CENTRAL BANK OF
THE REPUBLIC OF TURKEY

inflation report
2010-II

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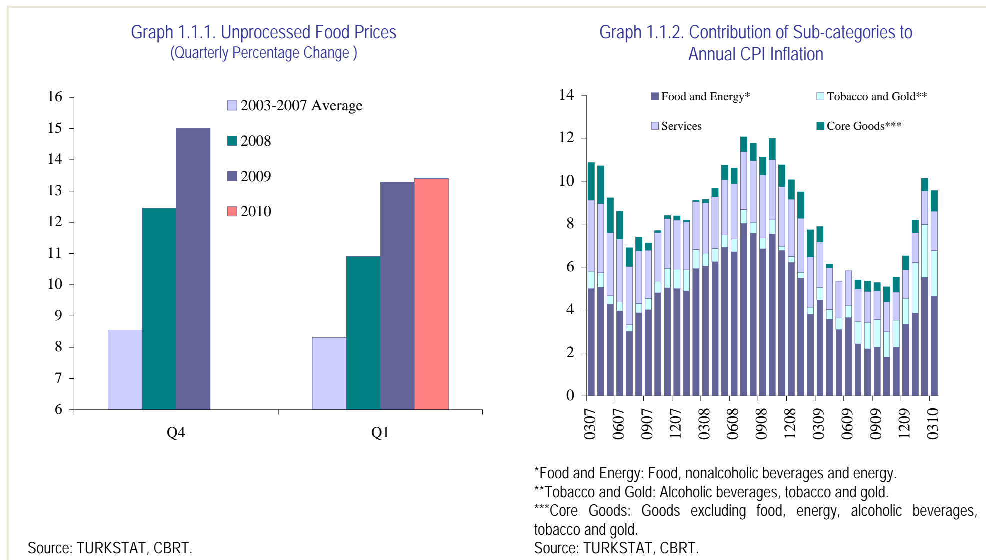
1. Overview

The recovery in global economic activity and the normalization of the international financial system have continued during the first quarter of 2010. However, distressing levels of government debt, lingering problems across credit markets, and high levels of unemployment rates, all suggest that completely resolving problems across developed economies is not likely over the near term. Although the recovery across developing economies seems to be stronger, ongoing problems across developed economies—with their prominent role in global trade—still create downside risks for developing economies. Moreover, constraints related to external finance remains as a potential factor that might delay the recovery in many developing economies.

Notwithstanding the lingering uncertainties regarding medium-term growth, developing economies were faced with inflationary pressures stemming from a relatively rapid rebound in economic activity, base effects, and ongoing increases in commodity prices. Since the last quarter of 2009, the rise in inflation in Turkey was even more pronounced, owing to additional factors such as administered price hikes and marked increases in unprocessed food prices.

1.1. Inflation Developments

Inflation continued to rise during the first quarter of 2010. The increase in inflation can largely be attributed to the January tax hikes in fuel, alcoholic beverages and tobacco products. In addition, the rate of change in unprocessed food prices displayed another historically high print in the first quarter of 2010, after having registered a historical peak in the last quarter of 2009 (Graph 1.1.1). Accordingly, the contribution of food, energy and tobacco products to annual inflation has reached 6.7 percentage points (Graph 1.1.2). These developments, combined with the low base of the first quarter of 2009 (resulting from weak domestic demand and falling commodity prices) pushed inflation up by around 3 percentage points to 9.56 percent during the first quarter.



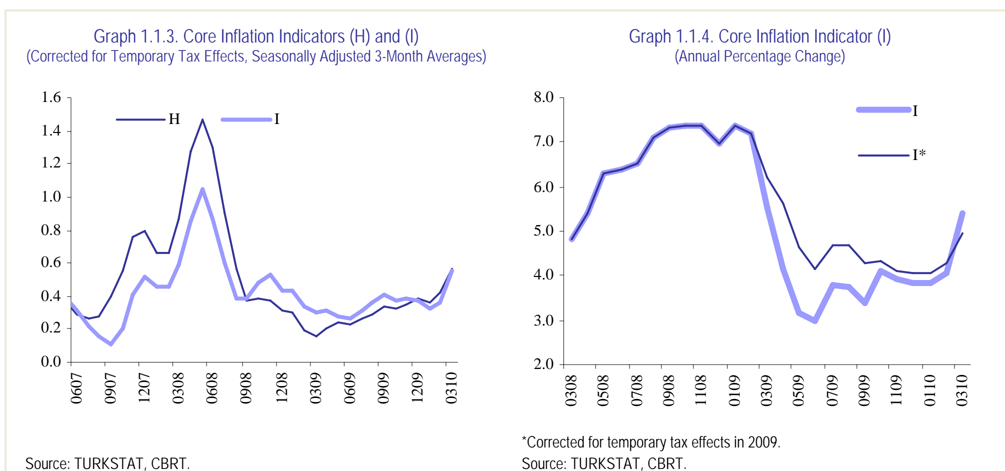
Graph 1.1.1. Unprocessed Food Prices
(Quarterly Percentage Change)

Source: TURKSTAT, CBRT.

Graph 1.1.2. Contribution of Sub-categories to Annual CPI Inflation

*Food and Energy: Food, nonalcoholic beverages and energy.
**Tobacco and Gold: Alcoholic beverages, tobacco and gold.
***Core Goods: Goods excluding food, energy, alcoholic beverages, tobacco and gold.
Source: TURKSTAT, CBRT.

The rise in core inflation during the first quarter of the year can be largely attributed to cost push factors and base effects, rather than demand pressures (Graph 1.1.3). The low base of the previous year caused by the tax cuts in durable goods and the inventory destocking process have been major factors explaining the increase in core inflation indicators. Moreover, the impact of soaring food and energy prices on catering and transport services has become more significant. Consequently services inflation, which has been declining since the third quarter of 2008, increased by 1.9 percentage points during the first quarter of 2010. Accordingly, annual inflation measured by the core indices H (CPI excluding energy, unprocessed food, alcoholic beverages and tobacco, and gold) and I (H index excluding processed food) increased to 5.01, and 5.41, respectively (Graph 1.1.4).



Graph 1.1.3. Core Inflation Indicators (H) and (I)
(Corrected for Temporary Tax Effects, Seasonally Adjusted 3-Month Averages)

Source: TURKSTAT, CBRT.

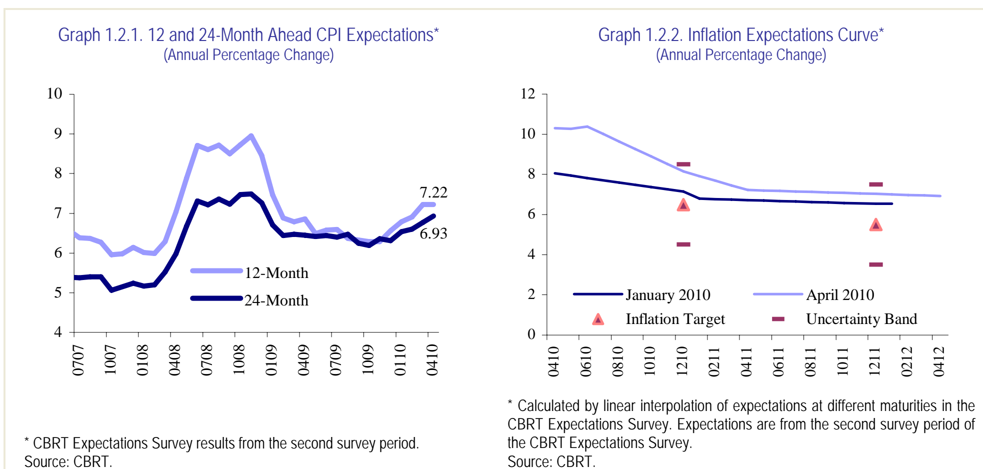
Graph 1.1.4. Core Inflation Indicator (I)
(Annual Percentage Change)

*Corrected for temporary tax effects in 2009.
Source: TURKSTAT, CBRT.

1.2. Monetary Policy

Anticipating that inflation would decrease sharply following the last quarter of 2008, the Central Bank of the Republic of Turkey (CBRT) focused on alleviating the potentially harsh impact of the global financial crisis on the domestic economy. In this respect, the CBRT has delivered sizeable cuts in policy rates, while providing liquidity support to facilitate the smooth operation of credit markets. Accordingly, policy rates were cut by 1025 basis points between November 2008 and November 2009. Considering the favorable developments in credit markets and the moderate recovery in the economic activity, the Monetary Policy Committee (the Committee) has kept policy rates constant since December 2009.

The significant increase in inflation since the last quarter of 2009, has affected inflation expectations adversely (Graph 1.2.1). Expectations shifted up across all horizons, and the gap between medium-term expectations and the inflation targets widened further (Graph 1.2.2). Considering that elevated levels of inflation—albeit temporary—are having an adverse impact on expectations, the Committee signaled a more cautious stance since March. In this respect, observing the risks regarding pricing behavior and the normalization in money and credit markets, the Committee decided to gradually remove the liquidity measures implemented during the crisis (Box 5.2). However, the Committee also noted that, despite recent improvements, lingering problems across the global economy have yet to be resolved completely. Accordingly, the Committee stated that it may be necessary to maintain the current policy rate for some time, and to keep rates at low levels for a long period.



Graph 1.2.1. 12 and 24-Month Ahead CPI Expectations*
(Annual Percentage Change)

* CBRT Expectations Survey results from the second survey period.
Source: CBRT.

Graph 1.2.2. Inflation Expectations Curve*
(Annual Percentage Change)

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

1.3. Outlook for Inflation and Monetary Policy

Monetary and Credit Conditions

Following the policy rate cuts which started in November 2008, market interest rates, both in nominal and real terms, have declined to historical lows since the second half 2009. Low policy rates and supportive liquidity measures have continued to affect money and credit markets. In this period, easing global liquidity conditions and improving risk appetites have strengthened the expansionary impact of monetary policy.

The healthy state of the Turkish banking system is conducive for a rapid recovery in credit volumes. In fact, credit markets have been increasingly supportive of domestic activity in the recent period. Consumer loans have continued to recover while commercial loans have accelerated. Credit extended to small- and medium-sized enterprises has also began to recover after a long period of stagnation, indicating the support of easy monetary conditions on economic activity.

Assuming that external finance conditions continue to ease steadily and that the fiscal stance does not crowd out domestic funding, credit volumes should continue to expand in the forthcoming period. However, expectations that unemployment rates will remain at high levels for a long period, and ongoing problems in the global economy are still potential factors that might restrain credit expansion.

Outlook for Aggregate Demand

The national accounts series regarding the last quarter of 2009 suggests that private demand has continued to recover gradually. Government consumption, on the other hand, expanded at a faster pace than envisaged. Ongoing problems in the global economy have restrained external demand, while inventories have started to accumulate along with the recovery in domestic demand, albeit at a moderate pace.

Data releases regarding the first quarter of 2010 suggest that the recovery in domestic demand has become more robust and broad based. By contrast, there is no significant improvement in external demand. The global growth outlook continues to dampen economic activity, particularly in sectors that are relatively more sensitive to foreign demand, while the expansionary impact of

fiscal and monetary policy has been increasingly noticeable on domestic demand. Yet, the slow pace of inventory accumulation suggests that aggregate demand uncertainty continues to be an important factor. Therefore, it is expected that the recovery in domestic demand would be gradual and aggregate demand conditions would continue to support disinflation for a while.

The weak course of external demand continues to restrain economic activity and employment growth through its impact on industrial production. Despite the recently observed gradual recovery, indicators such as capacity utilization rates and per capita hours worked across industries suggest that resource utilization remains at low levels. Given that ample slack would continue to be a drag on investment and employment, the signs of improvement in the employment data during the second half of 2009 are not expected to turn into a robust recovery, suggesting that the unemployment rate will likely remain elevated for an extended period. Therefore, unit labor costs would continue to support disinflation.

Overall, recent data releases suggest that the economic recovery has become more robust. Domestic demand would continue to recover, while the weak outlook for global growth would dampen economic activity and employment in the tradable sector for sometime. On balance, the gradual recovery in economic activity is expected to continue. In this context, our revised medium-term forecasts are based on a disinflationary output gap—albeit narrower than envisaged in the previous Report.

Revisions on the Assumptions of the Forecast

There have been some developments since January Inflation Report, which necessitated an upward revision in the inflation forecast for 2010:

- The revisions to the Gross Domestic Product (GDP) series, and somewhat stronger-than-expected domestic demand have led to an upward revision in the output gap estimates, which have pushed the inflation forecast for end-2010 up by 0.4 percentage points.

- Considering recent developments, the oil price assumptions stated in the past Report have been revised slightly upwards. In this context, the previous assumption of oil prices are revised up from 80 USD per barrel to 85 USD for 2010, and from 85 USD to 90

USD for 2011 and thereafter. Moreover, in line with oil prices, imported input prices are also assumed to increase gradually throughout the forecast horizon in response to the recovery in the world economy. This revision has shifted the 2010 inflation forecast up by 0.15 percentage points.

- The January Inflation Report envisaged food inflation to be 7 percent at end-2010, 6.5 percent for 2011 and 6 percent for the following years. However, worse-than-expected outcomes regarding unprocessed food prices and ongoing supply-side structural problems led to an upward revision in the assumption for food inflation from 7 percent to 9 percent for 2010, which further added 0.55 percentage points to end-2010 inflation forecast. Similarly, assumptions for 2011 food inflation have been raised to 7 percent from 6.5 percent, and 7 percent from 6 percent for the following years.

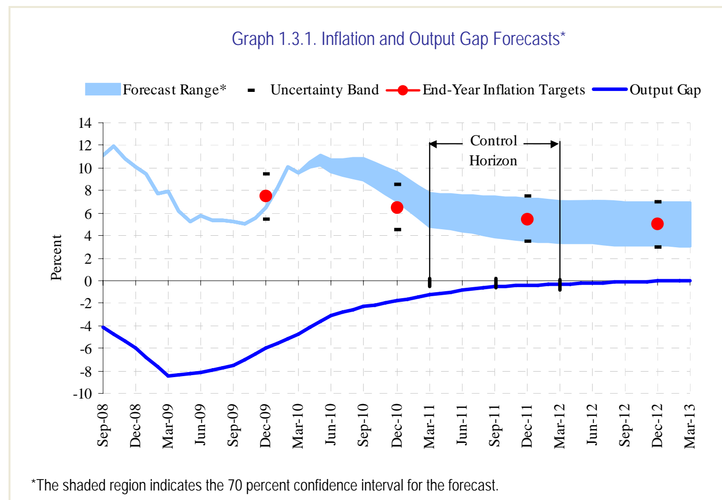
- In the previous Report, the impact of the tax measures implemented in January on fuel, alcohol, and tobacco products on 2010 inflation were estimated to be around 1.5 percentage points. However, the realization was 1.9 percent, partly reflecting the change in the weigthing scheme of the CPI, and thus shifting the inflation forecast path by around 0.4 percentage points throughout 2010. It should be noted that the impact of the tax hikes would disappear at the beginning of 2011.

Regarding fiscal policy, it is assumed that, in line with the Medium Term Program (MTP), the fiscal stance will remain expansionary—but less so than in 2009—throughout 2010, and that fiscal consolidation would gradually ensue starting from 2011 as guided by the fiscal rule set out in the MTP. In this respect, as implied by the fiscal rule, it is assumed that the fiscal space created by the stronger-than-expected economic activity leading to better-than-expected performance in budget revenues since the second half of 2009, would be used mostly to reduce the government debt stock; therefore, the goals set out in the MTP be implemented through institutional and structural improvements in 2011 and onwards. In other words, it is assumed that tax adjustments would be consistent with the inflation targets and automatic pricing mechanisms throughout the forecast horizon. Accordingly, it is envisaged that the rising

debt-to-GDP ratios would reverse course gradually starting in 2011, and hence the risk premium would not display any significant changes throughout the forecast horizon.

Inflation Outlook

Against this background, assuming that the liquidity measures are normalized gradually over the short term and that policy rates are kept constant at current levels for sometime followed by limited increases starting in the last quarter of 2010, with policy rates staying at single digits throughout the three-year forecast horizon, the medium-term forecasts suggest that, with 70 percent probability, inflation will be between 7.2 and 9.6 percent with a mid-point of 8.4 percent at end-2010, and between 3.6 and 7.2 percent with a mid-point of 5.4 percent by the end of 2011. Furthermore, inflation is expected to decline to 5.0 percent by the end of 2012 (Graph 1.3.1).



Despite the upward revision in the output gap, it is expected that the economic recovery would be gradual. However, owing to the effects of tax hikes, increases in food and energy prices, and base effects, the inflation rate is hovering above the target, which is having an adverse impact on inflation expectations, and leading to risks regarding pricing behavior. Therefore, the revised forecasts are based on the assumption of gradually withdrawing the amount of liquidity provided to the market, and increasing policy rates at a measured pace starting in the last quarter of 2010. However, based on the prediction that resource utilization will likely remain at low levels for sometime, the baseline scenario envisages that the increases in policy rates

would be limited with policy rates remaining at single-digit levels throughout the forecast horizon.

As depicted in Graph 1.3.1, inflation will follow a volatile path throughout 2010 owing to the base effects driven by the temporary tax cuts and unprocessed food price fluctuations that occurred during 2009. The temporary tax cuts implemented in March 2009, which were withdrawn partly in June and fully in October, would cause headline inflation to increase during March and April, and to decrease during June, July and October of 2010. Accordingly, inflation is expected to increase slightly during the second quarter and then fluctuate around 10 percent in the third quarter.

Inflation is expected to drop significantly in the last quarter of 2010 and the first quarter of 2011. The fall in the last quarter of 2010 would reflect the base effects caused by the indirect tax hikes and the sharp increases in food prices that occurred during the last quarter of 2009. Similarly, the impact of the tax hikes, which added around 1.9 percentage points to headline inflation in the first two months of 2010, would largely disappear during the first quarter of 2011. Accordingly, inflation would fall to 8.4 percent at end-2010, and display a significant drop during the first quarter of 2011 (within 12 months), converging to levels consistent with the targets (Table 1.3.1). Afterwards, with the transmission of the lagged impact of the envisaged monetary tightening, inflation is expected to further decline and stabilize at around 5 percent over the medium term.

Table 1.3.1. CBRT Inflation Forecasts and Expectations

	CBRT Forecast	CBRT Expectations Survey[1]	Inflation Target[2]
2010 Year-End	**8.4**	8.2	6.5
12-Month Ahead	**6.3**	7.2	6.2
24-Month Ahead	**5.2**	6.9	5.3

[1] Results from the second survey of April.
[2] Calculated by linear interpolation of 2010, 2011 and 2012 year-end inflation targets.
Source: CBRT.

The projection that inflation would remain at elevated levels—albeit temporarily—over the forthcoming period, highlights the importance of expectations management. As of April, inflation expectations are significantly above the revised inflation forecasts (Table 1.3.1). In this respect, 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 their pricing plans and contracts.

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.

1.4. Risk Factors and Monetary Policy

The fact that inflation will remain at elevated levels for sometime, warrants the close monitoring of price setting behavior. The confluence of several unfavorable developments, such as unprocessed food and oil price increases, base effects and administered price hikes, has led to a significant increase in inflation since the last quarter of 2009. Although these factors are temporary, they cause headline inflation to significantly exceed the inflation target, leading to an adverse impact on inflation expectations. Apart from items that are directly affected by cost push effects, current pricing behavior does not reveal a deterioration to an extent that might endanger the achievement of the medium-term targets. However, monetary tightening may be implemented sooner than envisaged in the baseline scenario, should inflation expectations continue to rise and lead to a deterioration in general price setting behavior.

Although downside risks regarding global economic activity have been decreasing, they remain to be a concern. Rising budget deficits and ongoing problems in credit, real estate and labor markets across developed economies continue to pose downside risks for the recovery in global activity. Should the global conditions deteriorate again, and consequently delay the domestic recovery, the policy rate may remain constant for a longer period than envisaged under the baseline scenario.

Uncertainties regarding the lagged effects of the strong monetary stimulus pose upside risks on both domestic and global economic activity. Given that the recovery in domestic demand has been relatively robust, a faster-than-envisaged recovery in external demand could lead to a rapid narrowing in the resource utilization gap, which, coupled with cost push pressures, may delay the attainment of the medium-term inflation targets. In this respect, should the recovery in economic activity turn out to be faster than expected, the monetary tightening implied in the baseline scenario may be implemented sooner than envisaged.

Prospects regarding the pace of growth in developing economies, especially in China and India, have been posing upside risks regarding oil and other commodity prices. The increasing share of these economies in total world demand has been creating additional pressures on commodity prices. If commodity prices rise faster than expected in the forthcoming period and delay the disinflation, then the CBRT, in order to eliminate the risks of deteriorating price setting behavior, may implement the monetary tightening described in the baseline scenario sooner than envisaged.

CBRT will continue to monitor fiscal policy developments closely while formulating monetary policy. Since the second half of 2009, economic activity has been stronger than envisaged in the MTP, leading to a better-than-expected performance in budget revenues. Using this fiscal space mostly to reduce the government debt, as implied by the fiscal rule, would facilitate demand management and ease the need for indirect tax hikes, therefore providing more flexibility regarding the conduct of countercyclical monetary policy. In this respect, the Committee believes that, should the goals set out in the MTP be implemented through institutional and structural improvements, such as enacting and establishing the fiscal rule, it would be possible to keep policy rates at single-digit levels over the medium term.

