.4**	**0.8**
Total Public Primary Balance (Program-Defined)	**-1.1*****	**-0.2**	**0.3**	**0.7**	**1.0**
EU-Defined Nominal Debt Stock	**45.5**	**42.3**	**40.6**	**38.8**	**36.8**

* Forecast.
** Target.
*** Estimate.
Source: MTP(2011-2013).

The MTP hints at a slight fiscal tightening for coming months. Therefore, the medium-term forecasts in the last chapter of this Report are based on the assumption that public expenditures would remain on track with the MTP targets, and the fiscal room created by a stronger-than-expected GDP growth would be used for paying off the public debt. In other words, our forecasts are based on an outlook of gradual fiscal tightening, and gradually decreasing contribution of government spending to domestic demand over the upcoming period. These developments suggest that the public sector is unlikely to put pressure on inflation over the medium term. However, in order to maintain fiscal discipline and to ensure that Turkey continues to have more positive readings than other economies, it is critical to strengthen the fiscal framework through institutional and structural reforms set out in the MTP.

6.1. Budget Developments

The central government budget produced a deficit of 21.3 billion TL in the first three quarters of 2010, while the primary balance delivered a surplus of 18 billion TL (Table 6.1.1). Higher tax revenues amid economic recovery and falling interest expenditures were the main drivers of the narrowing budget deficit. In addition, the relative slowdown in the growth of non-interest expenditures helped to bring the budget deficit down.

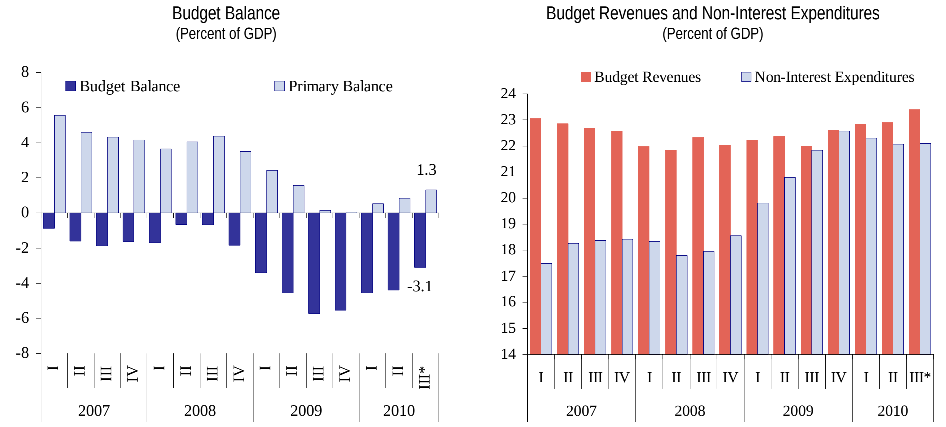
Table 6.1.1. Central Government Budget Aggregates
(Billion TL)

	January-September 2009	January-September 2010	Rate of Increase (Percent)	Actual/Target (Percent)
Central Government Expenditures	197.2	208.8	5.9	72.8
Interest Expenditures	45.5	39.3	-13.7	69.2
Non-Interest Expenditures	151.7	169.5	11.8	73.6
Central Government Revenues	156.4	187.5	19.9	79.2
I. Tax Revenues	125.3	153.8	22.7	79.6
II. Non-Tax Revenues	26.5	27.9	5.1	76.2
Budget Balance	**-40.8**	**-21.3**	**-**	**42.4**
Primary Balance	**4.7**	**18.0**	**282.7**	**274.2**

Source: Ministry of Finance.

The ratios of central government budget balance and primary budget balance to GDP increased sharply year-on-year during the third quarter of 2010, but were lower than in the same periods of 2007 and 2008 (Graph 6.1.1). The budget revenues to GDP ratio has been on a steady upward trend amid higher tax revenues since the fourth quarter of 2009, whereas the non-interest expenditures to GDP ratio is slightly down from end-2009 (Graph 6.1.1).

Graph 6.1.1. Central Government Budget



* Estimate.
Source: Ministry of Finance.

Central government primary budget expenditures increased by 11.8 percent year-on-year during the first three quarters of 2010. Among non-interest expenditures, current transfers and personnel expenditures were up by 10.7 and 11.3 percent, respectively, while purchase of goods and services decreased by 2.1 percent. This decline was mainly due to the fall in health expenditures of both public employees and green card holders, as these expenditures are now covered by the government’s health insurance plan. Furthermore, government premiums to the SSA increased by a whopping 56 percent, owing to premiums paid by public employees receiving general health care coverage since January of 2010. Meanwhile, capital expenditures rose by about 19 percent, suggesting that public investment would make a positive contribution to GDP growth in 2010 (Table 6.1.2).

Table 6.1.2. Non-Interest Expenditures
(Billion TL)

	January-September 2009	January-September 2010	Rate of Increase (Percent)	Actual/Target (Percent)
Non-Interest Expenditures	**151.7**	**169.5**	**11.8**	**73.6**
1. Personnel Expenditures	42.6	47.4	11.3	78.6
2. Government Premiums to SSA	5.1	8.0	56.0	72.2
3. Purchase of Goods and Services	17.3	17.0	-2.1	67.3
a) Defense-and Security	5.7	5.6	-2.2	61.0
b) Health Expenditures	5.1	3.8	-25.9	79.4
4. Current Transfers	70.2	77.7	10.7	76.0
a) Duty Losses	2.8	2.7	-4.6	62.3
b) Health, Pension and Social Benefits	41.3	43.1	4.5	74.7
c) Agricultural Support	3.8	5.0	28.9	88.4
d) Shares Reserved from Revenues	16.1	19.8	22.9	82.9
5. Capital Expenditures	10.3	12.2	18.7	64.6
6. Capital Transfers	2.2	2.8	29.7	82.9

Source: Ministry of Finance.

General budget revenues rose by 19.6 percent year-on-year during the first three quarters of 2010. Tax revenues and non-tax revenues were up by 22.7 and 5.1 percent, respectively (Table 6.1.3). The sharp rise in consumption-related tax revenues, partly driven by the base effects from the contraction in the first quarter of 2009, indicates that the economic recovery that started in the fourth quarter of 2009 continued over the first nine months of 2010. On the other hand, non-tax revenues grew only modestly year-on-year owing to lower enterprise and property revenues. The slow growth of non-tax revenues can be attributed to the base effect from the 1.3 billion TL worth of capital revenue transfer from the Unemployment Insurance Fund to the general budget in February 2009.

Table 6.1.3. General Budget Revenues
(Billion TL)

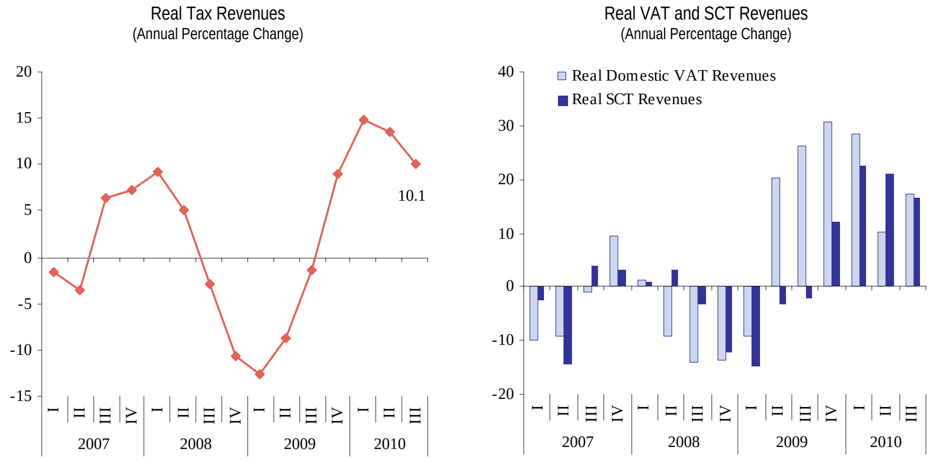
	January-September 2009	January-September 2010	Rate of Increase (Percent)	Actual/Target (Percent)
General Budget Revenues	**151.9**	**181.7**	**19.6**	**79.0**
I-Tax Revenues	**125.3**	**153.8**	**22.7**	**79.6**
Income Tax	28.5	29.9	4.8	72.0
Corporate Tax	12.1	15.0	24.1	83.2
Domestic VAT	15.2	19.5	28.4	86.2
Special Consumption Tax	31.7	41.3	30.3	75.5
VAT on Imports	18.6	25.5	37.3	84.8
II-Non-Tax Revenues	**26.5**	**27.9**	**5.1**	**76.2**
Enterprise and Property Revenues	8.5	8.3	-3.1	122.3
Interests, Shares and Fines	15.6	15.8	0.8	88.5
Capital Revenues	1.4	2.3	58.1	21.5

Source: Ministry of Finance.

The year-on-year contraction in real tax revenues that started in the third quarter of 2008 has been replaced by a rapid growth as of the fourth quarter of

2009 with the rebound in private consumption demand. After the base effect-driven sharp increase in the first quarter of 2010, real tax revenues grew by a modest 10.1 percent year-on-year during the third quarter amid the early 2010 lump-sum tax hike on fuel and tobacco (Graph 6.1.2). Accordingly, SCT revenues and domestic VAT revenues increased by 16.6 and 17.4 percent year-on-year, respectively, in real terms during the third quarter of 2010 (Graph 6.1.2). The rapid growth of tax revenues in the first half of 2010 has moderated over the second half of the year amid waning base effects. Nevertheless, given the vigorous economic recovery, tax revenues are expected to remain robust for the whole year and exceed MTP's projections.

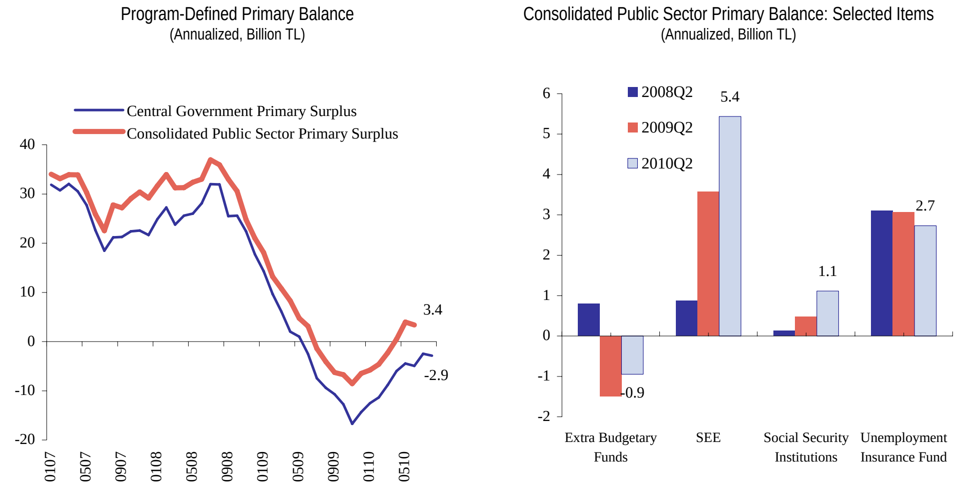
Graph 6.1.2. Real Tax Revenues



Source: Ministry of Finance.

The improvement in consolidated public sector and central government primary balance that started in the last quarter of 2009 continued into the first half of 2010 (Graph 6.1.3). However, this improvement was offset by increases in non-interest expenditures, largely triggered by the cost of closing the social security deficit in June 2010. Moreover, the primary balance of SEE, social security institutions and extra-budgetary funds improved year-on-year during the second quarter of 2010, while that of the Unemployment Insurance Fund slightly decreased (Graph 6.1.3).

Graph 6.1.3. Primary Balance



Program-Defined Primary Balance
(Annualized, Billion TL)

Consolidated Public Sector Primary Balance: Selected Items
(Annualized, Billion TL)

Source: Treasury.

Source: Treasury.

6.2. Developments in Debt Stock

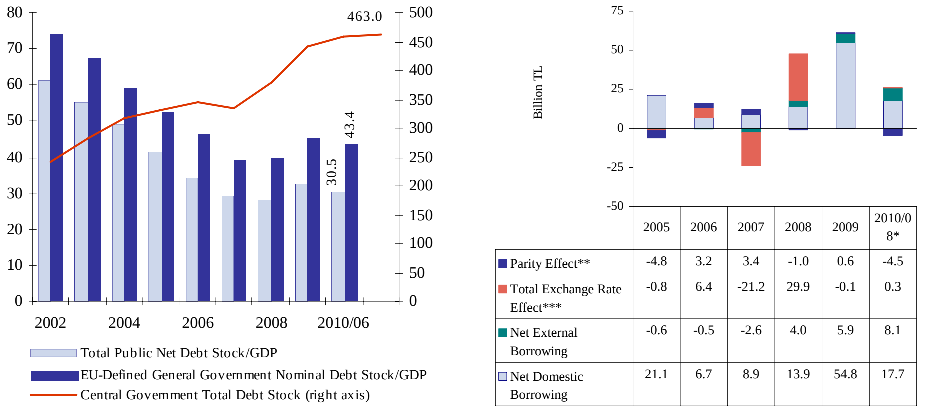
The faster-than-expected economic recovery since the last quarter of 2009 helped improve fiscal balances, leading to a sharp decline in the public sector borrowing requirement amid falling real interest rates, and thus, affecting public debt indicators favorably during the third quarter of 2010. This period was marked by improving public debt ratios, a significant fall in the real cost of borrowing, an extended average maturity of debt, and an increasing share of TL-denominated debt in overall debt.

The central government debt stock increased by a modest 4.9 percent from end-2009 to 463 billion TL in August 2010. Changes in net domestic debt and net external debt accounted for 17.7 and 8.1 billion TL, respectively, of the increase in central government debt. Meanwhile, with the significant appreciation of the US dollar against the euro during the first eight months of 2010, parity changes brought central government debt down by 4.5 billion TL (Graph 6.2.1). Thus, as of the first half of 2010, debt ratios are down from the end of 2009, and the first half of 2010. The total net public debt to GDP ratio and the EU-defined general government nominal debt-to-GDP ratio fell by 1.4 and 1.6 percentage points from the first quarter to 30.5 and 43.4 percent, respectively (Graph 6.2.1).

Graph 6.2.1. Public Debt Stock Indicators

Public Debt Stock Indicators

Analysis of the Changes in Central Government Debt Stock



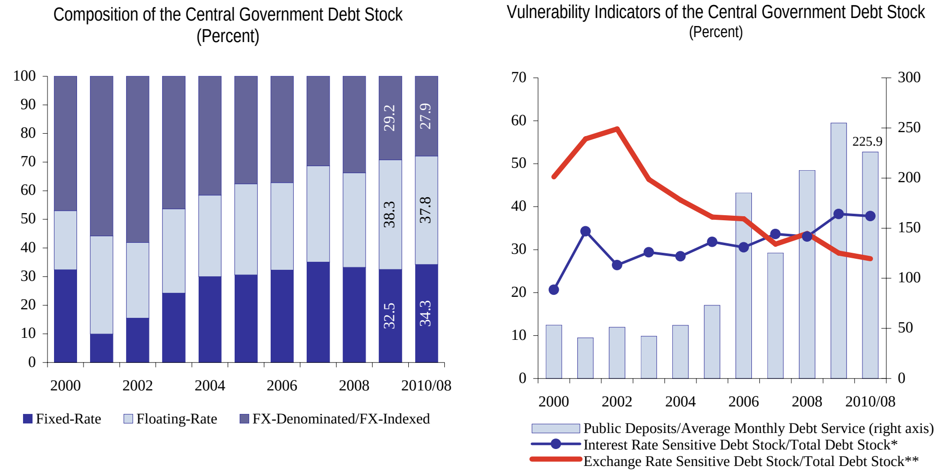
	2005	2006	2007	2008	2009	2010/08*
🟦 Parity Effect**	-4.8	3.2	3.4	-1.0	0.6	-4.5
🟥 Total Exchange Rate Effect***	-0.8	6.4	-21.2	29.9	-0.1	0.3
🟩 Net External Borrowing	-0.6	-0.5	-2.6	4.0	5.9	8.1
☐ Net Domestic Borrowing	21.1	6.7	8.9	13.9	54.8	17.7

*Changes compared to end-2009.
** Changes from fluctuations in USD/EUR and USD/SDR.
*** Changes from fluctuations in TL/USD.
Note: Changes in net debt denote changes adjusted for exchange rate and parity effect.
Source: Treasury, CBRT.

Source: Treasury, CBRT

With the debt and risk management policies in place since 2003 as part of the strategic criteria and the macroeconomic stability maintained so far, the vulnerability of the public debt portfolio to liquidity and exchange rate shocks has decreased considerably. As of August 2010, the share of exchange rate-sensitive (FX-denominated and FX-indexed) instruments in central government debt is lower than end-2009, while the share of fixed-rate instruments has increased (Graph 6.2.2). Depending on market conditions, the Treasury’s financing program for 2010 envisages to limit FX-denominated domestic borrowing to a maximum of 50 percent of FX-denominated domestic debt redemptions, and to secure TL-denominated borrowing with fixed-rate instruments. In this regard, the central government debt composition is in line with the Treasury's financing strategy.