Since the last quarter of 2008, the CBRT, without prejudice to its primary objective of price stability, has focused on containing the adverse effects of the global crisis on the domestic economy—which has been achieved to a large extent. Monetary policy will continue to focus on price stability in the period ahead. Strengthening the commitment to fiscal discipline and 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

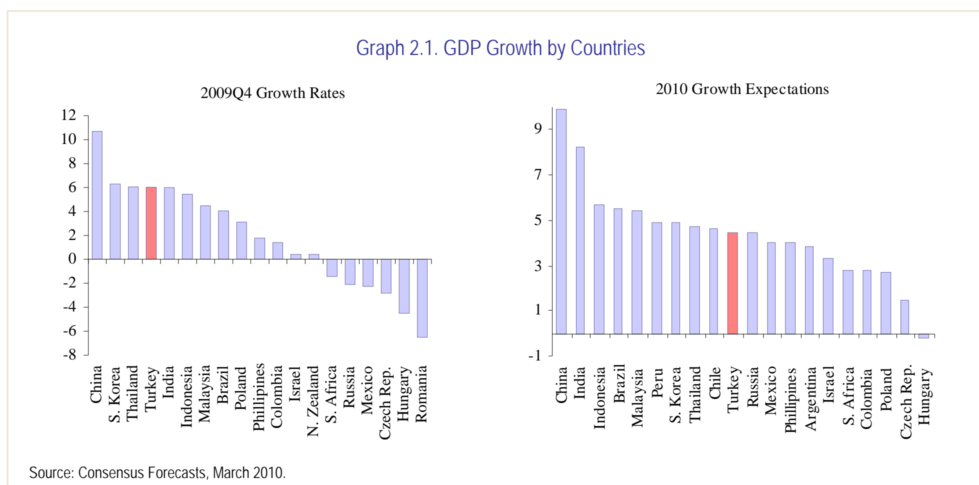
In the first quarter of 2010, as global economic recovery hopes swelled global growth forecasts were revised upwards for the upcoming period. Yet, downside risks on global economic outlook remain, and therefore uncertainties about the pace and sustainability of recovery continue to exist, albeit less markedly.

The most primary downside risk to global economy is that private and investment spending in advanced economies has yet to contribute to economic recovery. In fact, a major portion of the recovery in advanced economies has been driven by massive fiscal and monetary stimulus measures adopted during the crisis and inventory buildups. The slow recovery in employment prospects feeds uncertainties about private consumption, while the increased post-crisis idle capacity and the ongoing rise in business concerns about the future put strain on investment spending. Moreover, rapidly growing budget deficits and public debts due to conduct of expansionary fiscal policies, particularly in advanced economies, constitute a major risk that may increase long-term interest rates and dampen private demand. In addition, the widening budget deficit and high debt stock in Greece, Portugal, Spain, Ireland and Italy, all in the Euro area, put upward pressure on interest rates, leading to a deeper and more prolonged contraction in these economies. This poses another risk for not only Euro area countries but for global growth as well. Overall, risks on the sustainability of recovery in advanced economies remain, albeit less markedly than before. In view of all these uncertainties about growth, advanced economies are expected to implement a protracted and gradual exit strategy.

On the contrary, the recovery in emerging economies is more pronounced, as confirmed by the first-quarter data. Economies that have been relatively less affected by the financial crisis, primarily Asian countries, are poised for a rapid rebound, whereas another group of countries, Eastern European economies in particular, recover only slowly and gradually. Meanwhile, Turkey ranked among the fastest growing economies including Asian countries during the fourth quarter of 2009. Turkey is expected to be counted among fast-growing economies in 2010 as well (Graph 2.1). Yet, uncertainties about the recovery in advanced economies, a key component of the global economy, continue to pose threat to all emerging economies through

foreign demand channel. Furthermore, the fact that financing opportunities for rapid economic growth remain constrained continues to prevent emerging economies to catch up with the pre-crisis levels in the short run. Despite the medium-term uncertainties surrounding growth, emerging economies have been exposed to inflationary pressures during the fourth quarter of 2009 amid the recent upsurge in economic activity and rising commodity prices, prompting some economies to start implementing their exit strategies.

Graph 2.1. GDP Growth by Countries



Source: Consensus Forecasts, March 2010.

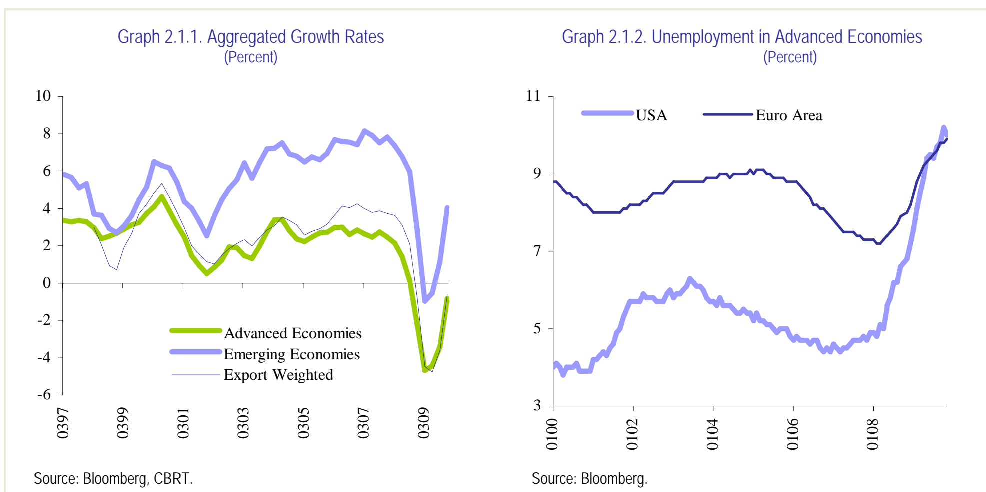
In sum, global growth forecasts were revised slightly upwards in the first quarter of 2010. However, the fact that the recent economic growth has largely been driven by transitory factors indicates that the recovery may be slow and gradual. Accordingly, medium-term forecasts in the final chapter of this Report are based on an outlook with moderate recovery for foreign demand.

2.1. Global Growth

Having bottomed out in the first quarter of 2009 and moved higher in the second and third quarters, annual growth rates in both advanced and emerging economies continued to rise in the fourth quarter. According to national accounts data, the contraction in advanced economies slowed from 3.4 to 0.8 percent during the final quarter of 2009, while emerging economies expanded by 4 percent. GDP growth turned positive across emerging economies, excluding China and India, and amounted to 1.1 percent. Moreover, the foreign demand-weighted global growth index designed to measure foreign demand for Turkish products by weighing countries with their share in Turkey's exports (Box 2.1) pointed to a slowdown of 0.6 percent (Graph 2.1.1)[1].

[1] Growth figures denote year-on-year change in quarterly GDP.

Despite the relatively stronger economic growth, unemployment remains elevated in advanced economies. Unemployment has climbed to 10.0 percent in the Euro area as of February. In the United States, unemployment has declined from 10.0 percent at end-2009 to 9.7 percent as of March amid scant employment gains and lower labor force participation (Graph 2.1.2). Since growth in advanced economies is mostly fuelled by fiscal and monetary stimulus packages and uncertainties about private consumption demand and investment demand over coming months continue, unemployment is likely to remain high for a long time, particularly in the US.



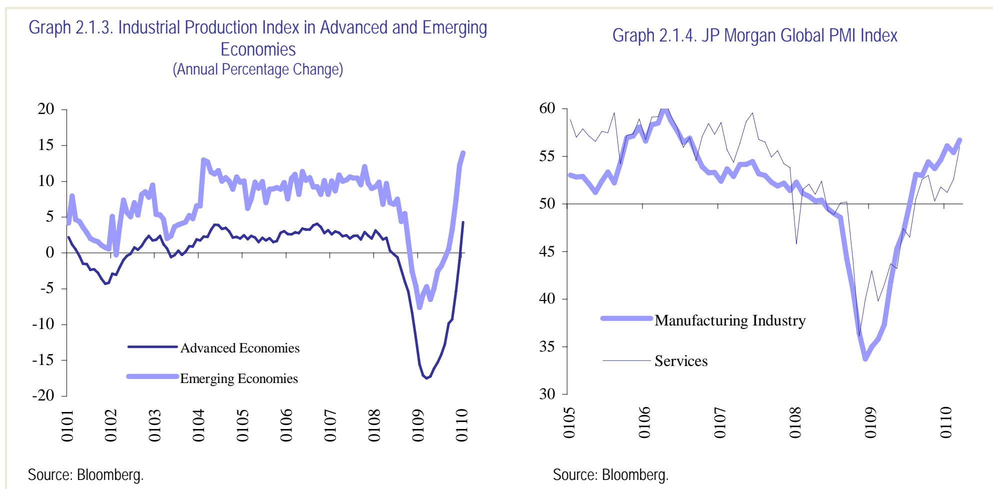
Graph 2.1.1. Aggregated Growth Rates (Percent)

Source: Bloomberg, CBRT.

Graph 2.1.2. Unemployment in Advanced Economies (Percent)

Source: Bloomberg.

Industrial production indices for both advanced and emerging economies continued to recover in the first months of 2010. Compound indices show that industrial production increased by 4.3 and 14 percent year-on-year in advanced economies and emerging economies, respectively (Graph 2.1.3).



Graph 2.1.3. Industrial Production Index in Advanced and Emerging Economies (Annual Percentage Change)

Source: Bloomberg.

Graph 2.1.4. JP Morgan Global PMI Index

Source: Bloomberg.

JP Morgan Global Purchasing Managers Index (PMI) continued to hover above the neutral level of 50 points during the first quarter of 2010. The manufacturing PMI had a reading of 56.1 on average during the first quarter, exceeding the average of 54.2 in the fourth quarter of 2009. Similarly, the services PMI amounted to 53.3, up from 51.7 in the fourth quarter (Graph 2.1.4). The fact that the manufacturing PMI produced a higher reading than the services PMI reflects the inventory buildup behavior in the manufacturing industry.

In sum, the global economic recovery that started to be more pronounced during the fourth quarter of 2009 continued into the first quarter of 2010, leading to an upward revision of global growth forecasts for 2010 (Table 2.1.1). Given the partial recovery in final private demand and the support from temporary catalysts such as ongoing stimulus packages and inventory buildups, the global economic growth is expected to be high in the first half of 2010, especially during the second quarter. With the waning of temporary factors, growth rates are expected to remain in the positive zone but settle down to a lower level by the second half of the year.

Table 2.1.1. Growth Forecasts
(Annual Percentage Change)

	2010	
	Previous	Revised
Consensus Economics		
World	3.0	3.2
United States	2.9	3.2
Euro Area	1.3	1.2
Eastern Europe	3.0	3.3
Latin America	3.8	4.0
Asia-Pacific	5.2	5.7

Source: Consensus Forecasts, January 2010 and April 2010.

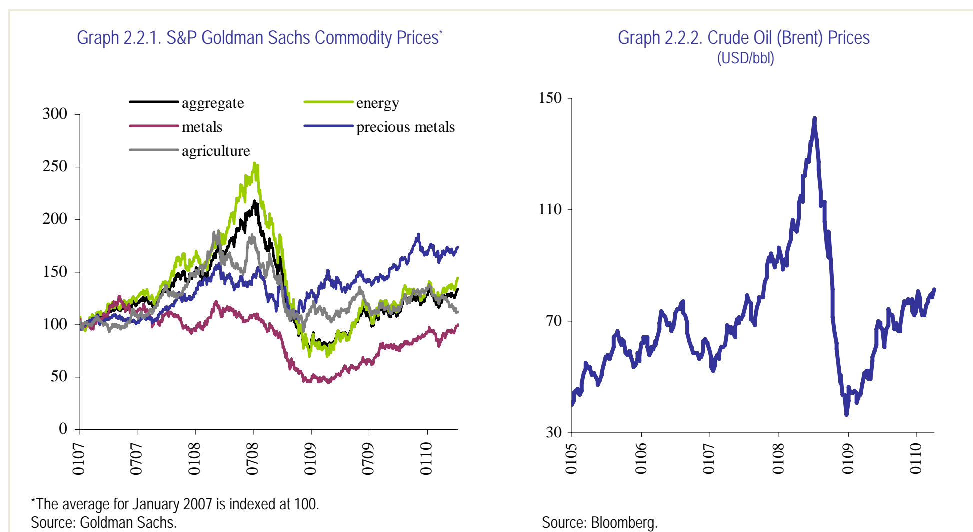
Despite the upward revision of global growth forecasts, Euro area growth forecasts are revised downward due to the economic downturn in the periphery, particularly in Greece. On the other hand, forecasts for other economies have been more upbeat. Being the least affected by the global crisis, Asia-Pacific is expected to be the fastest-growing region in 2010 as well. Growth forecasts for the US, the epicenter of the crisis, have strikingly converged towards potential growth level thanks to stimulus measures (Table 2.1.1).

Downside risks remain despite the observed global economic recovery. Both the recent upsurge in oil prices and the rise in interest rates, fuelled by monetary tightening and efforts to finance widening budget deficits, pose a risk on the global growth outlook. However, the major risk on global growth is the

economic turmoil in the Euro area periphery, particularly in Greece. Although Greece has secured an emergency aid package, structural problems continue to be a significant source of uncertainty.

2.2. Commodity Prices

Developments that affected global growth forecasts have also affected expectations on commodity demand, with a particular impact on oil and metal prices. Concerns about spillovers from the debt crisis in Greece into the Euro area and growing signs of monetary tightening in China put downward pressure on global growth forecasts in early February, while commodity prices plunged to their lowest in 2010. Yet, prices recovered back to their January level since these factors were temporary. Growth forecasts remained upbeat in April, while commodity prices hit their peak in 2010. By contrast, agricultural prices followed a downward pace during the first quarter due to favorable harvest conditions worldwide (Graph 2.2.1).



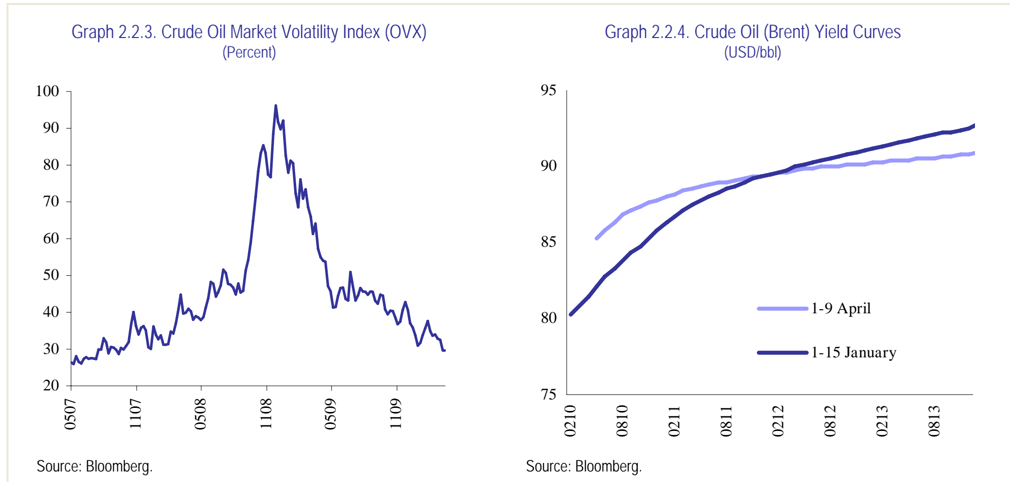
Graph 2.2.1. S&P Goldman Sachs Commodity Prices*

*The average for January 2007 is indexed at 100.
Source: Goldman Sachs.

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

Source: Bloomberg.

Under these circumstances, oil prices jumped to their highest level of 2010 in early April (Graph 2.2.2). On the other hand, oil volatility index continued to decline on the back of relatively stable oil prices, while yield curves flattened out markedly amid reduced inventories (Graphs 2.2.3 and 2.2.4).



Graph 2.2.3. Crude Oil Market Volatility Index (OVX)
(Percent)

Source: Bloomberg.

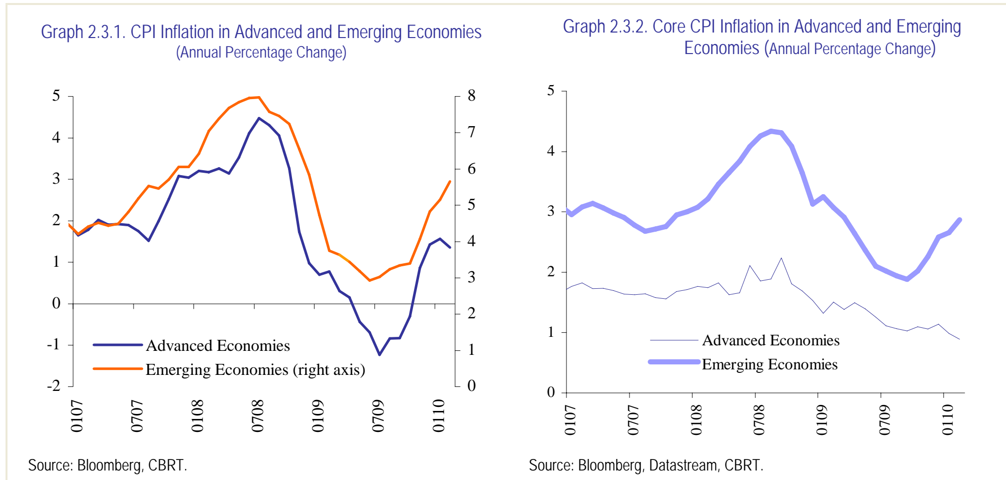
Graph 2.2.4. Crude Oil (Brent) Yield Curves
(USD/bbl)

Source: Bloomberg.

Inventories of both oil and metals have been down since January, while demand expectations are up, posing an upside risk to commodity prices. On the oil prices front, the Organization of the Petroleum Exporting Countries (OPEC) announced that enough spare capacity to meet additional demand is present and prospects of a price hike that could harm global growth is not warm. Therefore, prices are likely to soar in coming months, albeit slowly. Thus, our forecasts in the final chapter of this Report are based on an outlook with moderate growth for commodity prices in the medium term.

2.3. Global Inflation

The greatest highlight regarding global inflation is the marked increase in regional differences. Inflation in both advanced and emerging economies had slumped to a record low in mid-2009. However, inflation dynamics have been diverse across advanced and emerging economies for the last two quarters (Graph 2.3.1). This diversification is clearly evident in core inflation. In emerging economies, core inflation was up about 1 percentage point from September 2009 to 2.9 percent in February 2010, while in advanced economies, core inflation fell to 0.9 percent in February, maintaining its downtrend since September 2008 (Graph 2.3.2).



Source: Bloomberg, CBRT.

Source: Bloomberg, Datastream, CBRT.

According to Consensus Forecasts figures, global CPI inflation forecasts have been revised upwards amid global economic recovery. By regions, like growth forecasts, inflation forecasts for the Euro area differ from other economies as well, and forecasts for 2010 are revised slightly downwards, compared to the January report (Table 2.3.1).

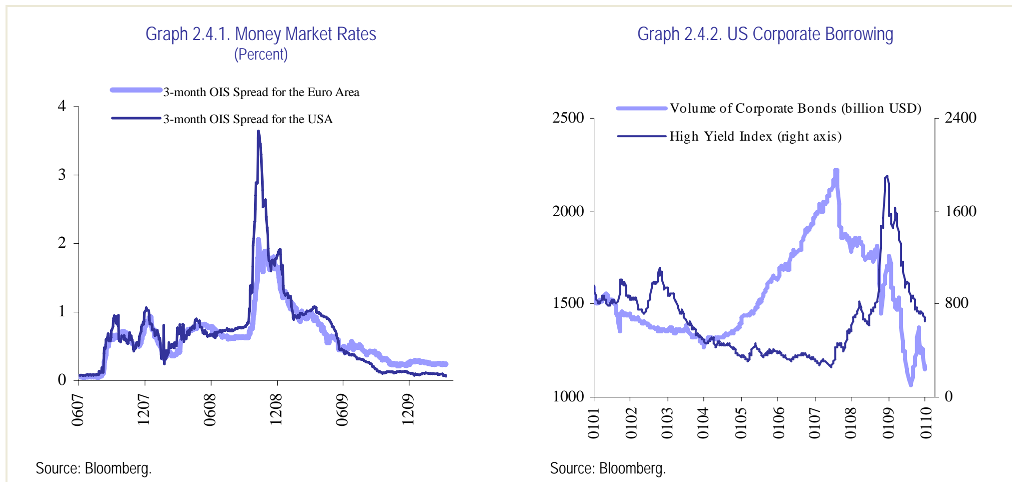
Table 2.3.1. Inflation Forecasts
(Annual Percentage Change)

	2010	
	Previous	Revised
Consensus Economics		
World	2.4	2.7
United States	2.2	2.1
Euro Area	1.2	1.2
Eastern Europe	5.9	6.0
Latin America	6.8	7.5
Asia-Pacific	1.9	2.1

Source: Consensus Forecasts January 2010 and April 2010.

2.4. Financial Conditions and Risk Indicators

The global economic recovery and financial support programs contributed to further normalization of financial markets in the first quarter of 2010 (Graph 2.4.1). However, corporate borrowing remains weak compared to pre-crisis levels despite some normalization in interest rates and risk premiums (Graph 2.4.2).



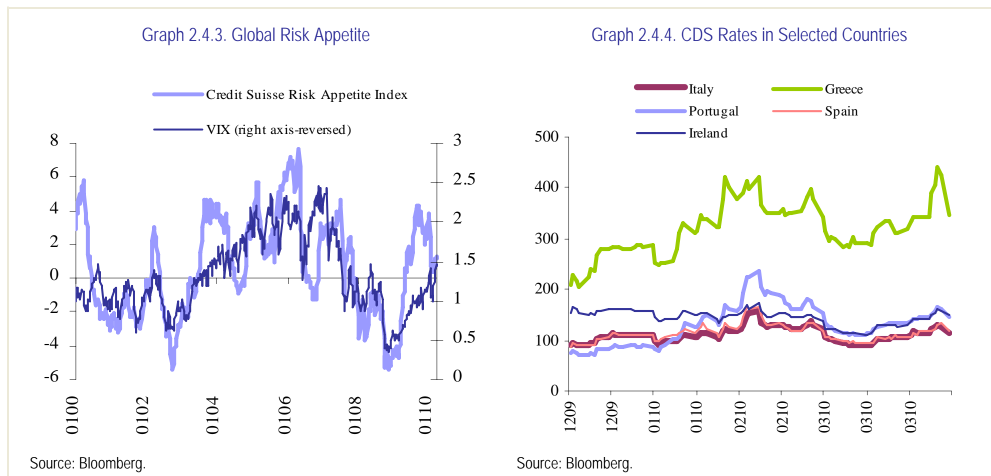
Graph 2.4.1. Money Market Rates
(Percent)

Source: Bloomberg.