Graph 6.2.2. Structure of the Central Government Debt Stock

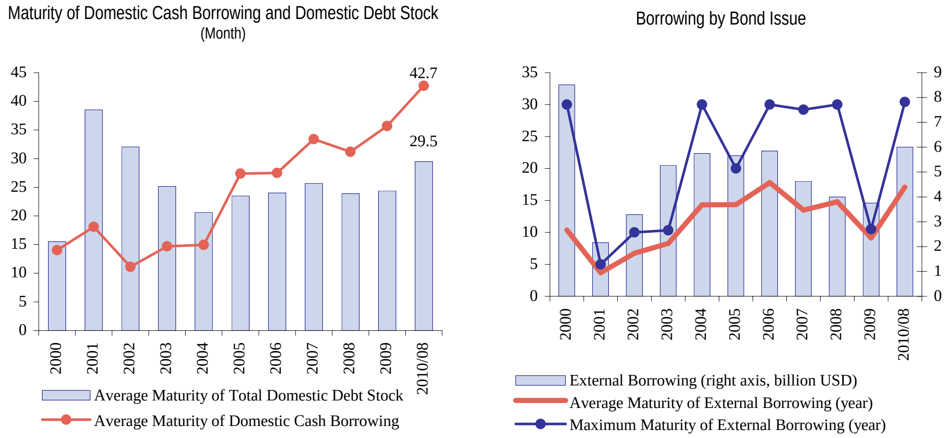

Composition of the Central Government Debt Stock (Percent)

Vulnerability Indicators of the Central Government Debt Stock (Percent)

* Debt stock sensitive to interest rate includes discounted securities with a maturity less than 1-year and government securities with floating rates.
** Debt stock sensitive to exchange rate includes external debt stock, FX-denominated and FX-indexed domestic debt stock.
Source: Treasury, CBRT.

Following the financing strategy intended to reduce the liquidity risk, the ratio of public deposits to average monthly debt service ended August 2010 at 225.9 percent (Graph 6.2.2). The average maturity of domestic cash borrowing was longer than the 2009 average, extending the average maturity of total domestic debt stock to 29.5 months in August 2010 (Graph 6.2.3). Moreover, bond issues yielded a 6 billion USD worth of long-term external debt in August 2010 with an average maturity of 17.1 years, increasing by 8 years from 2009 (Graph 6.2.3).

Graph 6.2.3. Maturity of Borrowing from Domestic and External Markets

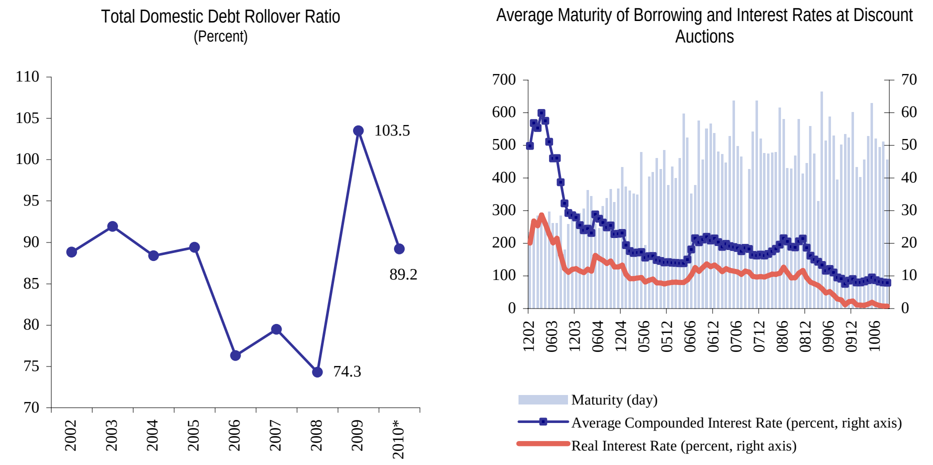

Maturity of Domestic Cash Borrowing and Domestic Debt Stock (Month)

Borrowing by Bond Issue

Source: Treasury, CBRT.

Having fallen rapidly since early 2009, the monthly average real interest rates at discount Treasury bill auctions declined to 0.7 percent in September 2010 (Graph 6.2.4). Concerns about public debt sustainability have eased substantially due to the longer average maturity of domestic borrowing with costs at recent historic lows.

Graph 6.2.4. Domestic Borrowing



* January-August 2010.
Source: Treasury, CBRT.

Hovering below 100 percent since 2002, the total domestic debt rollover ratio declined as low as 74.3 percent in 2008. However, as the high budget deficit of 2009 is largely financed by domestic borrowing, the domestic debt rollover ratio has climbed to 103.5 percent. Despite having fallen to 89.2 percent during the first eight months of 2010, the domestic debt rollover ratio is expected to increase slightly over the rest of the year (Graph 6.2.4). In fact, according to the Treasury's domestic borrowing strategy for October-December 2010, the domestic debt rollover ratio may increase to 93.4 percent in the last quarter.

7. Medium Term Projections

This Chapter firstly gives information about the CBRT's recent monetary policy strategy and related policy decisions. Secondly, it summarizes the underlying forecast assumptions and presents medium-term inflation and output gap estimates and the monetary policy outlook over a 3-year horizon.

7.1. Monetary Policy

The global crisis had major implications for economic policies. The most significant transformation regarding monetary policy has been the strengthened perception that central CBRTs need to be more sensitive about financial stability. Indeed, in the face of the financial crisis, central CBRTs have adopted policies, more explicitly observing financial stability.

Following this transformation, it was understood that policy rates intended to ensure price stability, the primary objective of central CBRTs, were not conducive to financial stability. Therefore, in addition to the supervision and regulation of financial institutions individually, the significance of bringing a macro perspective to financial stability by assessing systemic financial risks was also emphasized. In this context, the CBRT stated that alternative tools such as reserve requirements and liquidity management would be used more actively.

The monetary policy that is followed by the CBRT is based on a framework where price stability do not sideline but complement financial stability, and similarly, financial stability complements price stability. In fact, the presence of a smoothly functioning financial system enhances the monetary policy transmission mechanism. Therefore, as also stated in the CBRT Law, monetary policy tools are used so as to achieve both objectives.

However, the level of policy rates required to maintain price stability can be inconsistent with the level of policy rates required for financial stability. In this case, the policy rate set by the CBRT to ensure price stability may differ from the policy rate required for financial stability. Therefore, it would be more effective if monetary policy supports the efforts to establish financial stability by other tools.

In the period ahead, Turkish economy is expected to be in a new economic climate amid the global economic developments. The growing expectations of a continued weak economic activity and expansionary monetary policies in advanced economies have recently led to an increase in capital flows into emerging economies with sound economic fundamentals and a potential of rapid growth. As a result of increased capital inflows, emerging economies are faced with the risk of increased borrowing and asset price bubbles. Country-specific factors are likely to accentuate these effects in Turkey.

The recent stronger-than-expected recovery in economic activity, signals of upgrades from credit rating agencies, the easing political uncertainty in the post-referendum period and the updated Medium-Term Program implying further fiscal discipline indicate that Turkey would continue to attract capital inflows. Therefore, it is necessary to be well-prepared against future risks to financial stability. The recent measures regarding reserve requirements and the changes to liquidity management by the CBRT not only reflects the normalization of the monetary policy, but also serves as a preparation for the economic climate that is expected dominate the upcoming period.

Recent Monetary Policy Decisions

GDP grew sharply in the second quarter, and recent data indicate that economic activity continued to recover. Uncertainties about foreign demand continue to be critical, while domestic demand is relatively more robust. The capacity utilization rates in the manufacturing sector may remain below pre-crisis levels for some time. Although employment conditions continue to improve, unemployment rates are still elevated. Therefore, core inflation indicators are expected to remain on track with medium-term targets in coming months. Against this background, the CBRT maintained its stance of keeping policy rates constant for some time, and at low levels for a long period since the July Inflation Report.

These developments led to divergent growth rates in domestic and external demand. This divergence in the aggregate demand composition needs to be carefully evaluated in terms of risks to the current account balance and financial stability. As domestic demand grows more rapidly than external demand, the current account deficit is likely to expand further, deteriorating the balance sheets of domestic economic agents.

The CBRT stated that these developments have yet to raise significant concerns over financial stability, but have laid the ground for implementing the measures outlined in the "exit strategy", and largely completed the process of withdrawing temporary liquidity measures adopted in the crisis period. In this context, since market liquidity conditions have unfolded as expected, the spread between the 1-week auction rate and the overnight borrowing rate was raised by 25 basis points in September as the second stage of the technical rate adjustment. Furthermore, in order to help the Turkish lira market operate more effectively, the overnight borrowing rates were further lowered by 50 basis points in October.

With the objective to bring foreign exchange liquidity facilities back to pre-crisis levels at a gradual and measured pace, the CBRT increased the foreign exchange reserve requirement ratio to 11 percent with the regulations in July and September. Moreover, in view of the improved international liquidity conditions and the increased foreign exchange liquidity in the banking system, the CBRT has terminated its intermediary role in its Foreign Exchange Deposit Market as of October 15.

On the TL market side, the CBRT increased the reserve requirement ratio by 0.5 percentage points to 5.5 percent in September amid growing loans. Furthermore, the CBRT ended the interest payment on TL reserve requirements to ensure that required reserve ratios are actively used as a tool to reduce macroeconomic and financial risks in the future. Meanwhile, in view of the falling demand, the CBRT has terminated 3-month repo auctions as of October 15. With the completion of the gradual technical rate adjustment process within the exit strategy framework, since the main funding instrument is 1-week repo auctions, while short-term lending and borrowing facilities are overnight, the CBRT decided, in order to harmonize maturities of similar liquidity management tools, to make the repo facility, which is extended to primary dealers within the open market operations framework, be only available at overnight maturity starting from October 15, 2010.

Meanwhile, daily amount of foreign exchange to be bought at daily foreign exchange buying auctions was raised on August 2, in view of the stable growth of capital flows into Turkey. In order to boost foreign exchange reserves, benefit from capital flows more effectively and to enhance the resilience against volatile capital flows, the CBRT decided to change the method of foreign exchange buying auctions on October 1, to be effective as of October 4. In this regard, the CBRT will raise the daily amount to be bought at regular foreign exchange auctions in order to accelerate foreign exchange purchases in case liquidity conditions improve amid developments in global financial markets and capital inflows strengthen. In the event that the CBRT decides to accelerate foreign exchange purchases, the maximum additional amount to be bought in a week will be announced on the first working day of the respective week. The following table shows the additional and total amounts of foreign exchange bought at auctions in recent weeks (Table 7.1.1).

Table 7.1.1. Foreign Exchange Bought Through New Foreign Exchange Buying Auctions
(Million USD)

Period	Additional Amount	Total Amount
October 4–8, 2010	300	500
October 11–15, 2010	400	560
October 18–22, 2010	500	700
Total	1,200	1,760

Source: CBRT.

7.2. Current State of the Economy, Short-Term Outlook and Assumptions

The second-quarter GDP growth was slightly more robust than the growth outlook presented in the July Inflation Report. During this period, the economy recovered rapidly and exceeded its pre-crisis level. Public construction investments grew more markedly than in the previous quarter, while the GDP excluding public spending expanded at a more moderate and steady pace. Recovering at a stronger-than-expected pace, private investments provided the highest contribution to annual growth. The negative contribution of the net external demand remains limited compared to the previous period, remaining consistent with our projections.

Consumer price inflation was 0.8 percentage points above our July predictions in the third quarter. Despite the lower-than-expected increase in services and core goods prices, the higher-than-expected increase in food prices has led to such a deviation. In fact, non-food consumer prices were down 1 percent in the third quarter, bringing non-food inflation down to 6.9 percent year-on-year.

Having plunged to 5.62 percent in the second quarter, the annual rate of increase in food prices increased to 15.33 percent in the third quarter, considerably exceeding the forecasts in the July Inflation Report. The increase in unprocessed food prices was the main driver of this upsurge. After plummeting sharply in the previous quarter, unprocessed food prices experienced the steepest rise in the CPI history during the third quarter, largely due to prices of fresh fruit and vegetables, and partly due to the ongoing uptrend in meat prices.

Core goods price inflation was more favorable than predicted in the previous reporting period, owing to the high base effects from the partially withdrawn tax incentives on durable goods a year ago. Yet, adjusted for tax changes, annual core goods inflation continued to edge down.

Similarly, annual inflation in service prices continued to fall in the third quarter. As in the second quarter, the falling mobile call rates amid the increased competition in prepaid plans, and the ongoing, yet slowing decline in rents helped service prices inflation to remain on a downward track in the third quarter. Therefore, the apparent slowdown in core inflation indicators continued into the third quarter.

No significant changes were observed in international oil prices in the third quarter. Accordingly, Brent crude oil prices are expected to remain at around 80 USD per barrel in 2010 (Table 7.2.1).

Table 7.2.1. Sources of Revisions to Inflation Forecasts

<table>
<tr><th></th><th colspan="4">July Inflation Report</th><th colspan="4">October Inflation Report</th></tr>
<tr><td>Output Gap</td><td colspan="4">2010Q1:-4.7
2010Q2:-3.4
2010Q3: -2.6</td><td colspan="4">2010Q1:-4.7
2010Q2:-2.6
2010Q3: -2.0</td></tr>
<tr><td>Food Prices</td><td colspan="4">2010: %7.5
2011: %7
2012: %7</td><td colspan="4">2010: %10.5
2011: %7
2012: %7</td></tr>
<tr><td>Administered Prices and Taxes</td><td colspan="4">Adding 1.9 percentage points to 2010 inflation</td><td colspan="4">Adding 1.9 percentage points to 2010 inflation</td></tr>
<tr><td>Oil Prices</td><td colspan="4">2010: 80 USD/bbl
2011: 85 USD/bbl
2012: 90 USD/bbl</td><td colspan="4">2010: 80 USD/bbl
2011: 85 USD/bbl
2012: 90 USD/bbl</td></tr>
<tr><td rowspan="3">Euro Area Growth Forecasts*</td><td colspan="2">2010</td><td colspan="2">2011</td><td colspan="2">2010</td><td colspan="2">2011</td></tr>
<tr><td><i>CF</i></td><td><i>WEO</i></td><td><i>CF</i></td><td><i>WEO</i></td><td><i>CF</i></td><td><i>WEO</i></td><td><i>CF</i></td><td><i>WEO</i></td></tr>
<tr><td>1.1</td><td>1.0</td><td>1.4</td><td>1.3</td><td>1.6</td><td>1.7</td><td>1.4</td><td>1.5</td></tr>
</table>

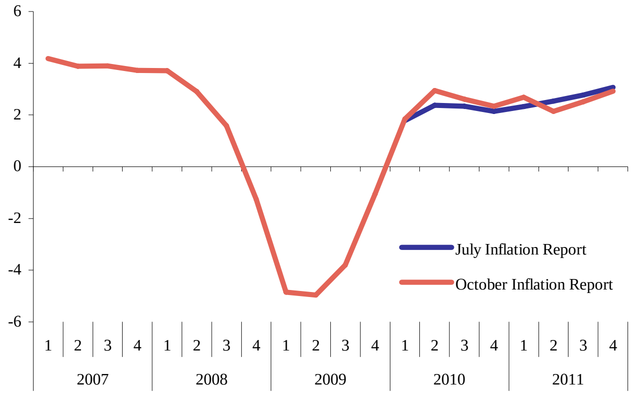
* CF: Consensus Forecasts, July 2010 and October 2010 Bulletins (average annual growth, percent);
WEO: World Economic Outlook, July 2010 and October 2010 issues.

Following the correction in fruit and vegetable prices in the last quarter, annual inflation in food prices is expected to be back on a downward trend in the upcoming period, yet remain above the July assumption as of end-2010. Accordingly, we revised our food price inflation assumption up from 7.5 to 10.5 percent for end-2010. Food price inflation assumptions for 2011 and 2012 remain at 7 percent (Table 7.2.1).

Turkey's easier acces to external finance on relatively robust economy is likely to further increase loanable funds, and ease credit conditions in the upcoming period. Moreover, the recovery in consumer confidence is expected to be sustained amid the favorable developments in the labor market and the decreased political uncertainty. Therefore, given the stabilizing effect of the monetary and fiscal policies, the stable recovery in domestic demand is expected to be more robust in the forthcoming period than envisaged in the July Inflation Report.

Yet, the global economic outlook suggests that risks on external growth remains. The significant divergence in the growth dynamics between advanced and emerging economies continued into the second quarter, with emerging economies being the major driver of the global growth. In other words, advanced economies that are Turkey's main export destinations are recovering more slowly. Indeed, the CBRT's export-weighted index of global economic activity shows that the growth rates of Turkey's trading partners are hovering below pre-crisis levels as of the second quarter (Graph 7.2.1).

Graph 7.2.1. Export-Weighted Global Economic Activity*
(Annual Percentage Change)



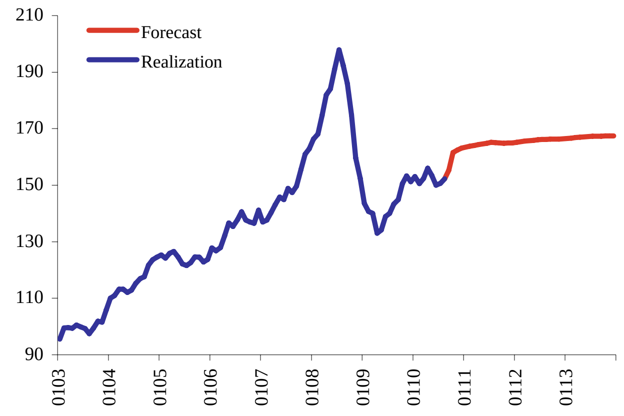
* For methodology, see Inflation Report 2010-II, Box 2.1 “Foreign Demand Index for Turkey”.
Source: Bloomberg, Consensus Forecasts, CBRT.

Heightened concerns over a sluggish US economic recovery led to a significant downward revision in end-2011 growth forecasts. On the euro area side however, despite Germany's robust performance, worries about the sustainability of export-led growth and the ongoing fragility of periphery economies caused the euro area growth forecasts to remain unchanged from the July Inflation Report. Accordingly, the forecast for the export-weighted global growth index, calculated from the growth forecasts of Turkey's export destinations, also remains largely unchanged for 2011. Therefore, our forecasts are produced on the assumption that external demand conditions would remain broadly unchanged from the previous reporting period.

Against this background, our forecasts are based on an outlook where aggregate demand conditions would provide less support to disinflation relative to the previous Report due to envisioned recovery in domestic recovery as opposed to weak external demand. Accordingly, our output gap forecasts underlying the medium-term assumptions are revised upward (Table 7.2.1).