Graph 2.4.2. US Corporate Borrowing

Source: Bloomberg.

The growing budget deficits and debt in Greece, Portugal, Spain, Ireland and Italy, all Euro area members, dampened global risk appetite in early 2010. Expectations of EU's bailout plan for Greece in the form of direct loans or loan guarantees and the optimism about the global economy have helped risk appetite resume its first-quarter uptrend as of March (Graph 2.4.3). Yet, concerns about Greece's ability to rollover debt put upward pressure on the risk premium. Although EU and IMF announced their rescue package on April 11, Greece's risk premium continues to rise (Graph 2.4.4).



Graph 2.4.3. Global Risk Appetite

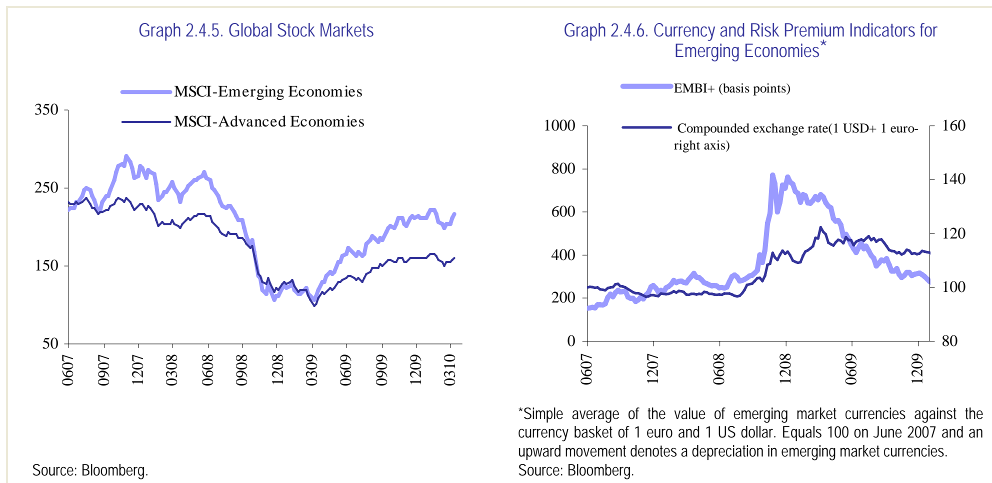
Source: Bloomberg.

Graph 2.4.4. CDS Rates in Selected Countries

Source: Bloomberg.

The pick-up in global risk appetite towards the end of the first quarter and low-yielding government bonds of advanced economies continued to boost the demand for financial assets of emerging economies. Accordingly, Morgan Stanley Capital International (MSCI) sub-index for emerging economies increased further during the first quarter, outpacing the advanced economies

index, while the JP Morgan Emerging Markets Bond Index (EMBI+) trended downward towards the end of the first quarter (Graphs 2.4.5 and 2.4.6).



Graph 2.4.5. Global Stock Markets

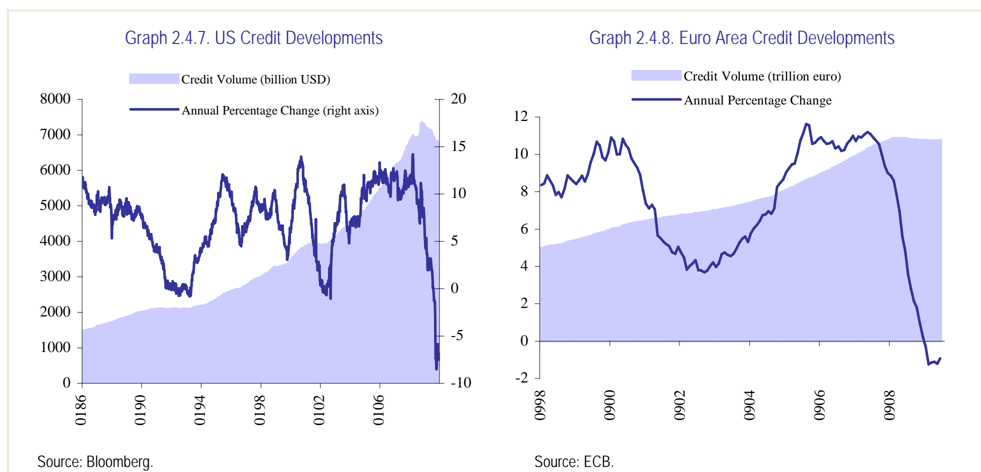
Source: Bloomberg.

Graph 2.4.6. Currency and Risk Premium Indicators for Emerging Economies*

*Simple average of the value 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 a depreciation in emerging market currencies.
Source: Bloomberg.

Given the expectations that short-term interest rates in advanced economies will remain low, the currently supportive level of global risk appetite will continue and emerging economies will start raising policy rates earlier than advanced economies, emerging economies are expected to attract capital flows in the remainder of 2010. On the other hand, a possible worsening in global risk appetite due to a deterioration in debt rollover and increase in long-term yield as well as de-leveraging in advanced economies may adversely affect capital flows.

Global credit market strains remain, albeit to a lesser extent. Having been contracted since the onset of the crisis, the US credit volume continued to shrink in the first quarter of 2010. Similarly, the Euro area credit volume continued to drop year-on-year (Graphs 2.4.7 and 2.4.8).



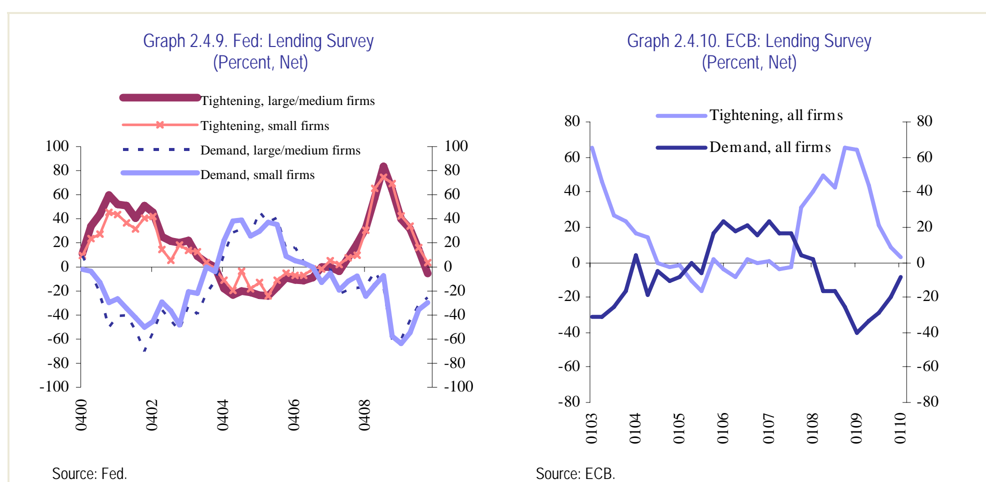
Graph 2.4.7. US Credit Developments

Source: Bloomberg.

Graph 2.4.8. Euro Area Credit Developments

Source: ECB.

The credit crunch eased further during the first quarter. The US Federal Reserve (Fed)'s and the European Central Bank (ECB)'s January 2009 bank lending surveys announcing fourth-quarter loan developments reveal that US commercial banks generally ended tightening on loans to businesses, whereas credit standards remained tight in the Euro area, albeit to a lesser extent (Graphs 2.4.9 and 2.4.10). Loan demand continues to remain weak in both regions. Moreover, Fed's Lending Survey indicates that excluding residential mortgages, banks expect no deterioration in default rates throughout 2010.



Graph 2.4.9. Fed: Lending Survey (Percent, Net)

Source: Fed.

Graph 2.4.10. ECB: Lending Survey (Percent, Net)

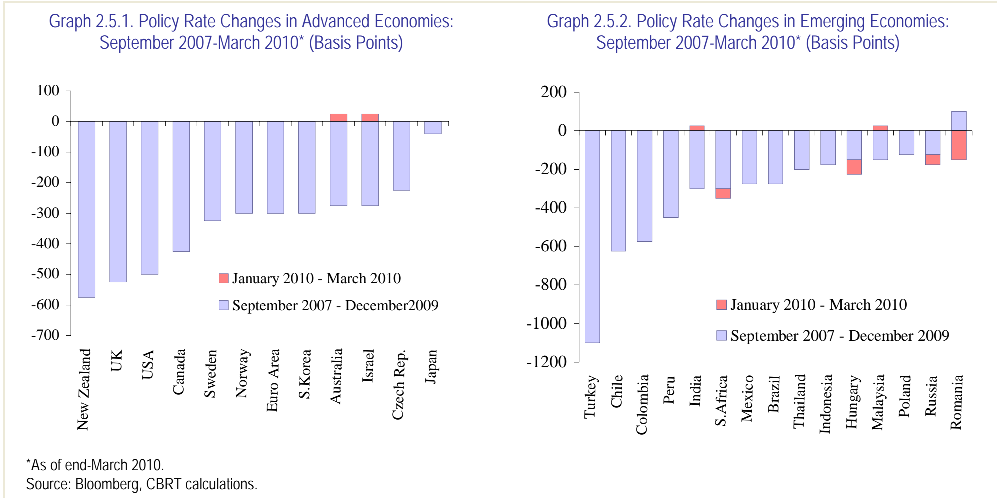
Source: ECB.

2.5. Global Monetary Policy Developments

The first quarter of 2010 has been marked by central banks starting to implement exit strategies from expansionary monetary policy measures thereby leading to some tightening in the global monetary policy outlook. Meanwhile, a limited number of central banks hiked policy rates and followed a tight monetary stance, while a majority ended the use of unconventional instruments in conducting expansionary monetary policy, yet continuing to keep policy rates low. In the meantime, another group of central banks get behind in monetary tightening that dominated the first quarter.

Fed and ECB started to exit expansionary policies during the first quarter of 2010. Both central banks took steps to end the use of unconventional monetary policy tools, yet continued to spur economic growth by avoiding a policy rate hike amid the support from mild inflation (Graph 2.5.1). Prospects for the upcoming period suggest further exit from unconventional measures, while policy rates are unlikely to be hiked until the end of the year (Graph 2.5.3). Japan maintains the substantially loose monetary policy implemented

since the outburst of the crisis by keeping policy rates low and using unconventional instruments. Expectations for the upcoming period indicate that policy rates are likely to remain unchanged for a long time (Graph 2.5.3).

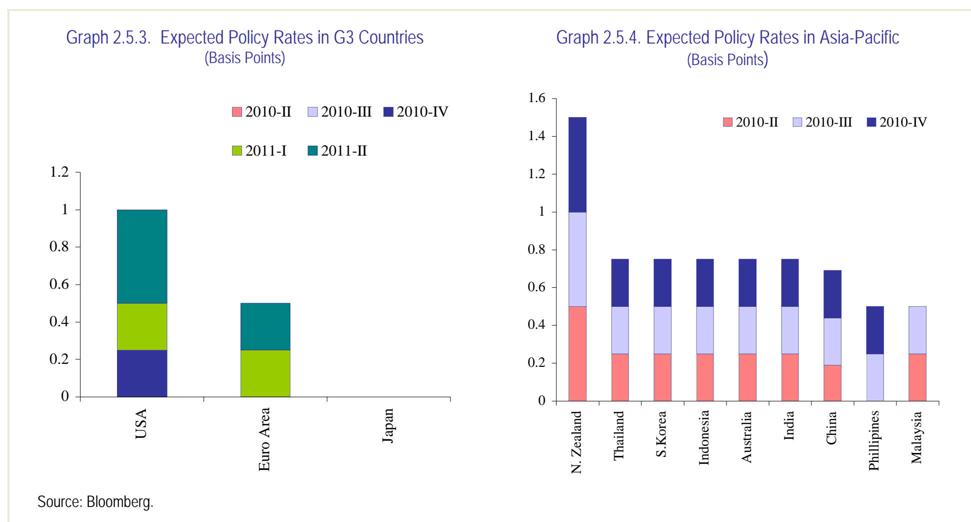


Graph 2.5.1. Policy Rate Changes in Advanced Economies: September 2007-March 2010* (Basis Points)

Graph 2.5.2. Policy Rate Changes in Emerging Economies: September 2007-March 2010* (Basis Points)

*As of end-March 2010.
Source: Bloomberg, CBRT calculations.

Regional differences appear in the first quarter monetary policy actions of central banks in non-G3 countries and in their future prospects. A number of central banks in Asia-Pacific region tightened monetary policy in the first quarter amid strong economic growth. Among Asia-Pacific countries, Australia, Malaysia and India raised policy rates by 25 basis points in March (Graphs 2.5.1-2.5.2). Meanwhile, China and India raised reserve requirement ratios in the first quarter. Most of the central banks in Asia-Pacific are expected to raise policy rates by the second quarter (Graph 2.5.4)

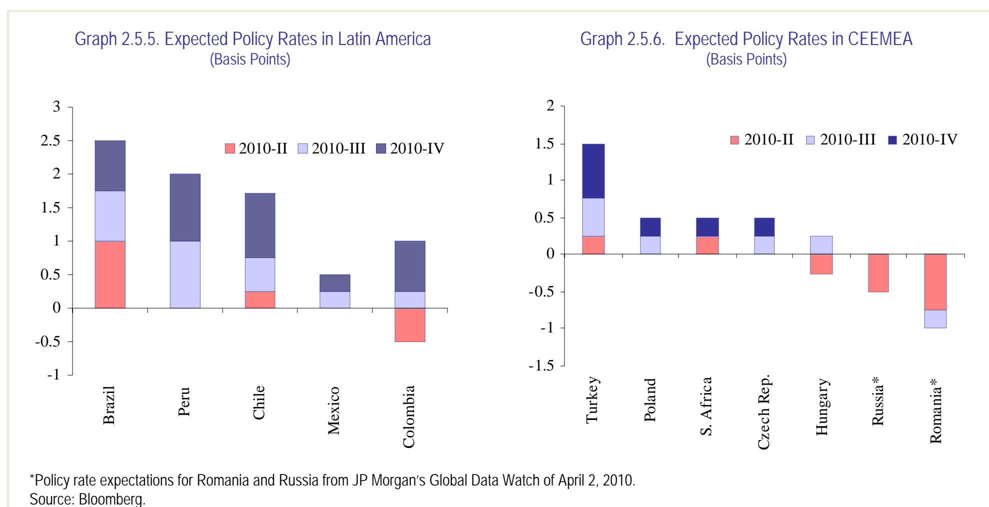


Graph 2.5.3. Expected Policy Rates in G3 Countries (Basis Points)

Graph 2.5.4. Expected Policy Rates in Asia-Pacific (Basis Points)

Source: Bloomberg.

Central banks in Latin America are also expected to tighten monetary policy in coming months and hike policy rates by the third quarter at the latest, given the strong regional recovery and the resulting spike in inflation rates (Graph 2.5.5). Among Latin American economies, Brazil raised reserve requirement ratio in the first quarter. Moreover, unlike other Latin American economies, Brazil is likely to lift policy rates by early second quarter due to its ongoing strong recovery (Graph 2.5.5). In fact, the Central Bank of Brazil hinted a rate increase in April following its meeting in March.



Graph 2.5.5. Expected Policy Rates in Latin America
(Basis Points)

Graph 2.5.6. Expected Policy Rates in CEEMEA
(Basis Points)

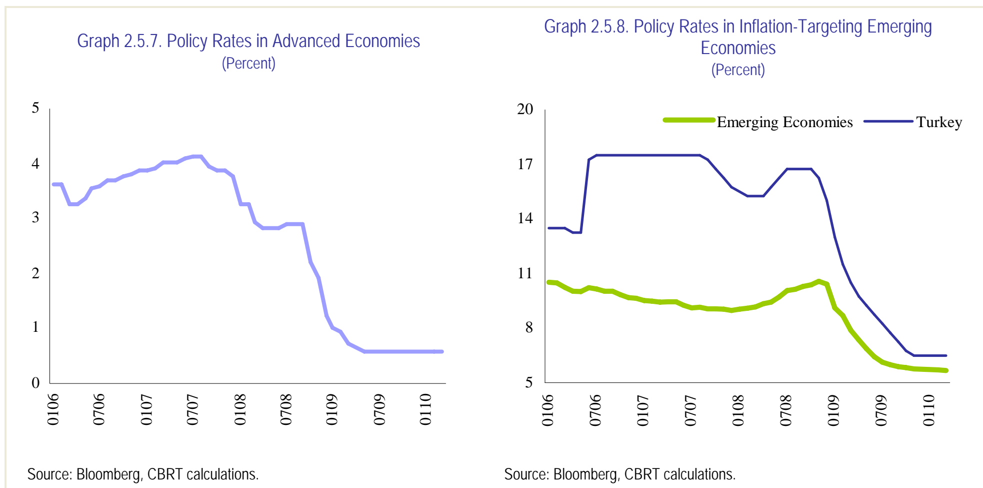
*Policy rate expectations for Romania and Russia from JP Morgan's Global Data Watch of April 2, 2010.
Source: Bloomberg.

In Central Eastern Europe, Middle East and Africa (CEEMEA), central banks differ in monetary policy practices. The Bank of Israel's monetary tightening that started in the final quarter of 2009 continued into the first quarter of 2010 (Graph 2.5.1). On the other hand, economies that retarded in joining the global monetary easing cycle, such as Romania, Russia and Hungary, continued monetary easing in the first quarter (Graph 2.5.2). These economies are likely to ease monetary policy in coming months as well (Graph 2.5.6).

Among CEEMEA economies, South African Reserve Bank cut policy rates by a surprising 50 basis points in March (Graph 2.5.2). The released MPC statement indicated that although the country has emerged from the recession, the pace of recovery is expected to be slow, while the inflation outlook has improved. The statement also noted that, under current economic circumstances, rate cuts would support economic recovery without jeopardizing the achievement of inflation target. Therefore, the South African Reserve Bank's policy rate cuts seem to have been largely driven by concerns about

growth, yet, further cuts in policy rates is unlikely in the forthcoming period (Graph 2.5.6). Among other CEEMEA economies, Czech Republic, Turkey and Poland are nearing the end of their easing cycle and appear to be the most likely CEEMEA economies to tighten monetary policy in 2010 (Graphs 2.5.1, 2.5.2 and 2.5.6).

In aggregated indices, global policy rates remained flat during the first quarter of 2010. With the policy rate hikes in a number of economies during the past three months, the composite policy rate for advanced economies increased by a mere 1 basis point quarter-on-quarter, ending March at 0.59 percent (Graph 2.5.7). Meanwhile, only a few emerging market central banks cut policy rates in the first quarter, and therefore the composite policy rate for these economies dropped slightly quarter-on-quarter to 5.66 percent at end-March (Graph 2.5.8).



Graph 2.5.7. Policy Rates in Advanced Economies (Percent)

Source: Bloomberg, CBRT calculations.

Graph 2.5.8. Policy Rates in Inflation-Targeting Emerging Economies (Percent)

Source: Bloomberg, CBRT calculations.

Box 2.1 Foreign Demand Index for Turkey

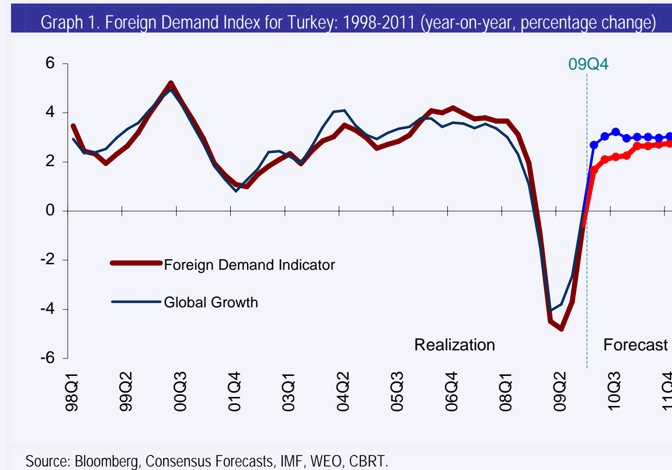
For a better evaluation of the economic climate, changes in foreign demand have to be closely and accurately monitored. Thus, CBRT has developed an index to measure the changes in foreign demand for Turkey's exported goods over time and to make projections on foreign demand by using country-specific forecasts of international institutions. This foreign demand indicator is constructed by weighting the real GDP growth of countries that import Turkish goods by their share in Turkey's overall exports. The index is calculated as follows:

$$g_t = \sum_{i=1}^{n} w_{i,t-1} g_{i,t}$$

- g_t, is the annual rate of growth of foreign demand in quarter *t*,
- $g_{i,t}$, is the annual rate of growth of the importing country *i* in quarter *t*,
- $w_{i,t-1}$ is the share of country *i* in exports in the previous quarter.

Growth rates are calculated as the year-on-year percentage change in real GDP for any quarter. The weights used in the formula vary by quarters. The calculation includes 59 countries as of 2009. Yet, this number varies from year to year, as the dataset for some countries is only available after 1998, the starting year for our analysis. The total share of countries used in the index constitutes 73 percent of Turkey's exports as of 2009. The index not only helps to monitor the previous pace of foreign demand but also enables projecting the future outlook by aggregating forecasts of international institutions (Graph 1).

Graph 1. Foreign Demand Index for Turkey: 1998-2011 (year-on-year, percentage change)



Source: Bloomberg, Consensus Forecasts, IMF, WEO, CBRT.

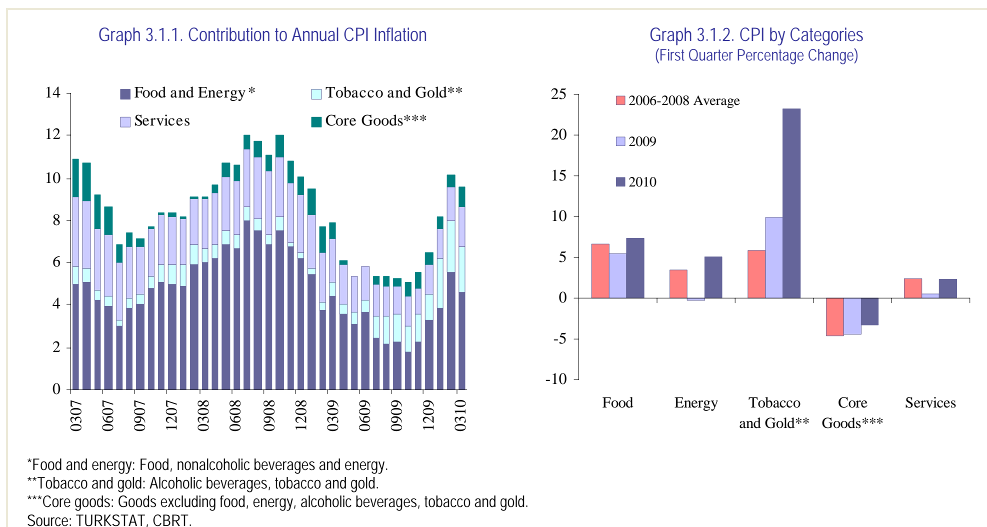
The calculated foreign demand index appears as a time series in Graph 1 and is compared to global growth rates based on both actual values and forecasts. Accordingly, the foreign demand for Turkey's exports is likely to fall behind global growth in 2010, mostly because the weight of Euro area economies, which are expected to recover slower than the rest of the world, in Turkey's foreign demand index is higher than their weight in overall global economy. In other words, Graph 1 confirms the view that foreign demand will recover gradually because the majority of Turkey's exports go to Euro area countries.

3. Inflation Developments

3.1. Inflation

Consumer prices increased by 3.93 percent during the first quarter of 2010. The high price increase resulting from January's tax hikes on fuel, alcoholic beverages and tobacco boosted CPI inflation by around 1.9 percentage points. Moreover, as in the final quarter of 2009, unprocessed food prices recorded the highest quarter-on-quarter increase since the inception of the index during the first quarter of 2010. Accordingly, these developments when combined with the base effect due to low inflation readings driven by weak economic activity and falling commodity prices in the first quarter of 2009, drove annual CPI inflation to 9.56 percent by a 3 percentage point increase in the first quarter of 2010.

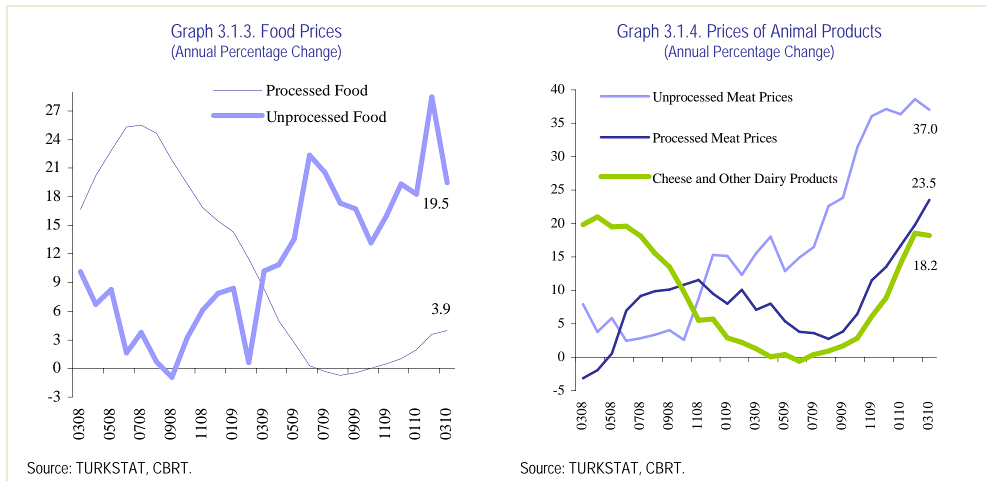
Food and energy prices inflation account for 4.62 percentage points of annual inflation as of the end of the first quarter (Graph 3.1.1). During the first quarter, rising food and energy prices had a more significant impact on prices for catering and transport services, while annual services inflation was up by around 1.9 percentage points after a continuous downtrend since the third quarter of 2008. Combined with these cost-push effects, the base effect resulting from the tax cuts on durable goods in 2009 has driven core inflation indicators higher. The ongoing weak economic activity despite the moderate recovery in domestic demand continues to restrain underlying inflation in the first quarter, albeit to a lesser extent.



Graph 3.1.1. Contribution to Annual CPI Inflation

Graph 3.1.2. CPI by Categories (First Quarter Percentage Change)

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



Developments in food prices, particularly meat prices, have been quite obvious in recent months. The reduced domestic supply due to structural changes caused livestock prices to soar remarkably, thus causing a marked impact on unprocessed and processed food prices and hence on CPI inflation (Graph 3.1.3). In fact, unprocessed and processed meat prices increased by 9.85 and 8.86 percent, respectively, during the first quarter. Accordingly, the price hike for both categories amounted to 35 and 23.5 percent, respectively (Box 3.1). Moreover, with shrinking livestock inventories, annual inflation in cheese and other dairy products climbed to 18.19 percent (Graph 3.1.4).

Similarly, vegetable prices rose also by a record 26.43 percent, driving food prices even higher. On the other hand, prices for processed food products such as bread and cereals, and solid and liquid fats remained below their year-ago levels on the improved outlook for producer and import prices, continuing to give favorable support to food price inflation.

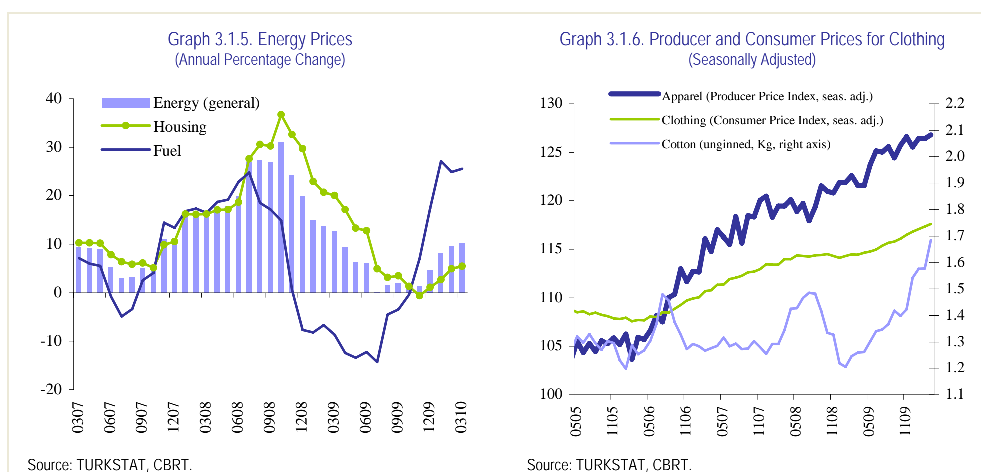
In sum, food inflation increased by about 2 percentage points to 11.21 percent year-on-year during the first quarter, exceeding the forecasts in the January Inflation Report. Under current circumstances, meat price hikes are unlikely to reverse in the short run. Therefore, assumptions on food prices are revised upwards.

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

	2009					2010
	I	II	III	IV	Annual	I
CPI	**1.05**	**0.77**	**0.34**	**4.26**	**6.53**	**3.93**
1. Goods	**1.22**	**0.60**	**-0.22**	**5.32**	**7.01**	**4.50**
Energy	-0.28	-1.90	2.32	4.54	4.64	5.08
Unprocessed Food	13.29	-3.68	-4.90	15.00	19.35	13.40
Processed Food	-0.93	0.09	0.61	1.27	1.04	1.93
Goods excl. Energy and Food	-1.89	4.21	0.17	3.65	6.15	1.81
Core Goods	-4.42	5.55	-2.32	4.08	2.56	-3.27
Durable Goods	-0.27	-2.76	2.70	4.18	3.76	1.32
(excl. Gold)	-2.49	-2.23	2.83	3.25	1.22	1.32
Semi-Durable Goods	-3.46	4.55	-1.65	5.33	4.55	-0.73
Non-Durable Goods	5.21	-1.22	0.04	5.62	9.80	9.17
2. Services	**0.53**	**1.27**	**1.96**	**1.28**	**5.13**	**2.32**
Rent	1.51	1.14	1.43	1.10	5.28	0.96
Restaurant and Hotels	1.88	1.19	1.73	2.32	7.31	3.30
Transport Services	-1.29	1.43	1.15	1.25	2.53	2.44
Other Services	0.13	1.31	2.57	0.87	4.96	2.42

Source: TURKSTAT, CBRT.

Energy prices were up by 5.08 percent during the first quarter of 2010 (Table 3.1.1). This has been mainly on account of rising fuel and bottled gas prices driven by January's tax adjustments, and also due to the water rate hikes in several cities. Meanwhile, annual energy price inflation rose to a remarkable 10.26 percent on the back of the low base effect resulting from falling prices in the previous year (Graph 3.1.5). Annual energy price inflation is expected to pick up further in the second quarter owing to base effects.



Graph 3.1.5. Energy Prices
(Annual Percentage Change)

Source: TURKSTAT, CBRT.

Graph 3.1.6. Producer and Consumer Prices for Clothing
(Seasonally Adjusted)

Source: TURKSTAT, CBRT.

Annual inflation in core goods (goods excluding food, energy, alcoholic beverages, tobacco and gold) was up by 1.2 percentage points from a quarter earlier to 3.8 percent. This was primarily attributable to the base effect of the tax cuts on durable goods in 2009, while developments in clothing prices were also effective (Table 3.1.2). Prices of cotton, a major input for the clothing industry, soared by a substantial 34 percent over the past year. Thus, with the

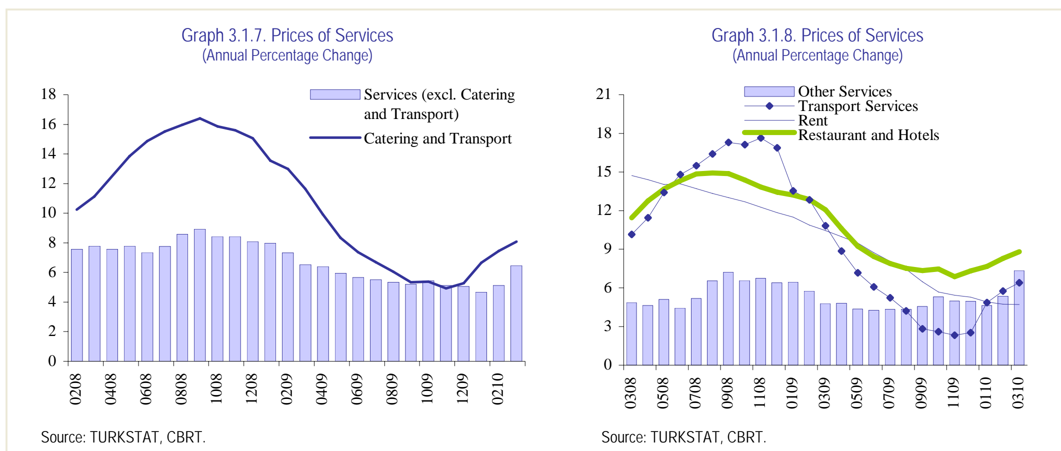
gradual recovery in domestic demand, producer price pressures that were contained during the clothing industry crisis have started to weigh on consumer prices (Graph 3.1.6). The slow down in annual inflation of goods other than clothing and durables continued during this quarter amid weak demand and these prices even dropped as opposed to the upward trend of the past few years. Annual inflation in core goods is expected to remain volatile over the remainder of the year owing to the base effects due to tax adjustments. Accordingly, tax adjustments will impose upside risk on core inflation in the second quarter and downside risk in the rest of the year.

Table 3.1.2. Prices for Core Goods
(Quarterly and Annual Percentage Change)

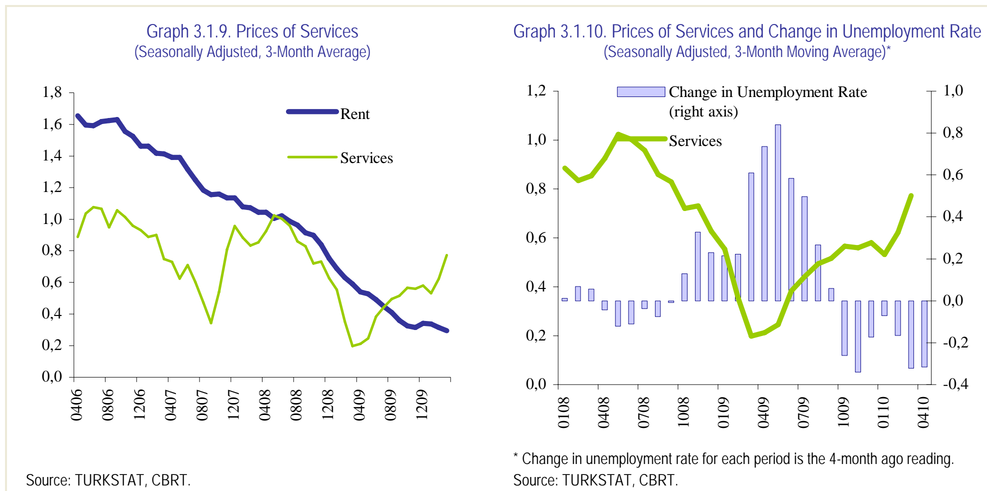
	2009					2010
	I	II	III	IV	Annual	I
Core Goods	**-4.42**	**5.55**	**-2.32**	**4.08**	**2.56**	**-3.27**
Clothing	**-13.46**	**23.00**	**-11.91**	**10.27**	**3.39**	**-12.62**
Durable Goods (excl. gold)	**-2.49**	**-2.23**	**2.83**	**3.25**	**1.22**	**1.32**
Furniture	-3.17	-7.61	1.03	7.86	-2.51	1.41
Electrical and Non-Electrical Appliances	-4.26	-2.54	3.53	-1.11	-4.47	-0.16
Automobiles	-1.36	-0.11	3.20	4.72	6.49	2.17
Other Durable Goods	0.36	0.20	1.81	0.41	2.79	0.56
Pharmaceuticals	**0.00**	**7.65**	**0.00**	**-1.51**	**6.02**	**-1.77**
Other	**1.18**	**0.86**	**0.72**	**0.34**	**3.14**	**-0.86**

Source: TURKSTAT, CBRT.

Prices of services increased by 2.32 percent in the first quarter, bringing annual services inflation up by around 1.9 percentage points compared to the end of the previous quarter (Table 3.1.1). During this period, higher energy prices fuelled by tax hikes put pressure on transport services, while meat prices skyrocketing for the past three quarters weighed on catering services (Graph 3.1.7). Accordingly, annual inflation rose by 2.73 and 3.88 percentage points from the end of the previous quarter in catering and transport services, respectively (Graph 3.1.8). Meanwhile, the stable downtrend in rents continued.



Seasonally adjusted figures indicate that the price hikes in services have accelerated compared to the previous quarter (Graph 3.1.9). This has been mainly due to more pronounced cost pressures. Meanwhile, domestic demand with observed signs of recovery amid the improvement in unemployment rates, had limited pressure on prices of services (Graph 3.1.10). Yet, the rise in cost pressures and the recovery in domestic demand constitute a risk factor for the pricing behavior.



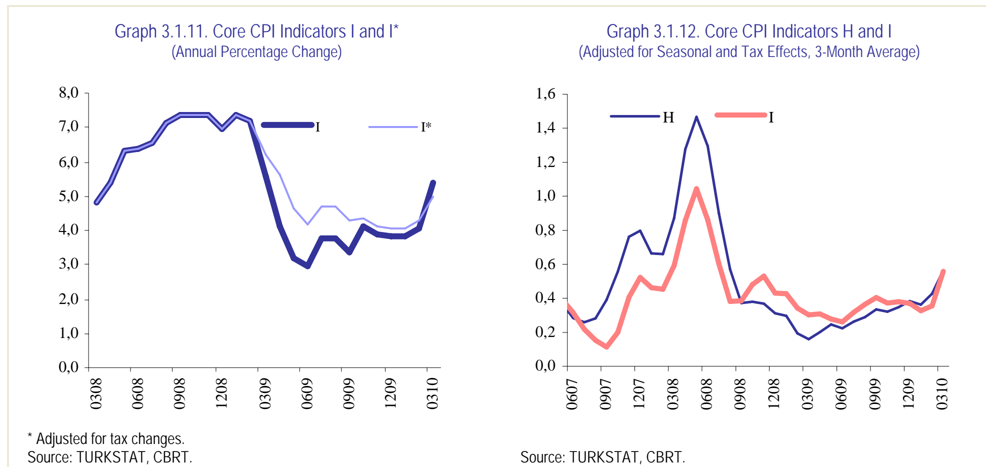
Graph 3.1.9. Prices of Services
(Seasonally Adjusted, 3-Month Average)

Source: TURKSTAT, CBRT.

Graph 3.1.10. Prices of Services and Change in Unemployment Rate
(Seasonally Adjusted, 3-Month Moving Average)*

* Change in unemployment rate for each period is the 4-month ago reading.
Source: TURKSTAT, CBRT.

The annual rate of change in core CPI measures increased during the first quarter owing both to the rise in services inflation as well as the base effects of tax cuts. Inflation in core CPI excluding energy, unprocessed food, alcoholic beverages, tobacco and gold (SCA-H) rose to 5.01 percent year-on-year, while, with a further exclusion of processed food, inflation in SCA-I accelerated to 5.41 percent year-on-year (Graph 3.1.11). Similarly, seasonally adjusted figures also reflect the rise in costs and the moderate recovery in demand (Graph 3.1.12). Temporary tax cuts that were initially introduced in mid-March 2009, scaled down in June and terminated in October are expected to exert upward pressure on core inflation indicators in April and downward pressure during June, July and October. Tax adjustments may account for 0.6, –0.2, –0.2 and –0.5 percentage points of H inflation, and for 0.8, –0.3, –0.3 and –0.7 percentage points of I inflation in the respective months.



Graph 3.1.11. Core CPI Indicators I and I*
(Annual Percentage Change)

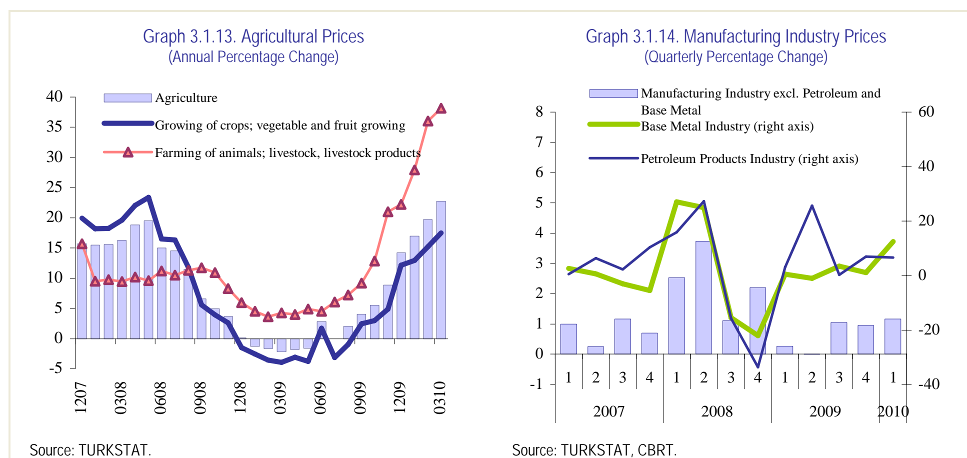
* Adjusted for tax changes.
Source: TURKSTAT, CBRT.

Graph 3.1.12. Core CPI Indicators H and I
(Adjusted for Seasonal and Tax Effects, 3-Month Average)

Source: TURKSTAT, CBRT.

Developments in producer prices, a determinant of inflation, indicate that cost pressures have intensified compared to a quarter earlier. Both agricultural and manufacturing industry prices rose during the first quarter. The ongoing sharp increase in agricultural prices was fuelled by soaring producer prices for fruits and vegetables, livestock and animal products (Graph 3.1.13). In particular, the continuing acceleration in livestock prices had a significant impact on consumer prices through both unprocessed and processed food prices.

Manufacturing industry prices rose by 2.54 percent, at a faster pace than previous quarters. Producer prices for energy and metals were up amid higher international commodity prices. The first quarter increase in producer prices for base metals by 12.51 percent is remarkable. Manufacturing industry prices excluding petroleum products and base metals increased slightly compared to previous quarters (Graph 3.1.14). Overall, the first quarter of 2010 was marked by stronger producer price pressures on CPI inflation.