The growing expectations of continued expansionary monetary policy in advanced economies have recently led to rapid increases in commodity prices. However, as of October, forward prices for crude oil prices appear to be in line with the July assumptions. Thus, our assumptions on oil prices are maintained from the previous reporting period (Table 7.2.1). In addition, import prices are expected to remain well above July assumptions in the last quarter, and rise gradually thereafter (Graph 7.2.2). Assumptions about commodity prices are based on forward commodity prices (Box 7.1).

Graph 7.2.2. Import Prices Index*



*2003=100.
Source: TurkStat, CBRT.

In the third quarter of 2010, the waning concerns over the European sovereign debt pushed investors toward risky assets, and portfolio capital flows into emerging economies accelerated. In this context, risk premiums have decreased across emerging economies, especially in Turkey where risk premium indicators performed even better and continued to hover below pre-crisis levels. The composition of global recovery is expected to shift in favor of emerging economies, while falling sovereign risk will help emerging economies attract more capital inflows in the period ahead.

The increased credibility of the CBRT as a consequence of the mid-crisis policies drove market rates further down amid the reduced risk premium in the third quarter. The third-quarter decline in market rates pass through to real interest rates and real medium-term rates remained at historically low levels. Moreover, the easing of the additional mid-crisis tightening in financial conditions allowed monetary policy to be more effective on the credit market, thereby strengthening the pass-through from falling real interest rates to loan rates.

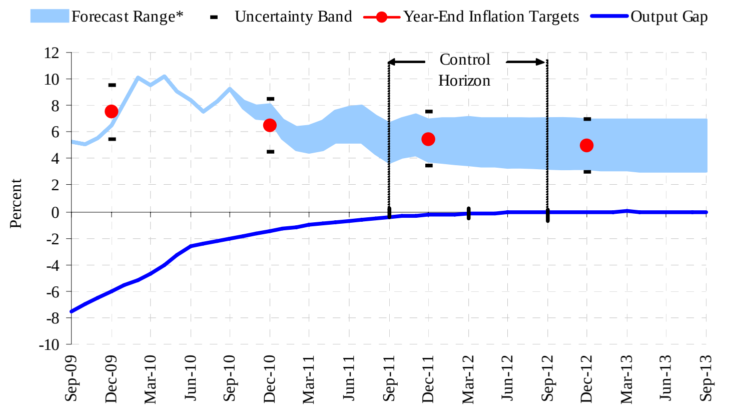
During this period, the number of sectors benefiting from credit expansion increased steadily, while banks have become more eager to lend. Furthermore, the loan demand for debt rollover declined, whereas the loan demand for investment purposes increased. Loan standards are expected to ease slightly in the period ahead. Accordingly, our forecasts are based on a macroeconomic framework with easing financial conditions, ongoing normalization in the loan market and continuing credit expansion.

Finally, the public finance outlook is based on the MTP projections updated in October. In this respect, public spending is anticipated to temporarily accelerate in the remainder of 2010, and the ratio of non-interest expenditures to GDP is expected to decline gradually by 2011. Within the countercyclical fiscal policy framework, any fiscal room arising from a stronger economic growth than envisioned in the MTP would be partly used to lower the public debt. Accordingly, our forecasts are based on outlook where debt-to-GDP ratio is expected to decline further, and the risk premium is expected to remain broadly unchanged over the forecast horizon. Moreover, tax adjustments are expected to be consistent with inflation targets and automatic pricing mechanisms.

7.3. Medium Term Outlook

Against this background, assuming that the measures outlined in our exit strategy are completed by the end of the year, and that policy rates are kept constant at current levels for some time followed by limited increases starting from the last quarter, with policy rates staying at single digits throughout the 3-year forecast horizon, the medium-term forecasts suggest that, with 70 percent probability, inflation will be between 7 and 8 percent with a mid-point of 7.5 percent at end-2010, and between 3.9 and 6.9 percent with a mid-point of 5.4 percent by the end of 2011. Furthermore, inflation is expected to decline to 5.1 percent by the end of 2012 (Graph 7.3.1).

Graph 7.3.1. Inflation and Output Gap Forecasts*



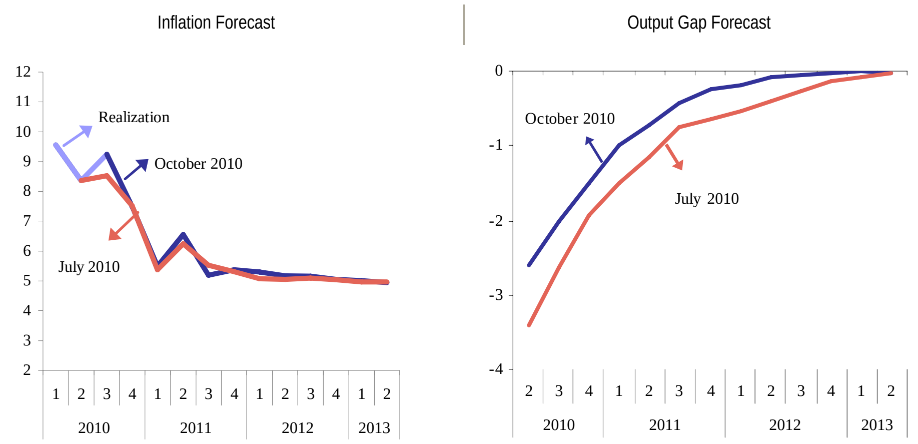
*Shaded region indicates the 70 percent confidence interval for the forecast.

The upward revision to food price assumptions for the end-2010 is compensated by the moderation in underlying inflation, and thus, the year-end inflation forecast is left unchanged from the July Inflation Report. Inflation is expected to slump significantly over the next two quarters, and will be back on track with medium-term targets by the second half of 2011 (Graph 7.3.2).

Our output gap forecasts based on the above assumptions are shown in Graph 7.3.1. Due to the moderate economic growth during the second half of 2010, output gap forecasts are revised up from the July Inflation Report. Following this upward revision, which is basically driven by the robust domestic demand, output gap made less contribution to disinflation compared to the previous reporting period. The resulting upward pressure on forecasts has been largely compensated by the decline in underlying inflation, and therefore, medium-term inflation forecasts and monetary policy stance remained broadly unchanged from the previous reporting period (Graph 7.3.2).

It should be emphasized that any new data or information regarding the inflation outlook may lead to a change in the monetary policy stance. Therefore, assumptions regarding the future policy rates underlying the inflation forecast should not be perceived as a commitment on behalf of the CBRT.

7.3.2. Comparison of July 2010 and October 2010 Forecasts



Inflation Forecast

Output Gap Forecast

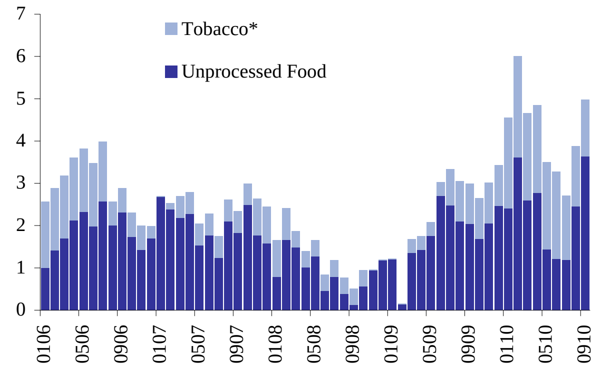
Source: TurkStat, CBRT.

Source: CBRT.

Although underlying inflation is likely to remain stable and on track with medium-term targets, base effects are expected to majorly determine inflation over the year ahead. A clear understanding of these effects would support the better interpretation of the developments in inflation, and enhance expectations management. Inflation is expected to fall remarkably in the last quarter of 2010, owing to the base effects from the sharp, year-ago increases in food and energy prices and the withdrrawn tax incentives on durable goods. Inflation will continue to slow markedly in the first two months of 2011 as the 1.9 percentage point contribution of early 2010 tax hikes will taper off to a large extent. In the rest of 2011, food price-driven base effects are likely to weigh on inflation, and therefore annual inflation is expected to rise in the second quarter of 2011, but fall again in the third quarter.

Factors beyond the control of monetary policy such as the volatility in unprocessed food prices and the tax adjustments on tobacco create a major forecast uncertainty by increasing the volatility in consumer inflation, preventing the correct interpretation of underlying inflation, and impeding expectation management (Graph 7.3.3). In this regard, public disclosure of assumptions regarding these items, and forecasts of inflation excluding these items is useful in terms of transparency and predictability.