Graph 3.1.13. Agricultural Prices
(Annual Percentage Change)

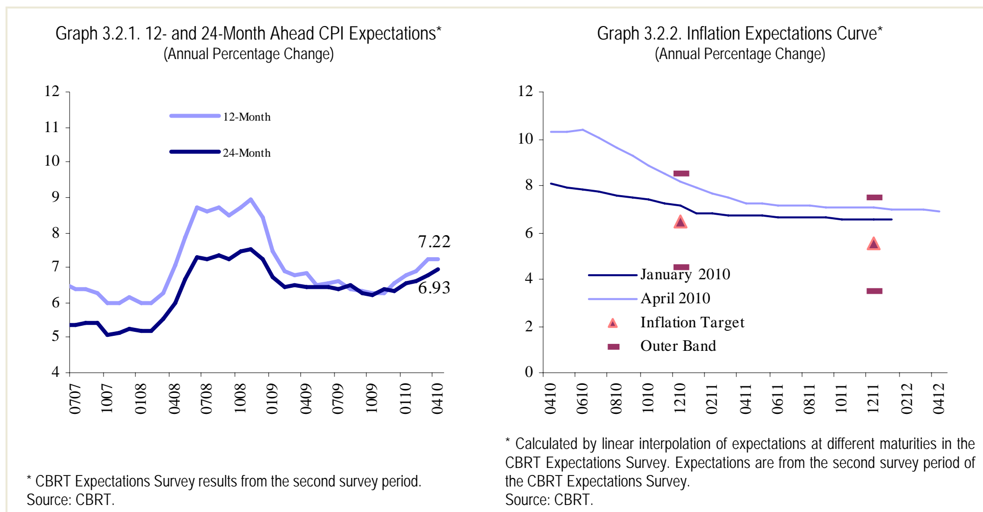
Source: TURKSTAT.

Graph 3.1.14. Manufacturing Industry Prices
(Quarterly Percentage Change)

Source: TURKSTAT, CBRT.

3.2. Expectations

The upward shift in medium-term inflation expectations that started in the final quarter of 2009 continued into the first quarter of 2010 (Graph 3.2.1). Inflation developments caused near-term inflation expectations to move higher quarter-on-quarter, while the positive outlook for core inflation indicators helped contain the deterioration in expectations with a smaller change in expectations for a longer maturity (Graph 3.2.2). Currently, expectations for end-2010 are anchored at 6.5 percent, being considerably above the target. Moreover, 12- and 24-month ahead inflation expectations hover slightly above the targets 5.5 and 5 percent for end-2011 and end-2012, respectively.



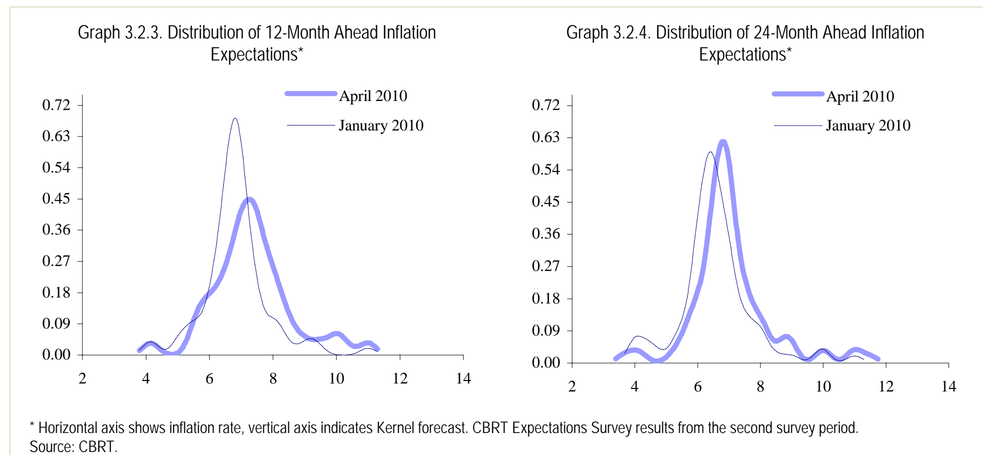
Graph 3.2.1. 12- and 24-Month Ahead CPI Expectations* (Annual Percentage Change)

* CBRT Expectations Survey results from the second survey period.
Source: CBRT.

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

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

In April, the dispersion of participants' 12-month ahead expectations narrowed significantly from January (Graph 3.2.3). On the other hand, the dispersion of 24-month ahead expectations remained quite unchanged, whereas the level of expectations rose slightly (Graph 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*

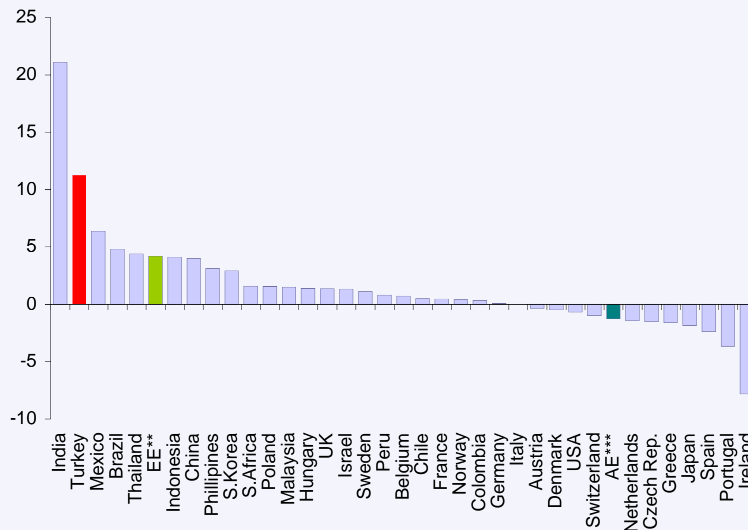
* Horizontal axis shows inflation rate, vertical axis indicates Kernel forecast. CBRT Expectations Survey results from the second survey period.
Source: CBRT.

Box 3.1 The Role of Meat Prices in Food Price Inflation Spike

The sharp increases in food prices have been one of the major factors of Turkish inflation recently being significantly above the targets. The information on to what extent these upswings can be attributed to country-specific developments provides a major input for inflation forecasts. Thus, this Box analyzes food prices by countries and thereby draws Turkey-specific conclusions.

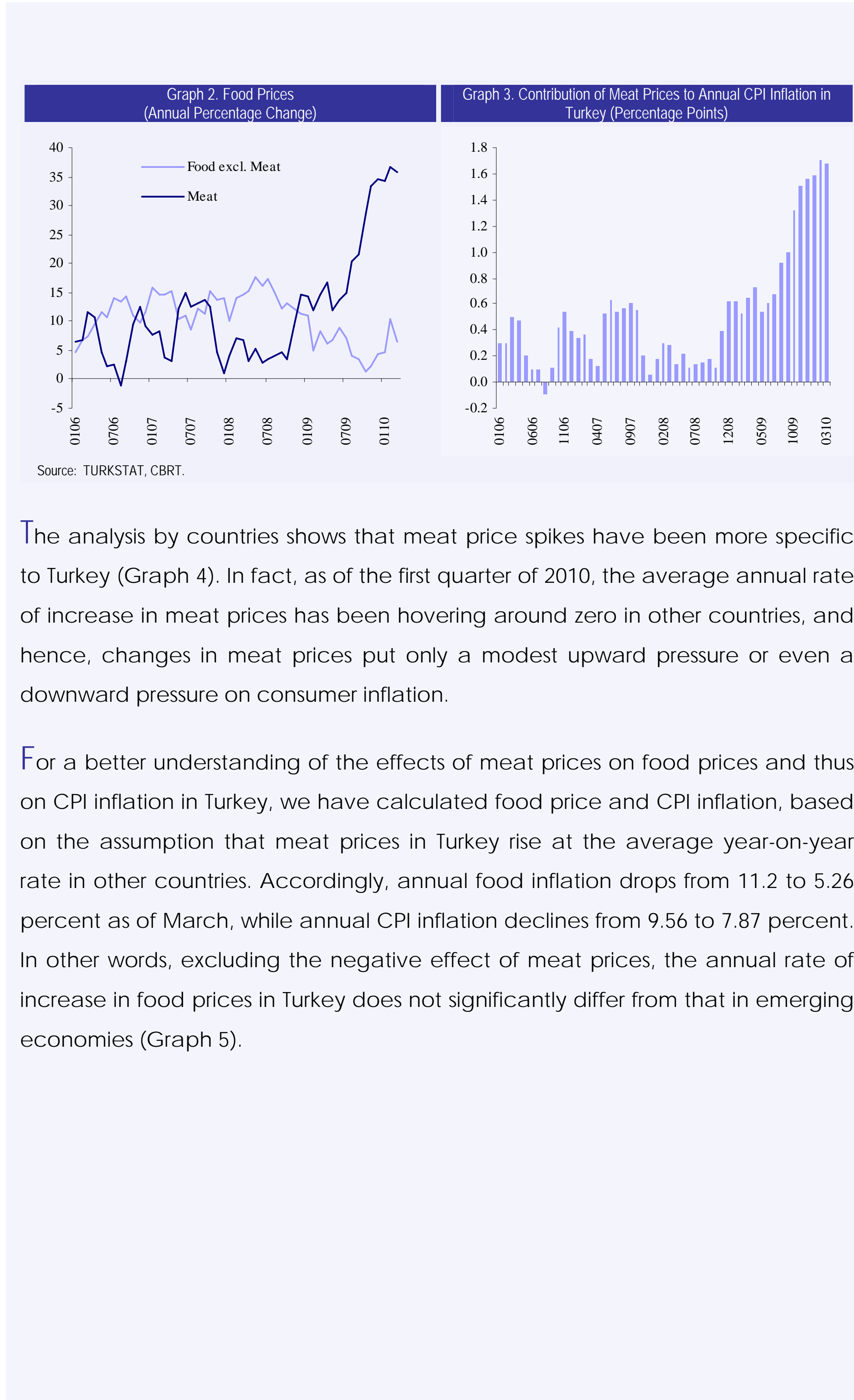
Among all other countries, food price inflation is observed to be higher in emerging economies than in advanced economies as of March 2010, while in Turkey, it is well above the average for emerging economies (Graph 1).

Graph 1. Annual Food Price Inflation in Advanced and Emerging Economies*
(As of March 2010)



* Includes "catering services" for China, India, Colombia, Peru, Philippines, Malaysia and Thailand.
** Average for emerging economies.
*** Average for advanced economies.
Source: Eurostat, OECD, Datastream, web sites of selected central banks, CBRT.

The high meat prices in Turkey due to recent drop in livestock supply brings to mind the possibility that the main reason for Turkey's food price inflation to differ from other countries' might be meat price developments. In fact, the rate of increase in meat prices has amounted to 35 percent year-on-year as of March, while annual inflation in non-meat products has been 6.4 percent (Graph 2). Accordingly, increases in meat prices have added about 1.7 percentage points to annual CPI inflation (Graph 3).

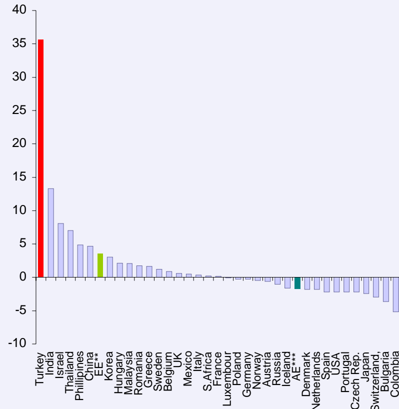


Source: TURKSTAT, CBRT.

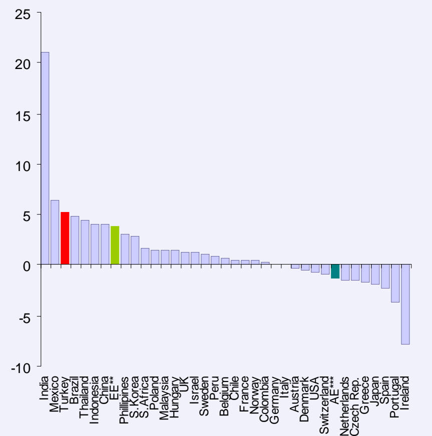
The analysis by countries shows that meat price spikes have been more specific to Turkey (Graph 4). In fact, as of the first quarter of 2010, the average annual rate of increase in meat prices has been hovering around zero in other countries, and hence, changes in meat prices put only a modest upward pressure or even a downward pressure on consumer inflation.

For a better understanding of the effects of meat prices on food prices and thus on CPI inflation in Turkey, we have calculated food price and CPI inflation, based on the assumption that meat prices in Turkey rise at the average year-on-year rate in other countries. Accordingly, annual food inflation drops from 11.2 to 5.26 percent as of March, while annual CPI inflation declines from 9.56 to 7.87 percent. In other words, excluding the negative effect of meat prices, the annual rate of increase in food prices in Turkey does not significantly differ from that in emerging economies (Graph 5).

Graph 4. Annual Meat Price Inflation in Advanced and Emerging Economies*



Graph 5. Annual Food Price Inflation in Advanced and Emerging Economies* (assuming that meat prices in Turkey rise at the average pace in other countries)



* As of Mart 2010. Due to data limitations, calculations for Japan, UK, Brazil, South Africa and Malaysia are as of February 2010, for China as of January 2010, and for India as of December 2009.
** Average for emerging economies.
*** Average for advanced economies.
Source: Eurostat, OECD, Datastream, web sites of selected central banks, CBRT.

In sum, the massive food inflation in Turkey over the past year has been the result high meat prices. Accordingly, a significant portion of annual CPI inflation and more than half of annual food price inflation have been driven by soaring meat prices as of March. However, a cross-country comparison shows that the sharp increase in meat prices is mainly specific to Turkey. These findings indicate that the recent rapid rise in Turkish inflation relative to other countries is attributable to meat prices.

The revised inflation forecasts in the Report are based on the assumption that food price inflation will be 9 percent by the end of 2010 (Table 7.1.1). However, it should carefully be noted that, any structural measures that can affect the dynamics of meat prices in the upcoming period might lead to lower-than-expected realization of food price inflation.

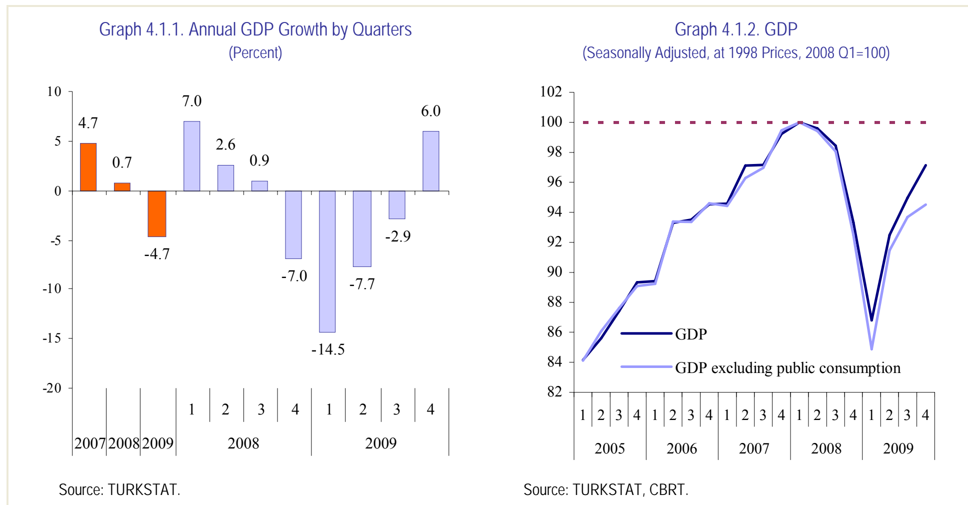
4. Supply and Demand Developments

The fourth-quarter national accounts data are consistent with the outlook presented in the January Inflation Report. Private demand remained weak, while the accelerated public spending on goods and services boosted quarterly GDP growth. Ongoing problems in the world economy cause foreign demand to remain subdued and exports to recover moderately. Although GDP seems to have grown at a slightly slower pace quarter-on-quarter, excluding public spending, domestic demand has been relatively weak. Recently announced data indicate that economic activity continued to recover in the first quarter of 2010. Accordingly, aggregate demand conditions continued to support disinflation, though to a lesser degree than a quarter earlier.

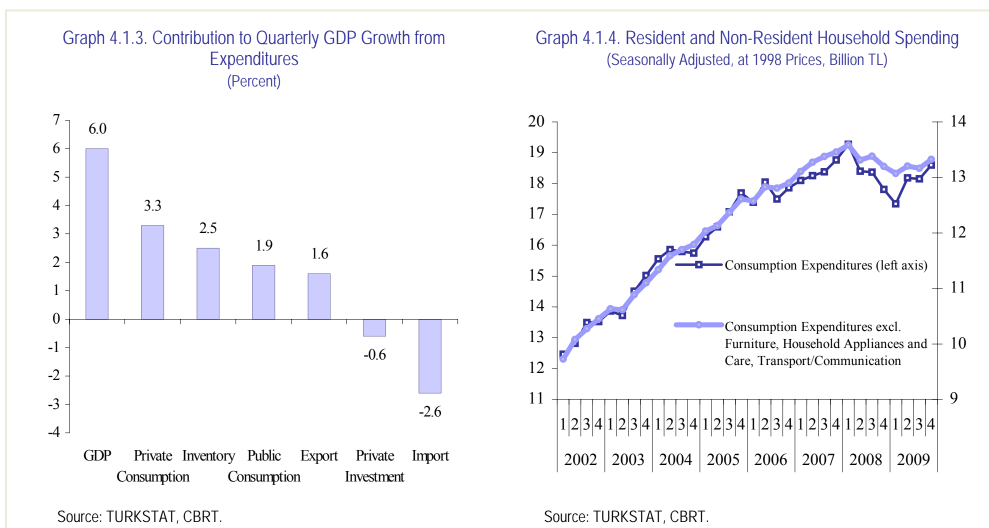
Current figures indicate that the recent path of economic recovery is in contrast with that implied by the initial dynamics of the crisis. The weak outlook for global growth continues to dampen economic activity and resource utilization in tradable sectors, while the effects of fiscal and monetary policy actions on domestic demand have become more pronounced. Thus, in line with our previous forecasts, domestic demand has remained more robust than foreign demand. Yet, aggregate demand uncertainty continues to be a major concern as inventory buildups have yet to reach a steady state. Against this background, economic activity remains poised for a slow and gradual recovery, while aggregate demand conditions are expected to further support the downtrend in inflation for a while.

4.1. Gross Domestic Product Developments and Domestic Demand

According to the national accounts data released by TURKSTAT, GDP expanded by 6 percent year-on-year during the fourth quarter of 2009, but contracted by 4.7 percent throughout 2009 (Graph 4.1.1). In seasonally adjusted terms, GDP grew by 2.3 percent quarter-on-quarter. Accordingly, the economic recovery that started in the second quarter of 2009 continued into the final quarter, albeit at a slower pace (Graph 4.1.2).



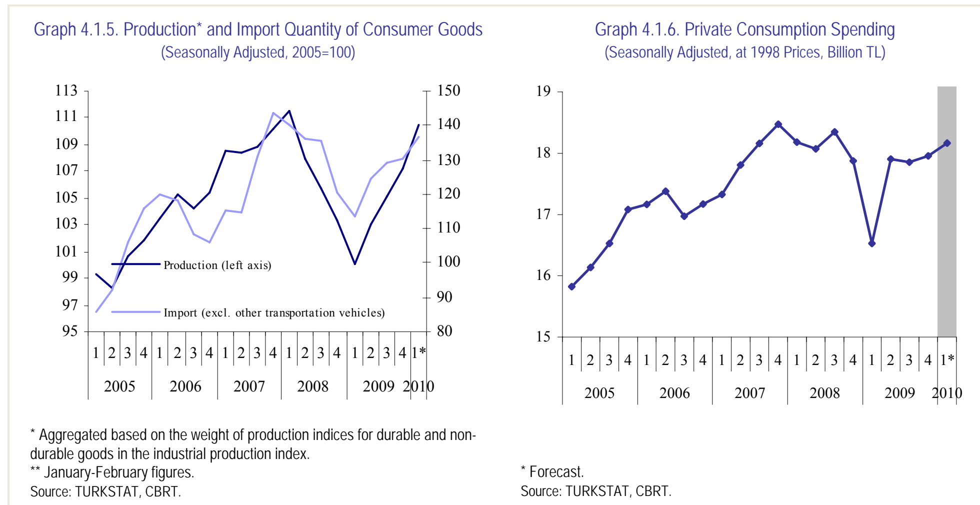
On the spending side, private consumption spending was the primary driver of the yearly GDP growth in the final quarter thanks to the low base effect from a year earlier (Graph 4.1.3). However, seasonally adjusted data indicate that consumption demand remains slack. Across sub-items of resident and non-resident household spending, furniture, household appliances and maintenance and transport/communication services accounted for most of the annual growth in consumption during the fourth quarter. The moderate recovery in consumption demand for spending categories that are sensitive to current income continued into the fourth quarter of 2009 (Graph 4.1.4).



Public spending on goods and services accelerated during the final quarter of 2009, providing a strong boost to quarterly GDP growth. The run-up in public spending was due to the advance payment of health care expenditures

for 2010 amid the improved budget revenue performance, and therefore reflects an incidental gain rather than a strong and permanent fiscal expansion. Excluding public spending, the pace of slow down in economic recovery becomes more evident (Graph 4.1.2).

The recent outlook for domestic demand shows that the production and imports of consumer goods continued to grow during January-February (Graph 4.1.5). Therefore, the recovery in private consumption demand is expected to gain momentum in the first quarter of 2010 (Graph 4.1.6). The figures on production and imports of capital goods suggest that investment demand continues to recover, but remains below levels associated with strong economic growth (Graphs 4.1.7 and 4.1.8).