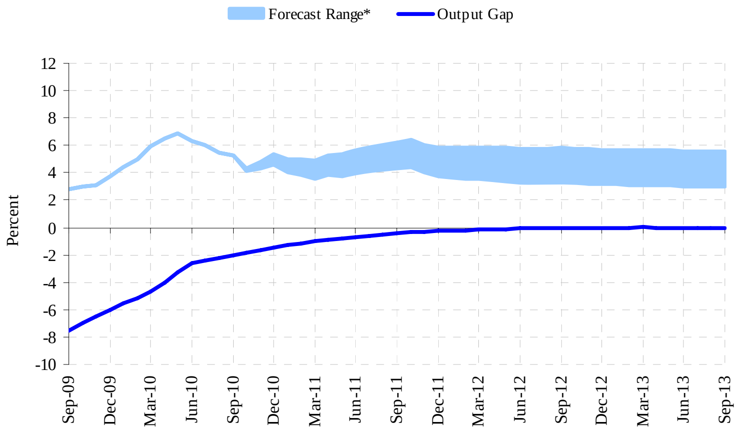
Graph 7.3.3. Contribution to Annual CPI Inflation



* Tobacco: Alcoholic beverages and tobacco.
Source: TurkStat, CBRT.

We assume that annual unprocessed food inflation would be 17 percent by the end of 2010 and 9 percent by end-2011 and end-2012. The annual rate of increase in tobacco and alcoholic beverages is expected to be 24 percent by the end of 2010, and remain on track with inflation targets in 2011 and 2012. Our inflation forecasts excluding unprocessed food, tobacco and alcoholic beverages are shown in Graph 7.3.4. Excluding these items, inflation is expected to remain volatile over the first half of 2011 due to base effects, and stabilize above 4 percent in the medium term.

Graph 7.3.4. Forecast for CPI Inflation Excluding Unprocessed Food and Tobacco**



*Tobacco: Alcoholic beverages and tobacco.
** Shaded region indicates the 70 percent confidence interval for the forecast.

Comparison of CBRT Forecasts with Inflation Expectations

It is critical that economic agents, with the awareness of temporary factors, focus on medium-term inflation trends, and therefore, take the inflation targets as a benchmark for contracts and plannings. In this respect, to serve as a reference guide, CBRT's current inflation forecasts should be compared to inflation expectations of other economic agents. Our inflation forecasts for end-2010 are largely consistent with current inflation expectations. However, longer term inflation expectations are about 1.5 percentage points above our revised inflation forecasts (Table 7.3.1).

Table 7.3.1. CBRT Inflation Forecasts and Expectations

	CBRT Forecast	CBRT Survey of Expectations*	Inflation Target**
2010 Year-end	7.5	7.6	6.5
12-month ahead	5.6	7.1	5.7
24-month ahead	5.1	6.7	5.1

*October 2010, second survey period results.

** Calculated by linear interpolation of year-end inflation targets for 2010, 2011 and 2012.

Source: CBRT.

7.4. Risks and Monetary Policy

Developments regarding global economic activity continue to be the main factor driving inflation dynamics and the monetary policy outlook. Recently, leading indicators on global economic activity continue to slow down, underscoring downside risks especially regarding the US economy. Furthermore, ongoing problems in credit, real estate, and labor markets across advanced economies and the uncertainties regarding the impact of fiscal consolidations suggest that the downside risks regarding the pace of global growth are likely to persist for some time. Should the global economy face a longer-than-anticipated period of anemic growth, the monetary tightening envisaged during the final quarter of 2011 under the baseline scenario may be postponed. Moreover, an outcome whereby global economic problems intensify and contribute to a contraction of domestic economic activity, may trigger a new round of easing. By contrast, monetary tightening may be implemented in an earlier period, should the recovery in economic activity turn out to be faster than expected.

The weakness in the global economic outlook not only delays the recovery in the external demand, but also, leads to continuing expansionary monetary policies across advanced economies, which in turn, fuel domestic demand through an acceleration of capital inflows to emerging markets. Should the capital inflows continue, the divergence in the growth rates between domestic and external demand is likely to intensify in the forthcoming period. Additional policy instruments, other than the short-term policy rates, would be needed to curb risks emanating from this channel. In this respect, should the divergence between domestic demand and external demand continue, use of other policy instruments such as reserve requirement ratios and liquidity management facilities would be warranted in order to address financial stability concerns stemming from rapid credit expansion and a deterioration in the current account balance.

Food and commodity price inflation has soared recently. Currently non-inflationary levels of output gap and the strength of the Turkish lira has been limiting the pass-through from food and commodity prices to the prices of core goods and services. However, potential second-round effects continue to be a risk if the increases in food and commodity prices persist. Should such a risk materialize and lead to a deterioration in the price setting behavior, which in turn, hampers achieving the medium-term inflation targets, an earlier-than-envisaged tightening in the baseline scenario would be considered.

The CBRT continues to monitor fiscal policy developments closely while formulating monetary policy strategy. Under the present circumstances, raising public savings, and thus, commitment to fiscal discipline is essential to contain the risks associated with widening current account deficit driven by the disparity between domestic and external demand. In this regard, the medium-term perspective as presented by the updated MTP is seen as an important step towards this direction. Accordingly, our revised forecasts are based on MTP projections for public spending, and tax adjustments are assumed to be consistent with the inflation targets and automatic pricing mechanisms. Should the fiscal stance deviate significantly from this framework, and consequently, have an adverse effect on inflation outlook, a revision in the monetary policy stance may be considered.

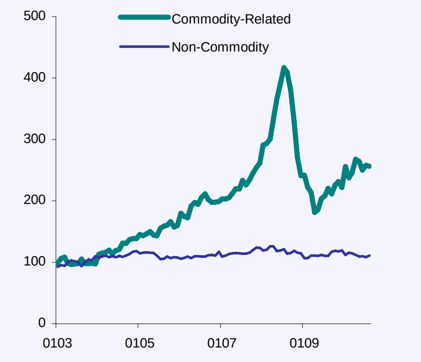
Monetary policy in the period ahead, will continue to focus on establishing price stability permanently. Fulfillment of the commitment to fiscal discipline and strengthening the structural reform agenda would support the improvement of Turkey's sovereign risk, and thus facilitate macroeconomic and price stability. In this respect, timely implementation of the structural reforms envisaged by the MTP and the European Union accession process remains to be of utmost importance.

Box 7.1

Import Price Projections

Projections on import prices are important inputs for inflation forecasts. However, the volatile nature of commodity prices, one of the most important determinants of the import prices index, impedes the import price projection. This box aims to make an import price projection for our medium-term inflation forecasts. Among sub-items of import prices, those sensitive to commodity prices are extremely volatile, while others remain flat (Garph 1). Hence, for import price projection, sub-items of imports are classified as commodity and non-commodity. In this context, for commodity-related sub-items, forward prices of relevant basic commodities are used, while the prices of non-commodity sub-items are assumed to remain flat (Graph 1).

Graph 1. Sub-Items of Import Prices Index



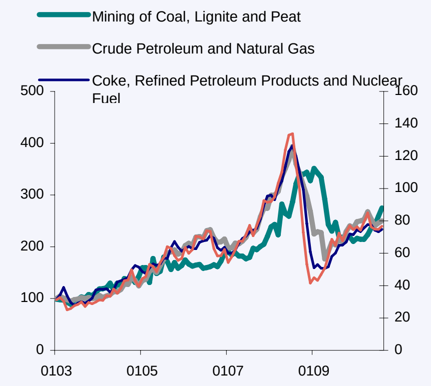
Source: CBRT.

The commodity-related sub-items and the relevant commodities of the TurkStat's monthly Import Unit Value Index (IUVI) are presented in Table 1. As seen in Graphs 2, 3 and 4, the index values of selected IUVI sub-items and the related commodity prices in Table 1 follow a similar pattern. Therefore, price projections for the sub-items in Table 1 are established by using the forward prices of the relavant commodities. However, as there are no forward market for each commodities, the prices of sub-items of the IUVI can only projected using prices of commodities such as oil, aluminum, corn and cotton for which a forward market exist. As the prices of commodities in a similar group generally move together, this assumption is not restrictive in practice.

Table 1. Sub-Items of IUVI and the Relevant Commodities

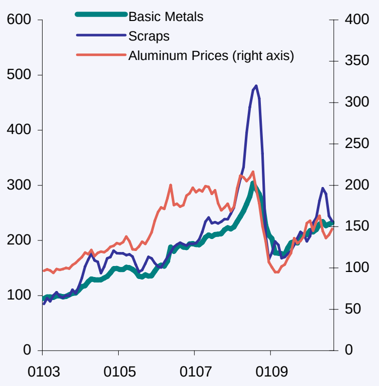
Subcategory	Relevant Commodity
Agriculture and Forestry	Corn
Food Products and Beverages	Cotton
Mining of Coal, Lignite and Peat Crude Petroleum and Natural Gas Coke, Refined Petroleum Products and Nuclear Fuel	Oil (Brent)
Basic Metals Scraps	Aluminum

Graph 2.Oil Prices (Brent) and Relevant IUVI Subcategories



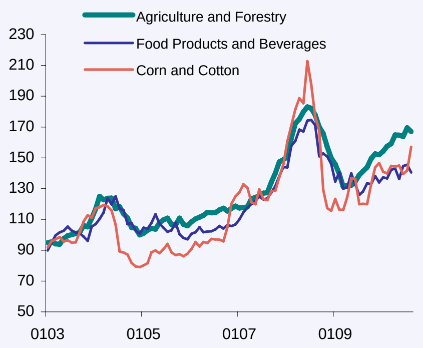
Source: CBRT.

Graph 3. Aluminum Prices and Relevant IUVI Subcategories



Source: CBRT.

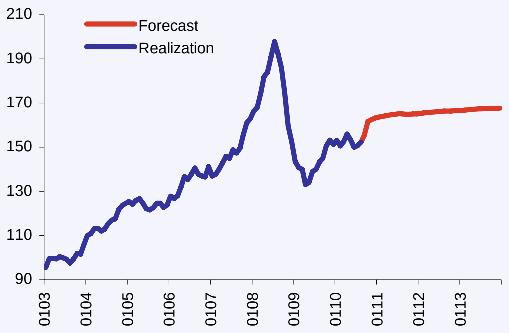
Graph 4. Weighted Corn and Cotton Prices and Relevant IUVI Sub-Itemss



Source: CBRT.

Given the historical price developments, the aggregated index derived from the IUVI's non-commodity sub-items is expected to remain horizontal. Finally, individual price projections for commodity-related sub-items and non-commodity sub-items are aggregated to make the import price projection (Graph 5). Amid expectations of a slowing increase in industrial metal and agricultural commodity prices for the upcoming period, and weak global growth, the forward prices of commodity prices are likely to pick up slightly. Accordingly, we assume that import prices would rise modestly over the forecast horizon.

Graph 5. Import Prices Forecast



Source: TurkStat, CBRT.

Graphs

1. Overview

Graph 1.1.1. Contribution to Annual Inflation 2
Graph 1.1.2. CPI by Categories 2
Graph 1.1.3. Core Inflation Indicators H and I 2
Graph 1.1.4. Core Inflation Indicators 2
Graph 1.3.1. Term Structure of Market Interest Rates 4
Graph 1.3.2. Medium-term Real Interest Rates Derived from Yield on GDBS 4
Graph 1.3.3. Consumer Loan Rates 5
Graph 1.3.4. Business Loan and Deposit Rates 5
Graph 1.3.5. Export-Weighted Global Economic Activity 6
Graph 1.3.6. Import Price Index 8
Graph 1.3.7. Inflation and Output Gap Forecasts 8
Graph 1.3.8. Comparison of July 2010 and October 2010 Forecasts 9

2. International Economic Developments

Graph 2.1.1. Aggregated Growth Rates 15
Graph 2.1.2. Export and GDP-Weighted Global Production Index 15
Graph 2.1.3. Unemployment in Advanced Economies 16
Graph 2.1.4. Industrial Production in Advanced and Emerging Economies 16
Graph 2.1.5. JP Morgan Global PMI 16
Graph 2.2.1. S&P Goldman Sachs Commodity Prices 17
Graph 2.2.2. Crude Oil (Brent) Prices 17
Graph 2.3.1. CPI Inflation in Advanced and Emerging Economies 18
Graph 2.3.2. CPI Inflation in Advanced and Emerging Economies 18
Graph 2.4.1. OIS Spread 19
Graph 2.4.2. CDS Rates in Selected Countries 20
Graph 2.4.3. Bond Spreads in Selected Countries over German Bonds 20
Graph 2.4.4. Global Risk Appetite 20
Graph 2.4.5. Exchange Rate and Risk Premium Indicators for Emerging Economies 20
Graph 2.4.6. Global Stock Markets 21
Graph 2.4.7. Net Capital Flows to Selected Emerging Economies 21
Graph 2.4.8. In the US Credit Developments 21
Graph 2.4.9. Credit Developments in the Euro Area 21
Graph 2.4.10. Fed Lending Survey 22
Graph 2.4.11. ECB Lending Survey 22
Graph 2.5.1. Policy Rate Changes in Advanced Economies 23
Graph 2.5.2. Policy Rate Changes in Emerging Economies 23
Graph 2.5.3. Expected Policy Rates for end 2010 24
Graph 2.5.4. Policy Rates in Advanced Economies 24
Graph 2.5.5. Policy Rates in Inflation-Targeting Emerging Economies 24

3. Inflation Developments

Graph 3.1.1. CPI by Categories 29
Graph 3.1.2. Contribution to Annual CPI Inflation 29
Graph 3.1.3. Food Prices 30
Graph 3.1.4. Prices of Animal Products 30
Graph 3.1.5. CPI and Food Prices Index 31
Graph 3.1.6. Energy and Oil Prices 31
Graph 3.1.7. Energy Prices 31
Graph 3.1.8. Prices of Core Goods 32
Graph 3.1.9. Prices of Services by Subcategories 33
Graph 3.1.10. Prices of Services by Subcategories 33
Graph 3.1.11. Prices of Services 34
Graph 3.1.12. Prices of Services Excluding Catering and Transportation 34
Graph 3.1.13. Core Inflation Indicators H and I 34
Graph 3.1.14. Core Inflation Indicators 34
Graph 3.1.15. Core Inflation Indicators H and I 35

Graph 3.1.16. CPI Diffusion Index 35
Graph 3.1.17. Core CPI H Diffusion Index 35
Graph 3.1.18. Agricultural Prices 36
Graph 3.1.19. Manufacturing Industry Prices and PMI Output Prices 36
Graph 3.2.1. 12- and 24-Month Ahead CPI Expectations 37
Graph 3.2.2. Inflation Expectations Curve 37
Graph 3.2.3. Distribution of 12-Month Ahead Inflation Expectations 37
Graph 3.2.4. Distribution of 24-Month Ahead Inflation Expectations 37

4. Supply and Demand Developments

Graph 4.1.1. Annual GDP Growth by Quarters and Contribution to GDP Growth from Demand Components 44
Graph 4.1.2. GDP 44
Graph 4.1.3. Production and Import Quantity Indices of Consumption Goods 45
Graph 4.1.4. Automobile Sales 45
Graph 4.1.5. Consumer Loans 45
Graph 4.1.6. Consumer Confidence 45
Graph 4.1.7. Production and Import Quantity Indices of Capital Goods 46
Graph 4.1.8. Private Investment to GDP 46
Graph 4.1.9. 12-Month Ahead BTS Expectations for Investment 46
Graph 4.1.10. Private Demand 46
Graph 4.1.11. Inventory Changes 47
Graph 4.1.12. BTS and PMI Inventory Indicators 47
Graph 4.2.1. Contribution to Annual GDP Growth from Exports, Imports and Net Exports 47
Graph 4.2.2. Exports and Imports of Goods and Services 47
Graph 4.2.3. Imports and Industrial Production Index for the Global Economy 48
Graph 4.2.4. Quantity Index for Exports Excluding Gold 48
Graph 4.2.5. 3-Month Ahead BTS Expectations for Export Orders 48
Graph 4.2.6. Quantity Index for Imports 49
Graph 4.2.7. Quantity Index for Imports by Subcategories 49
Graph 4.3.1. Non-Farm Employment 50
Graph 4.3.2. Unemployment 50
Graph 4.3.3. Industrial Employment and Production 51
Graph 4.3.4. Manufacturing Industry and PMI Employment Index 51
Graph 4.3.5. Industrial Employment and Hours Worked 51
Graph 4.3.6. Non-Farm Salary or Daily Wage Workers 51
Graph 4.3.7. Unemployed by Duration of Job Search 52
Graph 4.3.8. Job Opportunities and Unemployment Benefit Applications 52
Graph 4.3.9. Household Spending, Real Wages and Non-Farm Employment 53
Graph 4.3.10. Non-Farm Value Added and Employment 53

5. Financial Markets and Financial Intermediation

Graph 5.1.1. Risk Premium Indicators for Emerging Economies 59
Graph 5.1.2. Net Portfolio of Non-Residents 60
Graph 5.1.3. Growth and Policy Rates in Advanced and Emerging Economies 60
Graph 5.1.4. Policy Rate Expectations 61
Graph 5.1.5. Interest Rates 62
Graph 5.1.6. Term Structure of Market Interest Rates 62
Graph 5.1.7. Market Rates and Foreign Inflows 63
Graph 5.1.8. Day-to-Maturity of GDBS Holdings 63
Graph 5.1.9. Medium-term Real Interest Rates Derived from Yield on GDBS 64
Graph 5.1.10. Annual Growth of the Real Monetary Base 65
Graph 5.1.11. Performance of the Turkish Lira 65
Graph 5.1.12. Exchange Rate Stability Indicators 66
Graph 5.1.13. Market Liquidity 67
Graph 5.2.1. Real Sector Loans 69
Graph 5.2.2. Domestic and External Business Loans 69
Graph 5.2.3. Business Loans by Firm Size 69
Graph 5.2.4. Loan Diffusion Index 69

Graph.5.2.5. Business Loan Standards 70
Graph 5.2.6. Business Loan and Deposit Rates 70
Graph 5.2.7. Factors Affecting Demand for Corporate Loans 70
Graph 5.2.8. Consumer Loans 71
Graph 5.2.9. Consumer Loan Rates 71
Graph 5.2.10. Spread Between Loan Rates and Cost of Financing 71