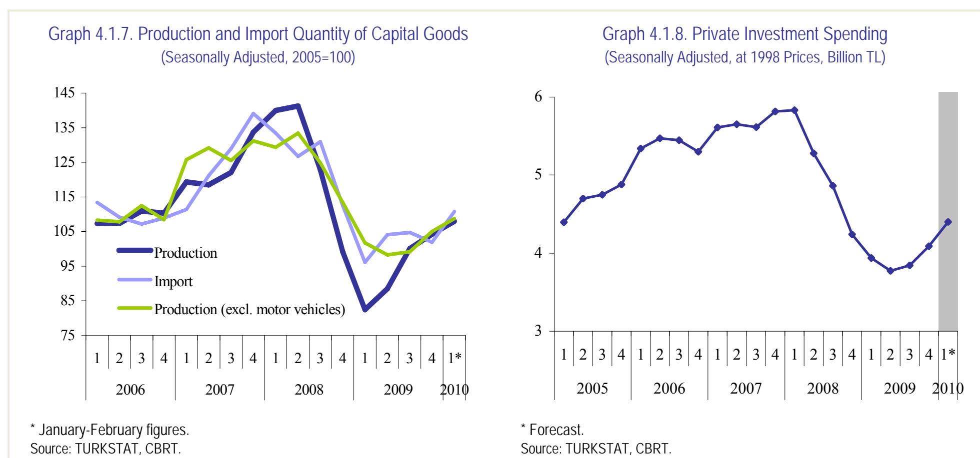


Graph 4.1.5. Production* and Import Quantity of Consumer Goods (Seasonally Adjusted, 2005=100)

* Aggregated based on the weight of production indices for durable and non-durable goods in the industrial production index.
** January-February figures.
Source: TURKSTAT, CBRT.

Graph 4.1.6. Private Consumption Spending (Seasonally Adjusted, at 1998 Prices, Billion TL)

* Forecast.
Source: TURKSTAT, CBRT.



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

* January-February figures.
Source: TURKSTAT, CBRT.

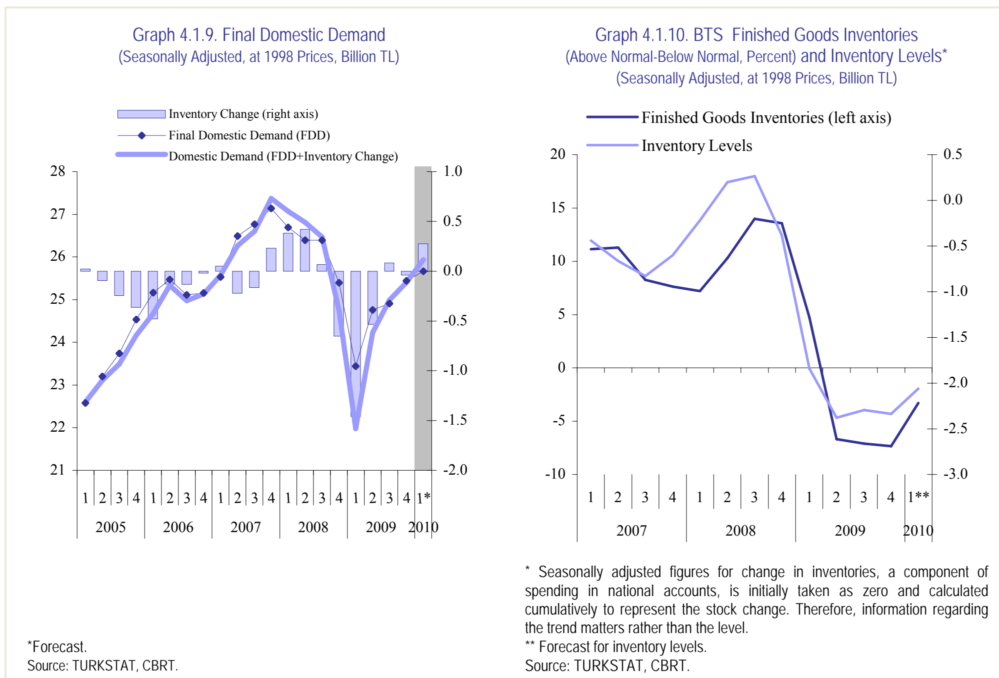
Graph 4.1.8. Private Investment Spending (Seasonally Adjusted, at 1998 Prices, Billion TL)

* Forecast.
Source: TURKSTAT, CBRT.

In the light of figures on consumption and investment demand, domestic demand is expected to increase moderately during the first quarter (Graph 4.1.9). The Business Tendency Survey (BTS) forecasts for finished goods inventories suggest that the first quarter production level was not only sufficient to meet the current demand but also help building inventories (Graph 4.1.10). Against this background, the gradual recovery in domestic demand is expected to continue into the first quarter (Graph 4.1.9). Yet, the medium-term outlook for domestic demand will depend on the pace of global recovery as well as on the stance of fiscal and monetary policy.

Graph 4.1.9. Final Domestic Demand
(Seasonally Adjusted, at 1998 Prices, Billion TL)

Graph 4.1.10. BTS Finished Goods Inventories
(Above Normal-Below Normal, Percent) and Inventory Levels*
(Seasonally Adjusted, at 1998 Prices, Billion TL)



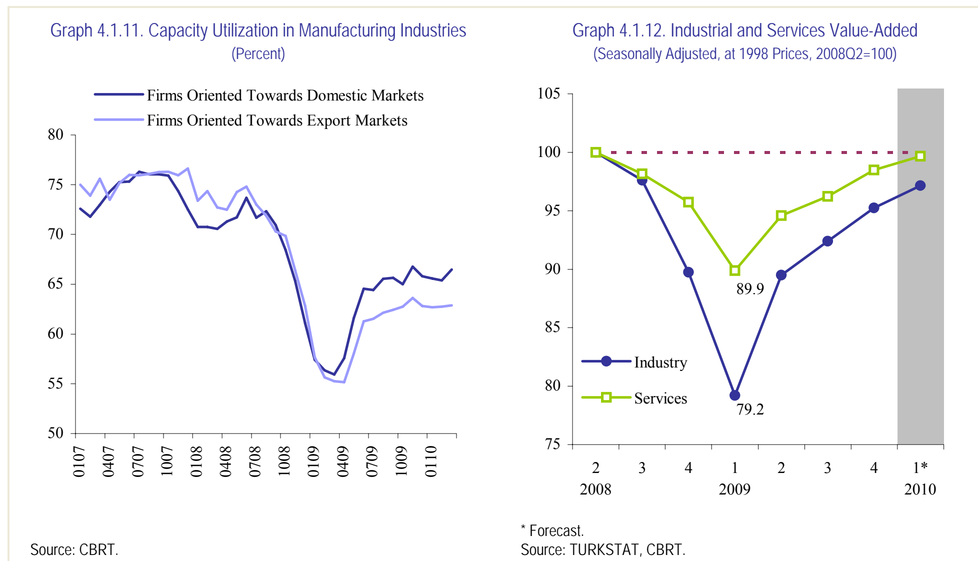
*Forecast.
Source: TURKSTAT, CBRT.

* Seasonally adjusted figures for change in inventories, a component of spending in national accounts, is initially taken as zero and calculated cumulatively to represent the stock change. Therefore, information regarding the trend matters rather than the level.
** Forecast for inventory levels.
Source: TURKSTAT, CBRT.

The weak global growth outlook continues to dampen economic activity in sectors that are relatively more sensitive to foreign demand, such as export-oriented industrial sectors and related services sectors. Following the recent crisis, manufacturing firms that mostly serve external markets have been operating at lower capacity than local market oriented firms (Graph 4.1.11). In fact, policy rate cuts and increased public spending have a growing impact on domestic demand, with services sectors more sensitive to domestic demand experiencing relatively stronger growth performances (Graphs 4.1.12 and 4.1.13). Sectoral differentiation is also confirmed by commercial loans and employment data (Graph 4.1.14).[1] Moreover, the fact that construction sector value-added increased quarter-on-quarter during the fourth quarter of 2009 for

[1] For more information on employment developments, see Section 4.3.

the first time in a long while confirms that the economic recovery has started to spread across all manufacturing industries (Graph 4.1.15).

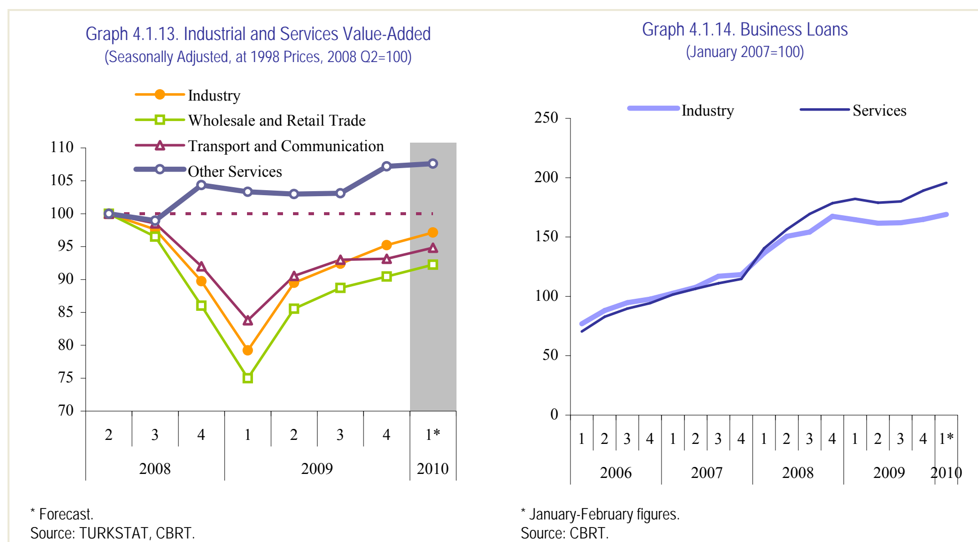


Graph 4.1.11. Capacity Utilization in Manufacturing Industries
(Percent)

Source: CBRT.

Graph 4.1.12. Industrial and Services Value-Added
(Seasonally Adjusted, at 1998 Prices, 2008Q2=100)

* Forecast.
Source: TURKSTAT, CBRT.



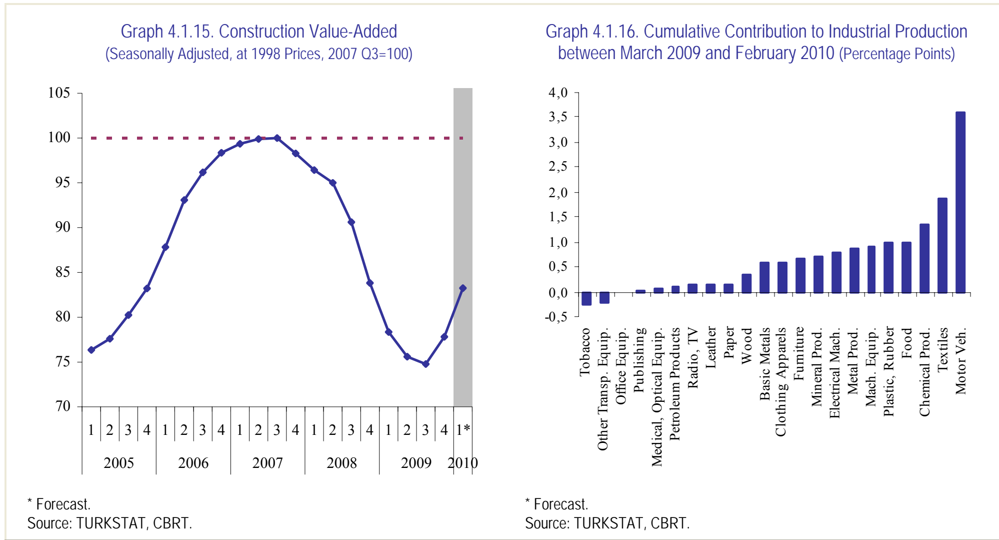
Graph 4.1.13. Industrial and Services Value-Added
(Seasonally Adjusted, at 1998 Prices, 2008 Q2=100)

* Forecast.
Source: TURKSTAT, CBRT.

Graph 4.1.14. Business Loans
(January 2007=100)

* January-February figures.
Source: CBRT.

Sectors stimulated by fiscal incentives and their intermediate input suppliers as well as non-durable goods sector and sectors with strong linkages to construction sector have been on the rebound since the bottoming out of industrial production in March 2009 (Graph 4.1.16). Non-durable goods production, an income-sensitive sector, has grown rapidly since the fourth quarter of 2009, reflecting the support of fiscal policy to domestic demand. Meanwhile, the current monetary stance not only spurs the demand for durable goods but also supports construction sector activities.



Graph 4.1.15. Construction Value-Added (Seasonally Adjusted, at 1998 Prices, 2007 Q3=100)

* Forecast.
Source: TURKSTAT, CBRT.

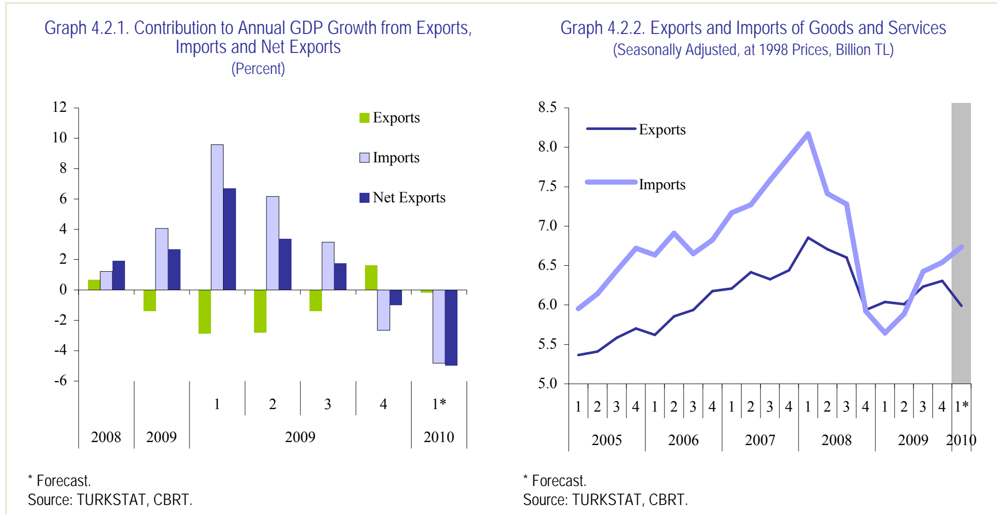
Graph 4.1.16. Cumulative Contribution to Industrial Production between March 2009 and February 2010 (Percentage Points)

* Forecast.
Source: TURKSTAT, CBRT.

In sum, fourth-quarter national accounts data were largely consistent with the outlook presented in the January Inflation Report. Although the run-up in public spending was beyond expectations, the fact that the recovery in private demand has yet to gain solid footing and the unsolved issues about the global economy still remain, albeit at a slower pace, reflects an aggregate demand outlook consistent with our previous forecasts. In addition, aggregate demand uncertainty continues to be a major concern for the manufacturing industry as inventory buildups have yet to reach a steady state. On balance, the weak global growth is expected to further restrain economic activity and employment in sectors sensitive to foreign demand, whereas the gradual recovery in domestic demand is expected to continue in coming months with the support of fiscal and monetary policies.

4.2. Foreign Demand

Exports and imports of goods and services increased by 6.4 and 10.5 percent year-on-year, respectively, in the fourth quarter of 2009. Thus, net exports contributed a –1 percentage point to annual GDP growth, exports and imports accounting for 1.6 and –2.6 percentage points, respectively (Graph 4.2.1). According to seasonally adjusted data, exports and imports grew quarter-on-quarter during the fourth quarter, as predicted in the January Inflation Report (Graph 4.2.2).



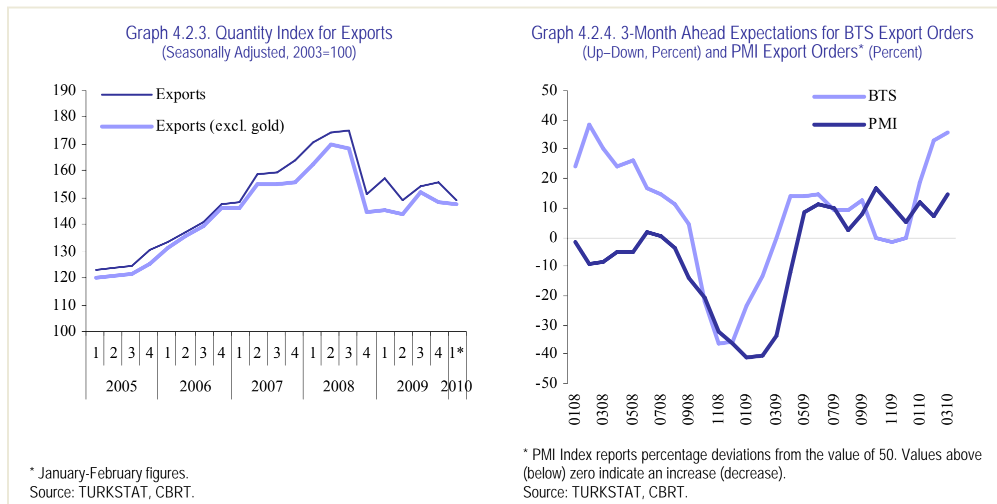
Graph 4.2.1. Contribution to Annual GDP Growth from Exports, Imports and Net Exports
(Percent)

* Forecast.
Source: TURKSTAT, CBRT.

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

* Forecast.
Source: TURKSTAT, CBRT.

Recent data releases indicate that exports slowed down during the first quarter in real terms. The quantity index for exports declined by 8.6 percent year-on-year during January-February, falling below the average for the previous quarter in seasonally adjusted terms. Excluding gold, the underlying trend in exports was flat (Graph 4.2.3). Therefore, exports of goods and services are expected to fall quarter-on-quarter during the first quarter of 2010 back to the level a year earlier (Graphs 4.2.1 and 4.2.2).



Graph 4.2.3. Quantity Index for Exports
(Seasonally Adjusted, 2003=100)

* January-February figures.
Source: TURKSTAT, CBRT.

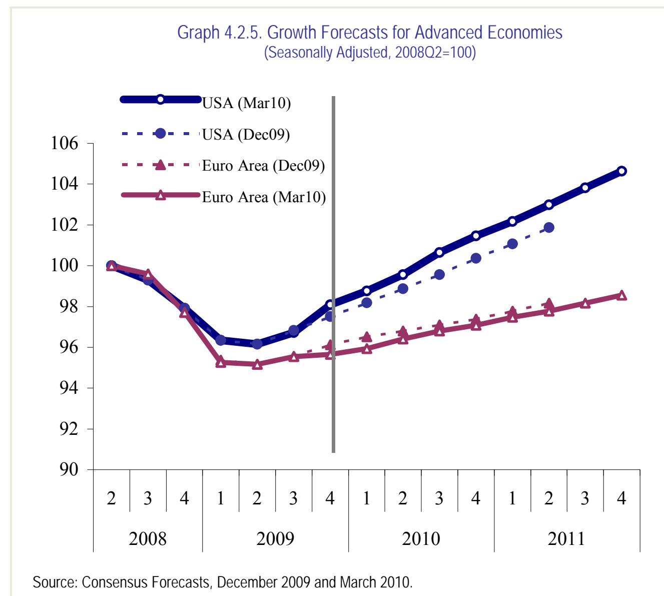
Graph 4.2.4. 3-Month Ahead Expectations for BTS Export Orders
(Up–Down, Percent) and PMI Export Orders* (Percent)

* PMI Index reports percentage deviations from the value of 50. Values above (below) zero indicate an increase (decrease).
Source: TURKSTAT, CBRT.

Although the exports-to-national income ratio is relatively low, Turkish economy was severely hit by the slump in foreign demand during the global crisis (Box 4.1). Accordingly, the pace of economic recovery in the upcoming period and thus the outlook for foreign demand and the global growth remains crucial.

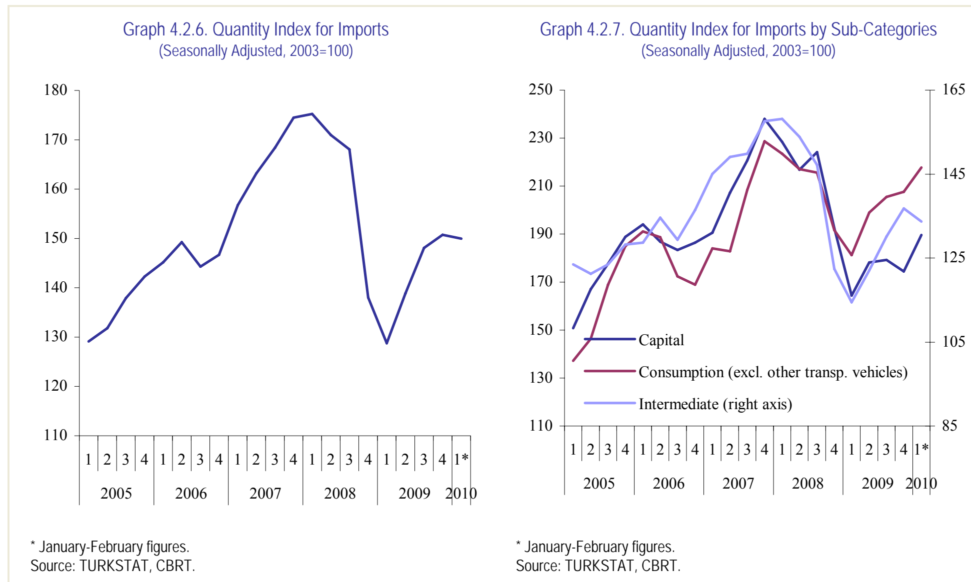
Global economic recovery is likely to be slow and gradual in the coming period. The recent rapid increase in the BTS orders index appears to be largely due to seasonal factors. The PMI orders index indicates that exports are unlikely to grow robustly in the short run (Graph 4.2.4). The medium-term outlook for global growth suggests that the weak pace of foreign demand will continue for a while. In fact, as of March, forecasts for the Euro area, Turkey's major trading partner, signal a slightly gloomier medium-term outlook than envisaged in the January Inflation Report, supporting the belief that it would take time before foreign demand returns to previous levels (Graph 4.2.5).

Graph 4.2.5. Growth Forecasts for Advanced Economies
(Seasonally Adjusted, 2008Q2=100)



Source: Consensus Forecasts, December 2009 and March 2010.