6. Public Finance

Graph 6.1. Budget Deficit and Public Debt Stock Forecasts for 2011 79
Graph 6.1.1. Central Government Budget 81
Graph 6.1.2. Real Tax Revenues 83
Graph 6.1.3. Primary Balance 84
Graph 6.2.1. Public Debt Stock Indicators 85
Graph 6.2.2. Structure of the Central Government Debt Stock 86
Graph 6.2.3. Maturity of Borrowing from Domestic and External Markets 86
Graph 6.2.4. Domestic Borrowing 87

7. Medium-Term Projections

Graph 7.2.1. Export-Weighted Global Economic Activity 93
Graph 7.2.2. Import Prices Index 95
Graph 7.3.1. Inflation and Output Gap Forecasts 97
Graph 7.3.2. Comparison of July 2010 and October 2010 Forecasts 98
Graph 7.3.3. Contribution to Annual CPI Inflation 99
Graph 7.3.4. Forecast for CPI Inflation Excluding Unprocessed Food and Tobacco 99

Tables

2. International Economic Developments

Table 2.1.1. Growth Forecasts 15
Table 2.3.1. Inflation Forecasts 19

3. Inflation Developments

Table 3.1.1. Prices of Goods and Services 32
Table 3.1.2. Prices of Core Goods 33

6. Public Finance

Table 6.1. Central Government Budget Balance and EU-Defined Debt Stock 80
Table 6.1.1. Central Government Budget Aggregates 81
Table 6.1.2. Non-Interest Expenditures 82
Table 6.1.3. General Budget Revenues 82

7. Medium-Term Projections

Table 7.1.1. Foreign Exchange Bought through New Foreign Exchange Buying Auctions 92
Table 7.2.1. Sources of Revisions to Inflation Forecasts 93
Table 7.3.1. CBRT Inflation Forecasts and Expectations 100

Boxes in Previous Inflation Reports

2010-III

2.1. Determinants of the Monetary Stance in Emerging Economies During the Second Quarter of 2010
3.1. Underlying Inflation
4.1. Capacity Utilization Rates for Domestic and External Markets
4.2. Observations on Employment Conditions
4.3. A Comparison of Non-Farm Employment and Production During Two Crisis Episodes: 2000-2001 and 2008-2009
6.1. Developments in Budget Deficit and Public Debt Stock: An International Comparison
7.1. Monetary Policy Stance During September 2008 – July 2010

2010-II

2.1. Foreign Demand Index for Turkey
3.1. The Role of Meat Prices in Food Price Inflation Spike
4.1. Global Crisis, Foreign Demand Shocks and the Turkish Economy
5.1. The Impact of Monetary Policy Decisions on Market Returns
5.2. Post-Crisis Exit Strategy of Monetary Policy in Turkey
6.1. Fiscal Rule: General Framework and Planned Practice in Turkey
7.1. Communication Policy and Inflation Expectations Following Recent Inflation Developments

2010-I

1.1. A backward Glance on end-2009 Inflatİon Forecasts
3.1. Volatility of Unprocessed Food Inflation in Turkey: A Review of the Current Situation
3.2. Base Eeffects and Their Implications for the 2010 Inflation Outlook
5.1. The Impact of Central bank’s Purchases of Government Securities on Market Returns
5.2. Banks’ Loans Tendency Survey and Changes in Loans
5.3. The Financial Structure of a Firm and the Credit Transmission Mechanism
7.1. Inflation Expectations Before and After the Target Revision in 2008

2009-IV

2.1. Risk of Deflation in the US and the Euro Area
2.2. Capital Flows to Emerging Markets: IIF Forecasts for 2009-2010
3.1. The Course of Durable Goods Prices in 2009: The Impact of Tax Adjustments
4.1. Fınancial Stress and Economic Activity
5.1. Banks' Loans Tendency Survey and Changes in Loans

2009-III

2.1. Global Recessions and Economic Policies
3.1. The Impact of Temporary Tax Adjustments on Consumer Prices
4.1. Measuring Underlying Exports: Are Core Indicators Needed?
5.1. Mid-Crisis Impact of Country Risk on Policy Rates
6.1. The Fiscal Implications of the Global Crisis on Advanced and Emerging Economies

2009-II

1.1. Measures Taken by the Central Bank of the Republic of Turkey to Reduce the Impact of the Global Crisis
1.2. The Front-Loaded Monetary Policy since November 2008 and Its Effects
2.1. Expectations About Global Economy
4.1. Monitoring the Trends in Employment: Do We Need Core Measures?
5.1. Changes in the Risk Premium for Emerging Markets and Policy Rate Decisions
5.2. Global Crisis and Financial Intermediation

2009-I

2.1. Expectations About Global Economy
7.1. Accountability Mechanisms in Inflation-Targeting Countries

2008-IV

3.1. Crop Production Forecasts and Price Developments
3.2. An Empirical Analysis of Oil Prices
4.1. Sources of Growth in the Turkish Economy

2008-III

2.1. Recent Developments in Global Inflation and Monetary Policy Measures
3.1. Medium-term Forecasts for Food Prices
4.1. Is There Any Increase in Economic Activity in the First Quarter of 2008? The Impact of Seasonal Variations and Working Days on National Accounts
5.1. Changes in Liquidity and Monetary Policy Reference Rate

2008-II

2.1. Recent Developments in Global Inflation
3.1. Recent Food Price Developments
4.1. Update of National Accounts Data
5.1. An Overview on Risk remium Volatility and Risk Appetie Elasticity in Emerging Economies

2008-I

2.1. A Brief Overview of the Appreciation of Yuan and Its Likely Results

2007-IV

5.1. Yield Curves and Monetary Policy Decisions

2007-III

3.1. Recent Price Developments in Agricultural Raw Materials
4.1. Structural Change in the Export Performance of Turkey After 2001

2007-II

3.1. Wages and Services Inflation
5.1. Information Contained in the Inflation-indexed Bonds about Inflation Expectations

2007-I

3.1. The Course of Durable Goods Prices after May
3.2. Chinese Effect on Domestic Prices
6.1. Treasury's 2007 Financing Program

2006-IV

2.1. Results from a Structural VAR Analysis of the Determinants of Capital Flows into Turkey
2.2. Commodity Markets
7.1. Inflation Targeting Regime, Accountability and IMF Conditionality

2006-III

3.1. Behavior of Price Level and Inflation in Case of Likely Shocks
4.1. Results of the Survey on Pricing Behaviour of Firms
4.2. Rise in International Energy Prices and Its Effects on Current Account Deficit
5.1. Debt Structures of Companies in Turkey

2006-II

2.1. International Gold Price Developments and Their Effects on the CPI
3.1. Relative Price Differentiation, Productivity and the Real Exchange Rate
6.1. Inflation Targeting Regime, Accountability and IMF Conditionality

2006-I

2.1. The use of Special CPI Aggregates in the Measurement of Core Inflation
2.2. The Exchange Rate Pass-through in Turkey: Has the Pass-through Changed with the New CPI Index?
3.1. Productivity Developments in the Manufacturing Industry
5.1. Commitments about Fiscal Policy
6.1. Inflation Targeting Strategy and Accountability

Abbreviations

BTS	Business Tendency Survey
CBRT	Central Bank of the Republic of Turkey
CCS	Cross Currency Swaps
CDS	Credit Default Swap
CEEMEA	Central Eastern Europe, Middle East and Africa
CF	Consensus Forecasts
Committee	Monetary Policy Committee
CPI	Cosumer Price Index
CUR	Capacity Utilization Rate
ECB	European Central Bank
EMBI	Emerging Markets Bonds Index
EU	European Union
GDBS	Government Domestic Borrowing Securities
GDP	Gross Domestic Product
IFS	International Financial Statistics
IMF	International Monetary Fund
ISE	Istanbul Stock Exchange
MSCI	Morgan Stanley Capital International
MTP	Medium-Term Program
OECD	Organization for Economic Co-Operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PMI	Purchasing Managers Index
SCT	Special Consumption Tax
SEE	State Economic Enterprises
SME	Small and Medium-Sized Enterprises
SSA	Social Security Agency
TL	Turkish Lira
TURKSTAT	Turkish Statistical Institution
UK	United Kingdom
US	United States
USA	United States of America
VAT	Value Added Tax
WEO	World Economic Outlook

2010 Calendar of MPC Meetings, Inflation Reports and Financial Stability Reports		
Monetary Policy Meeting	Inflation Report (in Turkish)	Financial Stability Report (in Turkish)
January 14, 2010 (Thursday) February 16, 2010 (Tuesday)	January 26, 2010 (Tuesday)	
March 18, 2010 (Thursday)		
April 13, 2010 (Tuesday)	April 29, 2010 (Thursday)	
May 18, 2010 (Tuesday)		May 26, 2010 (Wednesday)
June 17, 2010 (Thursday)		
July 15, 2010 (Thursday)	July 27, 2010 (Thursday)	
August 19, 2010 (Thursday)		
September 16, 2010 (Thursday)		
October 14, 2010 (Thursday)	October 26, 2010 (Thursday)	
November 11, 2010 (Thursday)		
December 16, 2010 (Thursday)		December 7, 2010 (Tuesday)