Imports of goods and services continued to recover in the fourth quarter of 2009 amid improved domestic demand. The quantity index for imports increased by 18.1 percent year-on-year during January-February, running slightly below its quarter-ago average in seasonally adjusted terms (Graph 4.2.6). Across main industrial subcategories, intermediate and investment goods remained below pre-crisis levels, whereas the underlying trend in imports of consumer goods was relatively more robust (Graph 4.2.7).

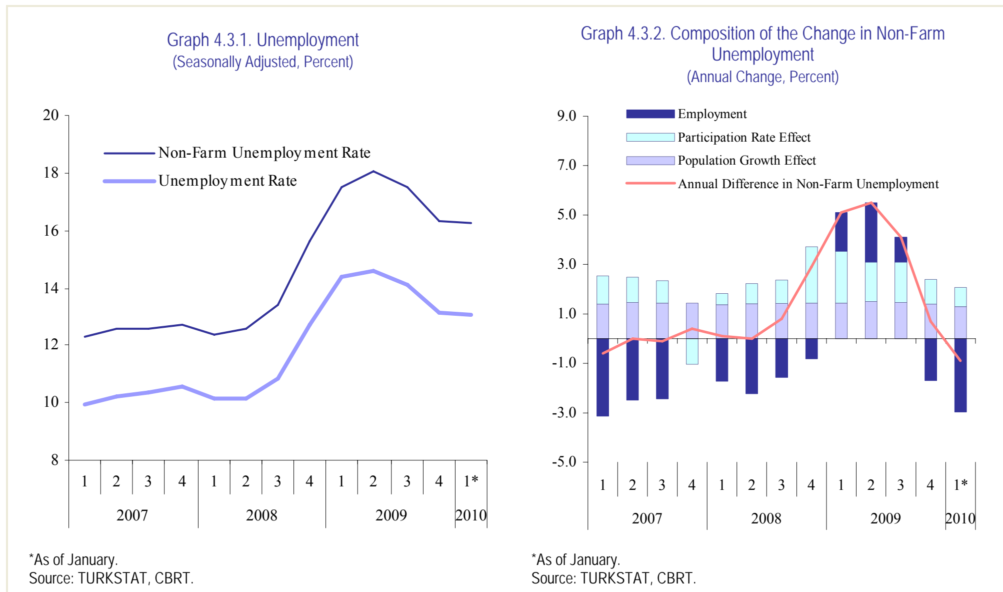


Imports of goods and services are expected to grow moderately quarter-on-quarter during the first quarter of 2010, but increase dramatically year-on-year due to the comparatively low level a year ago and make a negative contribution to GDP growth (Graphs 4.2.1 and 4.2.2).

In sum, envisioning that domestic demand would recover faster than foreign demand in coming months, the negative contribution of net foreign demand to annual GDP growth is expected to rise.

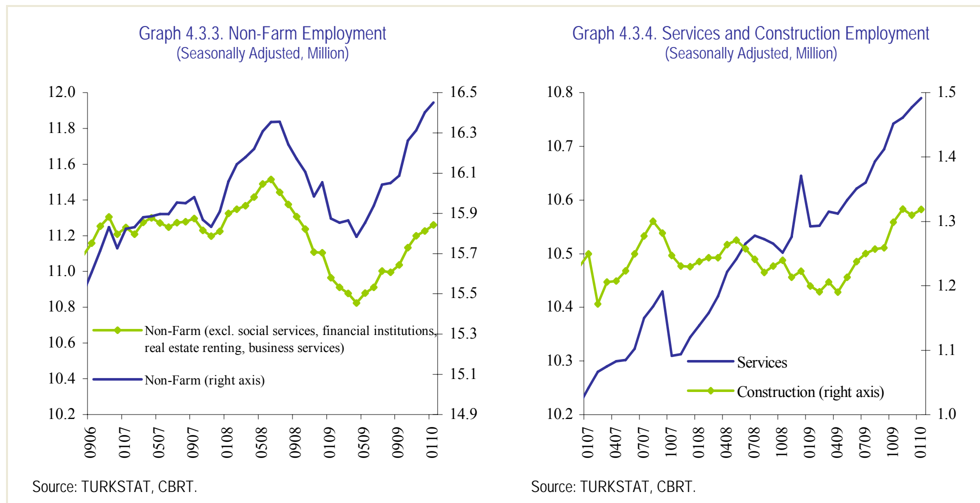
4.3. Labor Market

The recovery in the labor market that started in the third quarter of 2009 continued into the fourth quarter, albeit at a slower pace. Unemployment declined in seasonally adjusted terms, but still remains elevated (Graph 4.3.1). Non-farm unemployment began to fall year-on-year after a long while, owing to the growth in employment as well as the high base effect from a year earlier (Graph 4.3.2).



Non-farm employment continued to rise in seasonally adjusted terms and reached its pre-crisis level as of December. Having narrowed mainly in the industrial sector during the crisis, employment contracted primarily in construction and services sectors during the recovery. Yet, the ongoing growth in the services sector and the strong recovery in the construction sector compensated the total loss in non-farm employment (Graphs 4.3.3 and 4.3.4).

The weak pace of foreign demand continues to dampen employment in tradable sectors. This is evident both in the industrial sector and in the services sector with sub-sectors following various trends. Trade/restaurants and hotels and transport/communication grow more moderately, while financial institutions/real estate/business services sectors are the major driver of the growth in the services sector. Employment is less sensitive to business cycles in the services sector, while non-farm employment has yet to reach its pre-crisis levels in crisis-struck sectors (Graph 4.3.3).



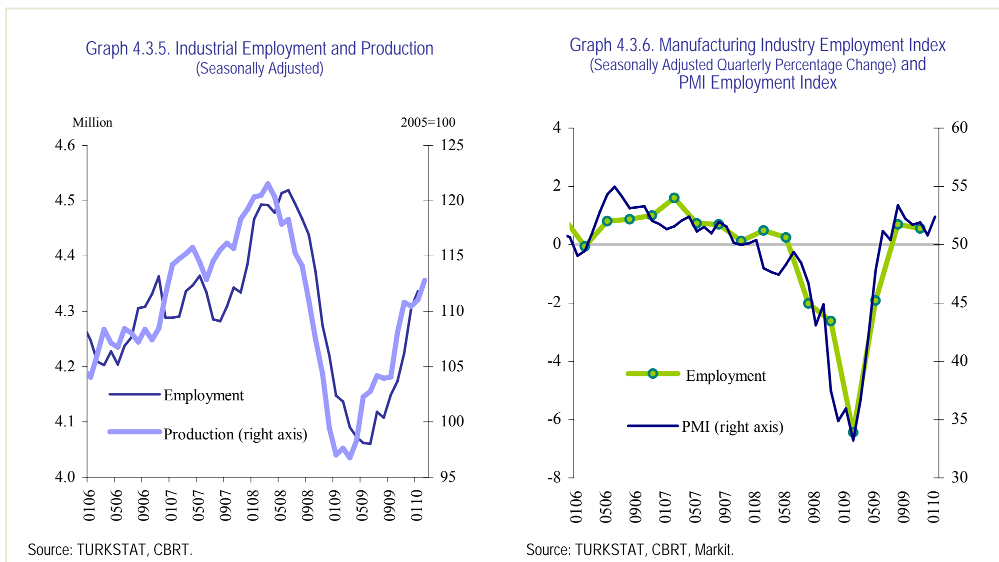
Graph 4.3.3. Non-Farm Employment (Seasonally Adjusted, Million)

Source: TURKSTAT, CBRT.

Graph 4.3.4. Services and Construction Employment (Seasonally Adjusted, Million)

Source: TURKSTAT, CBRT.

Employment continues to recover in the industrial sector amid increased production (Graph 4.3.5). The effort to compensate crisis-driven productivity losses delays the adjustment of employment to output. The rise in capacity utilization rates and hours worked per capita allows production to boost employment creation potential. Despite having slowed down in recent months, industrial production and PMI continued to rise, indicating that industrial employment recovered further in the first quarter of 2010 (Graph 4.3.6).



Graph 4.3.5. Industrial Employment and Production (Seasonally Adjusted)

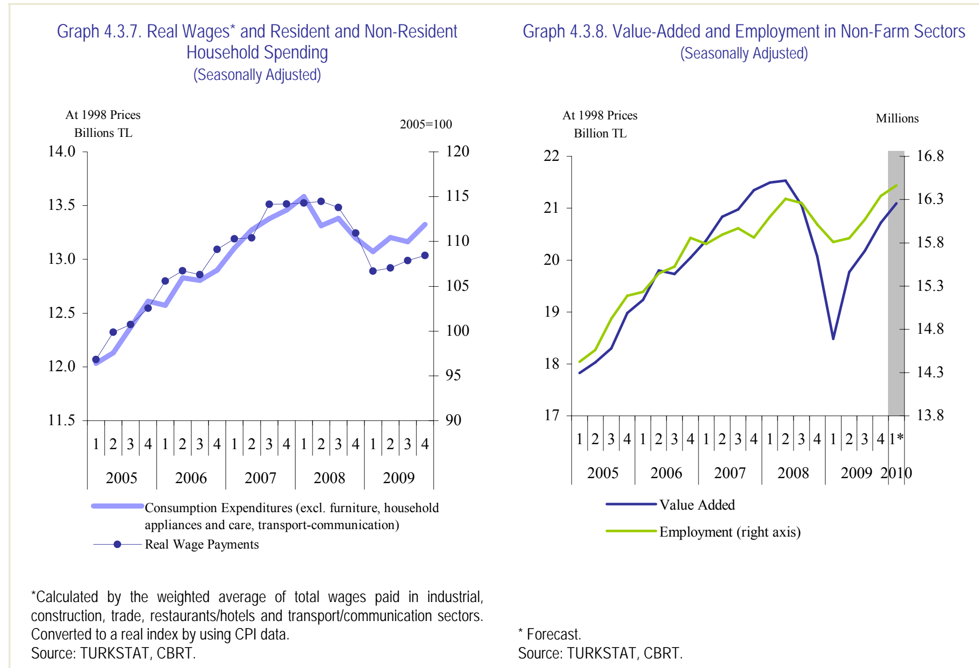
Source: TURKSTAT, CBRT.

Graph 4.3.6. Manufacturing Industry Employment Index (Seasonally Adjusted Quarterly Percentage Change) and PMI Employment Index

Source: TURKSTAT, CBRT, Markit.

During the final quarter of 2009, total real wages increased quarter-on-quarter in seasonally adjusted terms and continued to support household consumption (Graph 4.3.7). Yet, both the level and the speed of recovery of real wages are quite below previous quarters. This outlook confirms the

prediction that the income channel supports the gradual recovery in household consumption demand.



Graph 4.3.7. Real Wages* and Resident and Non-Resident Household Spending (Seasonally Adjusted)

*Calculated by the weighted average of total wages paid in industrial, construction, trade, restaurants/hotels and transport/communication sectors. Converted to a real index by using CPI data.
Source: TURKSTAT, CBRT.

Graph 4.3.8. Value-Added and Employment in Non-Farm Sectors (Seasonally Adjusted)

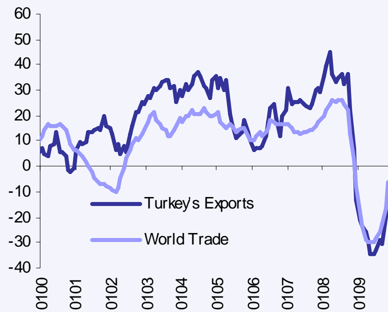
* Forecast.
Source: TURKSTAT, CBRT.

Although, employment conditions are expected to improve further in the upcoming period amid the rebound in non-farm sectors, unemployment is likely to remain above pre-crisis levels for a long time and exert no significant pressure on unit labor costs (Graph 4.3.8).

Box 4.1 Global Crisis, Foreign Demand Shocks and the Turkish Economy

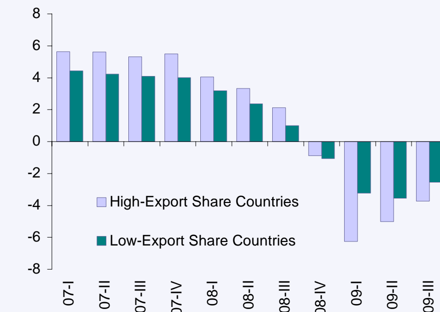
The global financial crisis has had a much deeper and prevalent impact on world economies since the fourth quarter of 2008. During the crisis, foreign trade has been one of the most significant channels that adversely affected the economic activity[2]. In fact, having grown by 15.4 percent in 2008, world trade volume declined by 22.8 percent in 2009 (Graph 1).[3] This has been the largest contraction since World War II. In line with the global economic climate, Turkey's export volume increased by 20.4 percent in 2008 but narrowed by 27.3 percent in 2009. This Box compares the economic implications of crisis-driven foreign demand shocks across countries and country groups, and in turn, discusses the relative position of the Turkish economy.

Graph 1. World Trade Volume and Turkey's Exports (Annual Percentage Change)



Source: IFS, TURKSTAT, CBRT.

Graph 2. Ratio of Exports to GDP in 2008 (in percent of GDP) and Rate of Growth (Annual Percentage Change)



Note: 64 countries. Countries are divided into three equal groups by the ratio of their exports to GDP in 2008. The graph shows the median pace of growth in countries with higher and lower ratios.
Source: World Trade Organization, IMF, Bloomberg, TURKSTAT, CBRT.

With the plunge in the world trade volume, mainly export-oriented sectors as well as supplier industries and also services sectors, such as trade and transport, with strong linkages to export-oriented sectors have tumbled. Among all 64 countries involved, the rate of growth in countries with higher export-to-national income ratios has slowed faster compared to other countries. In fact, the rate of growth in countries with a higher ratio of exports to national income fell from an average 5.5 percent in 2007 by 12 percentage points to –6.2 percent in the first quarter of 2009, while, in other countries, the growth rate went down from an average 4 percent to –3.2 percent (Graph 2).[4]

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[2] For more information, see Gürgür, T., Çınar, B., Erdoğan, Ö. and T. Polat (2010), "Küresel Kriz, Etkileşim Kanalları ve Türkiye Ekonomisi", CBRT Economic Note No. 10/07.
[3] As of November 2009.
[4] The analysis involves 64 countries with quarterly growth data. These countries are divided into three equal groups ranked according to the ratio of exports to national income in 2008. In this sample, countries with higher ratios have an export-to-GDP ratio of 68.7 percent on average, whereas, for countries with lower export share, this ratio is 17.5 percent on average. For Turkey, this ratio is about 17 percent.

A comparison by year-on-year growth data across 171 countries renders similar results (Table 1). During 2007–2009, the rate of growth dropped by 7.1 percentage points in countries with higher exports-to-GDP ratios, and by 3.7 percentage points in countries with lower ratios.

Table 1. Country Groups by Ratio of Exports to GDP and Pace of Growth

Country Groups by Export Ratio	Exports-to-GDP Ratio (2008)	Rate of GDP Growth (year-on-year) 2007*	2008*	2009*	Change from 2007 to 2009 (percentage points)
High	61.4%	6.1	3.4	-1.0	-7.1
Medium	27.9%	5.6	4.9	-0.9	-6.5
Low (Turkey 17%; 131/179)	11.1%	5.0	3.5	1.3	-3.7

*Countries are divided into three equal groups by ratios of exports to GDP in 2008. The table shows the median pace of growth in relevant countries.
Source: IFS, TURKSTAT, CBRT.

Based on the comparison by countries and country groups, Turkey falls into the category of countries with low exports-to-GDP ratios. According to 2008 data, the ratio of exports to GDP amounts to 17 percent, which puts Turkey in the 131st place among 179 countries. However, given the size of the change in foreign trade volume, the impact of the global financial crisis on the Turkish economy through foreign trade is much more pronounced than that implied by Turkey's ranking, owing to the distribution of export destinations and the composition of exported goods.

Importance of Export Destinations in Foreign Trade

The global crisis had a more severe impact on advanced economies such as the United States, EU and Japan than on developing economies (Table 2).

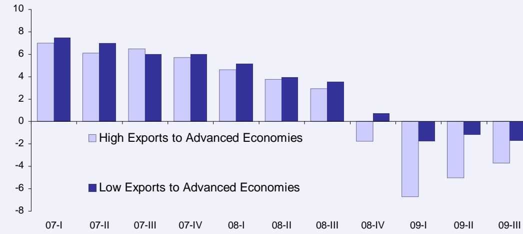
Table 2. Pace of Growth in Advanced and Developing Economies
(year-on-year percentage change)

	2007 Q1	2007 Q4	2008 Q2	2008 Q3	2008 Q4	2009 Q1	2009 Q2	2009 Q3
Advanced Economies	2.7	2.2	-0.2	-2.4	-7.2	-8.3	1.0	2.4
Developing Economies	10.8	9.3	5.0	2.9	-2.2	-3.1	7.9	8.5

Source: WEO, CBRT.

Categorized by the share of exports to advanced economies in total exports, countries that entered the global recession with similar growth rates differed to a great extent during the crisis. As of the first quarter of 2009, in countries mostly exporting to advanced economies, the rate of growth has declined to an average of –6.7 percent, whereas in countries exporting to developing countries, it has slowed to –1.7 percent (Graph 3).

Graph 3. Developing Countries by Share of Exports to Advanced Economies in GDP (2008, in percent of GDP) and Rate of Growth (annual percentage change)



Note: Number of countries is 46. Countries are divided into three equal groups according to their ratios of exports to GDP in 2008. Median rate of growth is reported in countries with higher and lower ratios.
Source: World Trade Organization, IFS, Bloomberg, TURKSTAT, CBRT.

Advanced economies, particularly EU member states, occupy a major share in Turkey's total exports. Exports to these destinations account for about two-thirds of total exports, and based on this criterion, Turkey ranks 49th among 105 developing countries. This observation suggests that foreign trade had a more marked impact on Turkey during the crisis than that implied by the export-to-national income ratio.

Importance of the Composition of Exported Goods in Foreign Trade

The impact of the global crisis on world economies through foreign trade also varies depending on the composition of exported goods. The demand for goods that are extremely sensitive to the cyclical movements of the economy, such as investment goods and durable goods, was more severely affected by exogenous shocks (Table 3). In countries exporting manufacturing goods, the rate of growth fell by an average 7.9 percentage points during 2007–2009 to –3.0 percent. On the other hand, in countries exporting goods which are relatively less sensitive to the cyclical movements of the global economy, such as food and energy, GDP growth slowed by 5.5 percentage points.

Table 3. Country Groups by Composition of Exports and Pace of Growth

		Rate of GDP growth (annual change)			
Share of Exports	Average Share (2008)	2007*	2008*	2009*	Change from 2007 to 2009 (percent)
Agricultural					
High	35.1%	6.0	5.1	0.5	-5.5
Medium	13.0%	5.7	2.8	-2.3	-8.0
Low (Turkey 8.5%, 91/139)	4.4%	5.2	3.4	-1.9	-7.1
Energy					
High	63.6%	5.3	4.6	0.9	-4.4
Medium	16.1%	5.7	2.9	-2.7	-8.4
Low (Turkey 9.0%, 90/139)	4.2%	6.2	3.5	-1.3	-7.5
Manufacturing					
High (Turkey 78.6%, 27/139)	81.2%	4.9	2.2	-3.0	-7.9
Medium	52.5%	6.6	4.3	-1.0	-7.6
Low	7.8%	5.5	5.3	1.5	-4.0

* Median results are reported.
Source: World Trade Organization, CBRT.

The same is true for subcategories of manufacturing industry goods. Calculations show that the rate of growth in countries with a larger share of automotive products in exports slowed by an average 8.2 percentage points. Similarly, in countries exporting machinery and transport equipment (excluding automotive products), the rate of growth was down 9.1 percentage points, while in countries exporting iron and steel, growth decreased by 9.3 percentage points (Table 4). In countries where such goods have a smaller share in exports, economic activity contracted more modestly, while the rate of growth was down between 3.3 and 4.7 percentage points from 2007 to 2009.

Table 4. Country Groups by Composition of Exports and Rate of Growth (Subcategories)

Share of Exports	Average Share (2008)	Pace of GDP growth (annual change) 2007*	2008*	2009*	Change from 2007 to 2009 (percentage points)
Automotive Products					
High (Turkey: % 13,5, 10/139)	8.2%	5.1	2.3	-3.1	-8.2
Medium	0.7%	6.0	3.6	-1.7	-7.8
Low	0.1%	6.3	5.2	1.5	-4.7
Machinery and Transport Equipment (excl. automotive)					
High (Turkey % 13,1, 38/139)	27.5%	5.2	2.1	-3.9	-9.1
Medium	5.6%	6.3	5.2	0.5	-5.8
Low	0.8%	5.5	5.3	1.5	-4.0
Iron and Steel					
High (Turkey % 12,8, 8/139)	5.7%	6.2	3.0	-3.1	-9.3
Medium	1.2%	5.6	2.9	-1.7	-7.3
Low	0.1%	5.1	5.0	1.8	-3.3
Textiles and Clothing					
High (Turkey % 17,4, 20/139)	14.0%	6.3	5.3	0.5	-5.8
Medium	2.3%	4.7	2.3	-2.9	-7.6
Low	0.1%	5.4	3.4	0.6	-4.8
Other					
High	31.4%	4.8	2.5	-3.0	-7.7
Medium (Turkey % 18,8, 64/139)	17.4%	6.2	4.0	-1.0	-7.2
Low	3.4%	6.0	5.4	1.5	-4.4

Note: Countries are divided into three equal groups by ratios of exports to GDP in 2008. The table shows the median rate of growth in relevant countries.
Source: World Trade Organization, WEO, Bloomberg, TURKSTAT, CBRT.

On the composition of exports front, Turkey is largely an exporter of manufacturing industry products (Table 5). Automotive products, machinery/transport equipment and iron/steel account for an outstanding 14, 13 and 13 percent, respectively, of Turkey's exports. Of 139 exporters, Turkey is among the first 10 having the largest share of automotive and iron/steel products in total exports. Hence, like other economies that mostly export investment and durable goods, yet have a smaller export-to-GDP ratio, Turkey also has been adversely affected by foreign demand shocks during the global crisis.

Table 5. Composition of Exports in Turkey (2008, Percent)

	Exports	Imports
Agricultural	**8.5**	**6.5**
Food Products	8.1	4.2
Petroleum Products and Mining	**9.0**	**31.2**
Petroleum Products	5.7	22.9
Manufacturing	**78.6**	**58.4**
Iron and Steel	12.8	7.4
Chemicals	4.3	12.5
Machinery and Transport Equipment	29.6	25.5
Automotive Products	13.5	7.5
Textiles	7.1	2.8
Clothing	10.3	1.1
Other	**3.9**	**4.0**

Source: World Trade Organization, TURKSTAT, CBRT.

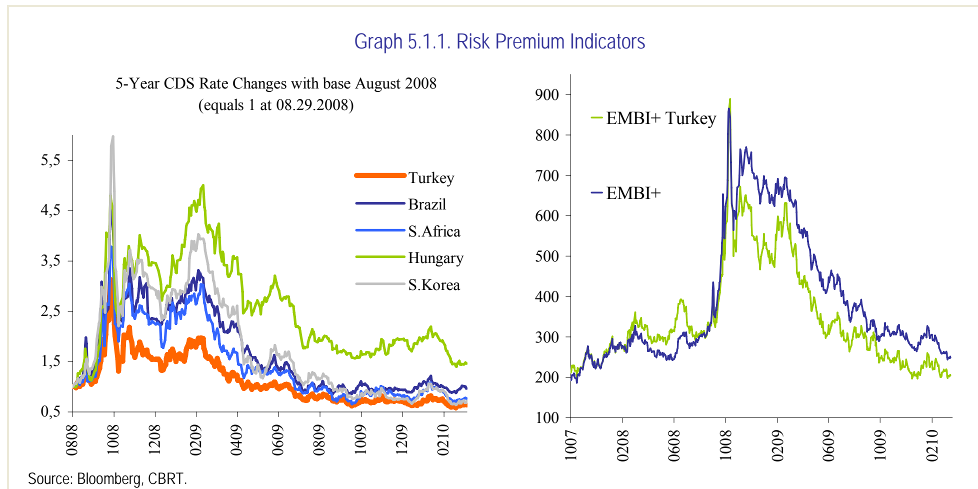
In sum, the contraction in international trade has been one of the most significant factors adversely affecting economic activity during the global financial crisis. The rate of growth in countries with higher exports-to-national income ratio has slowed faster than those with lower ratios. The impact of the global crisis on world economies through foreign demand also varies depending on the composition of exported goods. Despite having a smaller exports-to-GDP ratio, the adverse impact of the foreign demand shock has been more remarkable since Turkey's export destinations include advanced economies that are relatively more severely affected by the global crisis and our exports are mostly composed of goods that are sensitive to the cyclical movements of the economy.

5. Financial Markets and Financial Intermediation

5.1. Financial Markets

Stronger expectations about economic recovery continued to boost risk appetite during the first quarter of 2010. Yet, concerns over debt sustainability in some countries dampened risk sentiment, albeit modestly and temporarily. This, together with the massive injection of low-cost liquidity amid the worldwide monetary and fiscal expansion, fuelled the optimism in global financial markets and promoted further bias towards risky assets. Consequently, emerging markets continued to attract capital through portfolio movements in the first quarter, as has been the case since the second quarter of 2009. Meanwhile, risk premiums for many emerging economies continued to hover below pre-crisis levels. In addition, Turkey's risk premium remained mostly favorable and stable, excluding short periods when country-specific conditions came out (Graph 5.1.1).

Graph 5.1.1. Risk Premium Indicators

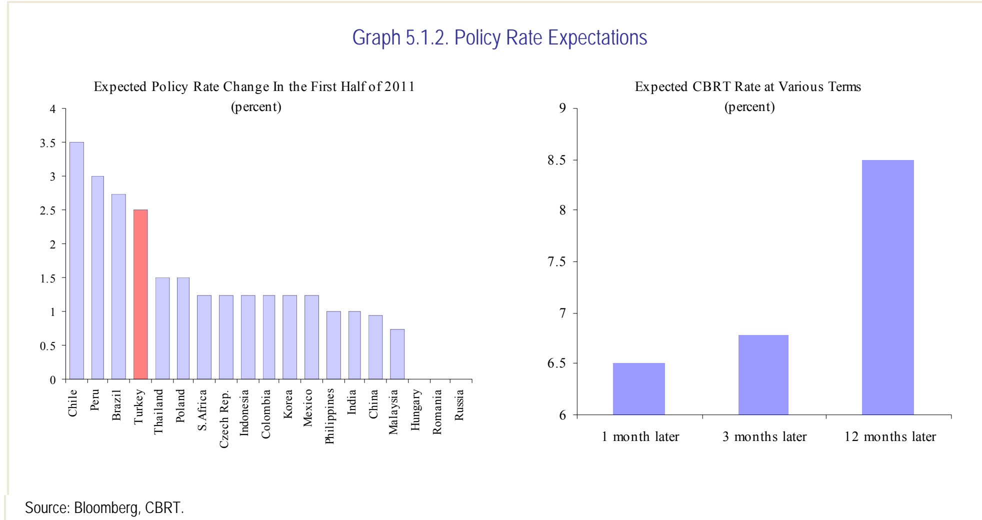


Source: Bloomberg, CBRT.

One of the key drivers of global risk sentiment during the first quarter was developments regarding the method and timing of the exit implemented by government authorities in advanced economies. Uncertainties about a sustainable pace of economic recovery without fiscal and monetary stimulus packages as well as the absence of an uptrend in inflation prompt and allow advanced economies to adopt a protracted and gradual exit from the crisis. On the other hand, some emerging economies started to implement their exit strategies in the first quarter, and thus, to raise policy rates. In coming months, the relatively less affected Asian countries and some Latin American

economies are likely to join economies that hike policy rates. In the meantime, markets expect the CBRT to tighten monetary policy by mid-2010 as well (Graph 5.1.2).

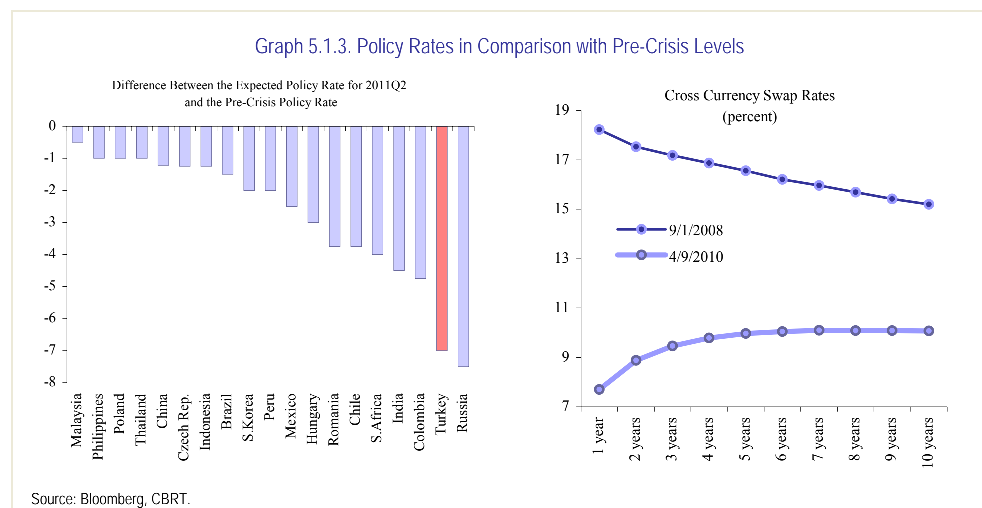
Graph 5.1.2. Policy Rate Expectations



Source: Bloomberg, CBRT.

Given the economy's sound financial structure and both relative and absolute decline in its risk premium, the CBRT cut policy rates aggressively during the crisis, thereby minimizing the damage to economic activity remarkably and also helping to normalize the economy. In fact, Turkey's policy rate expectations for the end of the second quarter of 2011 are significantly lower than pre-crisis levels. Moreover, TL interest rate on cross currency swaps (CCS) points to an expectation of a permanent fall in interest rates in Turkey (Graph 5.1.3).

Graph 5.1.3. Policy Rates in Comparison with Pre-Crisis Levels

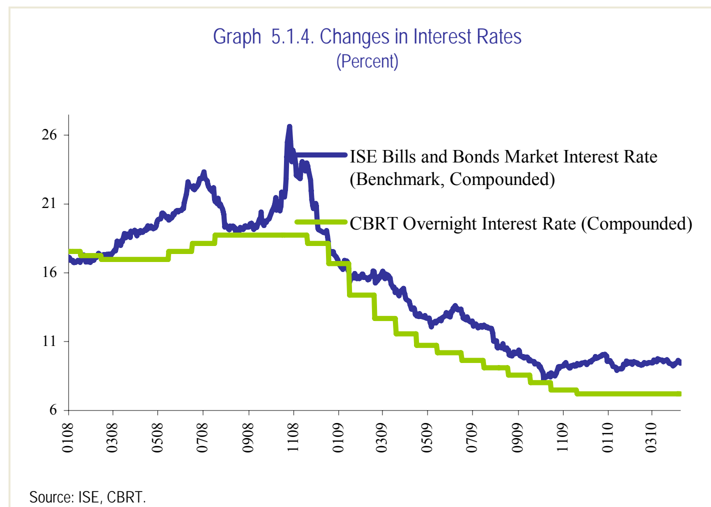


Source: Bloomberg, CBRT.

Despite mounting signs of global monetary tightening and higher inflation prospects, market rates stabilized around historic lows during the first quarter (Graph 5.1.4). Turkey's improved risk rating has been one of the major contributors to stability in market rates. The Turkish economy and financial system have demonstrated remarkable resilience against the crisis that put economies to a test of resistance to global shocks. As a result, unlike many other economies, risk sentiment of both local and global investors towards Turkish assets have improved. In fact, credit rating upgrades by credit-rating agencies, which have long been uttered by the CBRT as necessary, are an explicit evidence of the improved risk sentiment.

While soaring government deficits appeared to be a major risk factor in the first quarter, measures to strengthen fiscal discipline have placed downward pressure on market rates in Turkey. Henceforth, fiscal discipline and the debt ratios are likely to have an increasingly significant impact on market rates. Therefore, in order to keep market rates at low levels, further institutional reforms, primarily the fiscal rule, to strengthen the fiscal framework is critical.

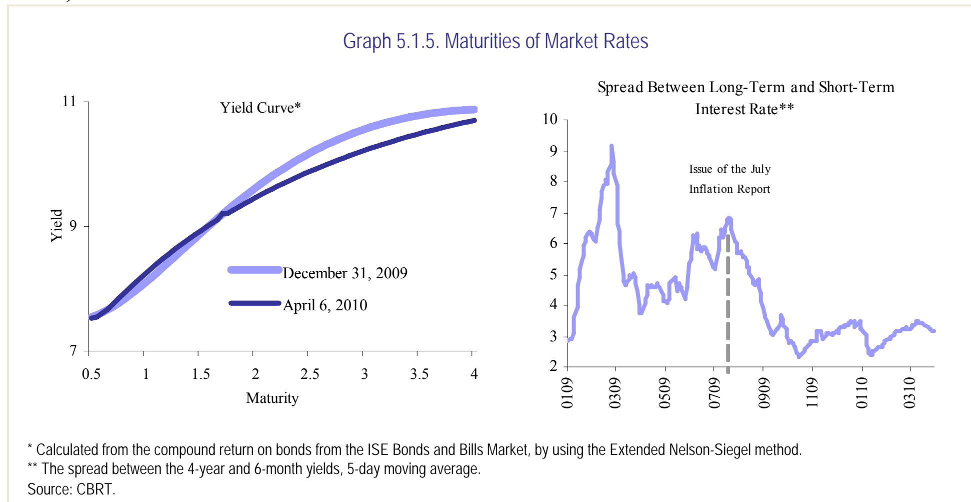
Graph 5.1.4. Changes in Interest Rates
(Percent)



Source: ISE, CBRT.

Expectations about the future course of monetary policy affected market returns during the first quarter (Box 5.1). Government bond yields on April 6, 2010 were up from those on December 31, 2009 in short and medium-term bonds but lower in long-term bonds. The market consensus on an imminent tightening by mid-2010 moves the short end of the yield curve up. Meanwhile, long-term yields went down during the first quarter, largely due to the expected decline in long-term interest rates. This trend is consistent with the recent fall in yields on long-term currency swaps. The drop in long-term yields is very

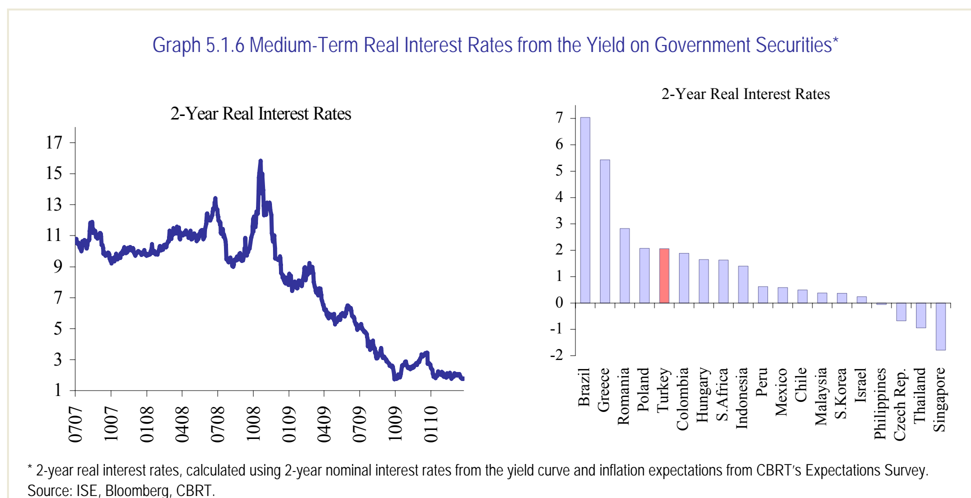
important in terms of reflecting the confidence in the fundamentals of the Turkish economy and the optimism about inflation in the long run. Amid the flattening of the yield curve, the gap between long-term and short-term yields has narrowed slightly compared to the end of the previous quarter (Graph 5.1.5).



Graph 5.1.5. Maturities of Market Rates

* Calculated from the compound return on bonds from the ISE Bonds and Bills Market, by using the Extended Nelson-Siegel method.
** The spread between the 4-year and 6-month yields, 5-day moving average.
Source: CBRT.

The stable course of market rates had its implications on medium-term real rates, thereby keeping real rates at an all-time low (Graph 5.1.6). The fact that steadily declining real market rates as a result of CBRT's policy rate cuts have experienced no upsurge in spite of the economic recovery is mainly attributable to the improved risk sentiment for Turkey. Furthermore, recent measures to strengthen fiscal discipline have added to the stability in real rates. This stability also implies that post-crisis real rates might remain below pre-crisis levels. Meanwhile, real market rates in Turkey are significantly more reasonable than in many other emerging economies.

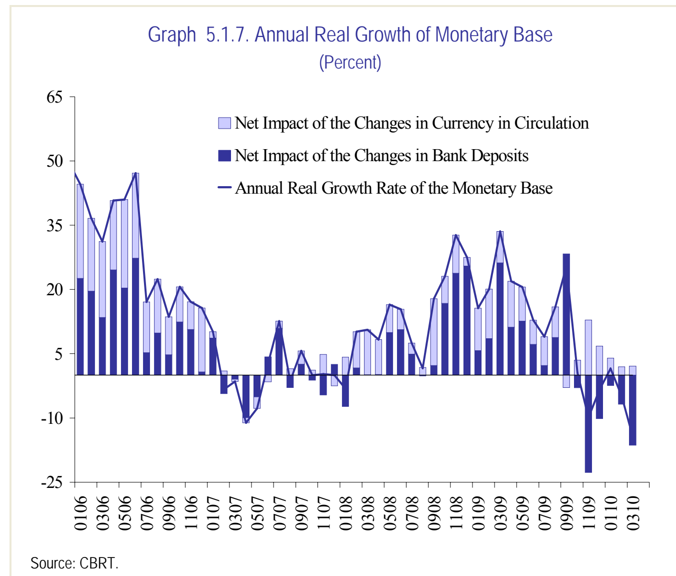


Graph 5.1.6 Medium-Term Real Interest Rates from the Yield on Government Securities*

* 2-year real interest rates, calculated using 2-year nominal interest rates from the yield curve and inflation expectations from CBRT's Expectations Survey.
Source: ISE, Bloomberg, CBRT.

The currency in circulation increased slightly year-on-year in real terms during the first quarter with the marked economic recovery, whereas bank deposits continued to fall year-on-year in real terms. This decline resulted from the rapid growth of bank deposits during the peak of the global crisis in the first quarter of 2009 driven by the shift in the portfolios of households and financial institutions towards liquid assets. On the other hand, bank deposits have been driven down since October 2009 as CBRT lowered the Turkish lira reserve requirement ratio by 1 percentage point in October 2009. With the sharp year-on-year real drop in bank deposits, the monetary base (currency in circulation and bank deposits) declined year-on-year in real terms (Graph 5.1.7). Changes in the monetary base indicate further economic recovery and bias towards risky assets amid normalized risk sentiment following the crisis.

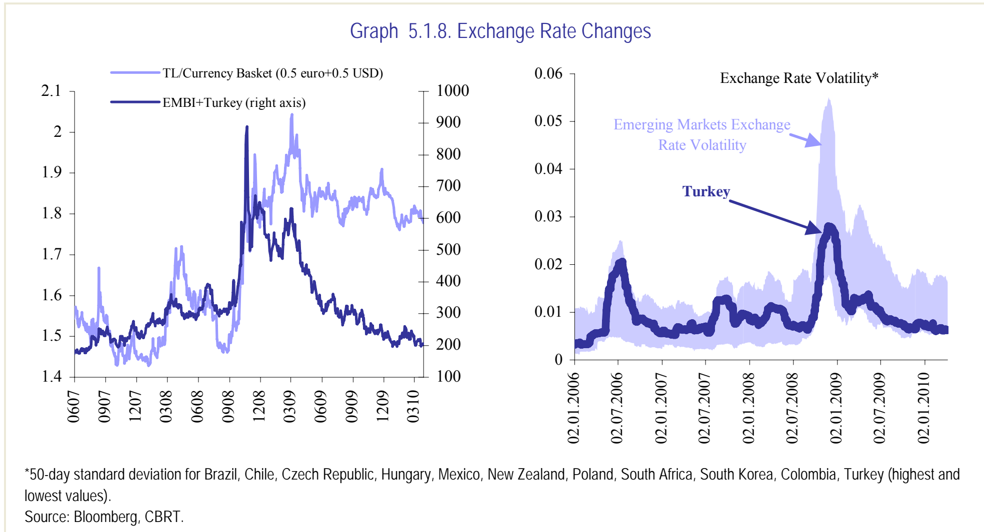
Graph 5.1.7. Annual Real Growth of Monetary Base
(Percent)



Source: CBRT.

The improved global risk sentiment during the first quarter led to slight appreciation in many emerging market currencies. In terms of changes in values, the Turkish lira did not significantly differ from other emerging market currencies. aving been historically volatile and extremely sensitive to global risk appetite, the relatively stable course of Turkish lira during the crisis continued into the aftermath of the crisis (Graph 5.1.8). Country-specific conditions are likely to unfold in coming months, and hence, currencies of economies with lower risk ratings, sound economic fundamentals and prospects of rapid growth are expected to display a better performance.

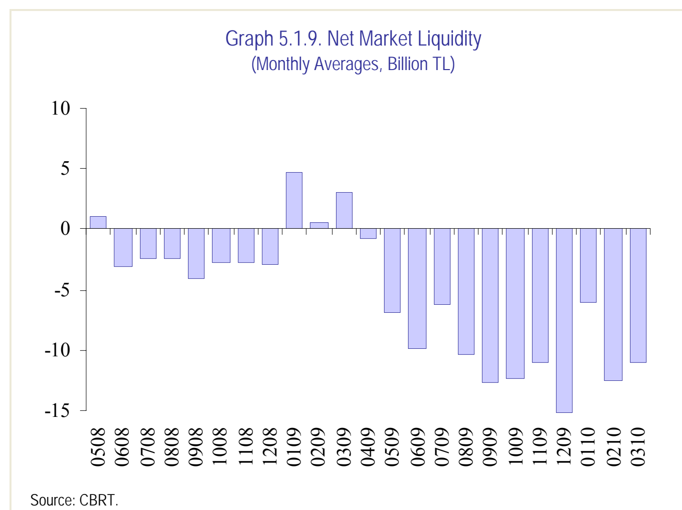
Graph 5.1.8. Exchange Rate Changes



*50-day standard deviation for Brazil, Chile, Czech Republic, Hungary, Mexico, New Zealand, Poland, South Africa, South Korea, Colombia, Turkey (highest and lowest values).
Source: Bloomberg, CBRT.

With the easing of the global liquidity shortage and restored stability in foreign exchange markets, the CBRT continued with the foreign exchange buying auctions that were resumed on August 4, 2009, in accordance with its general strategy to maintain a strong foreign exchange position. Accordingly, the Bank bought a total of 2.87 billion USD from the market in the first quarter, generating a liquidity of 4.33 billion TL. The Bank also continued with the government bond buying auctions that were resumed on December 23, 2009, and has provided a liquidity injection of 2.84 billion TL into the market as of April 6, 2010, corresponding to a total nominal value of 2.9 billion TL of government bonds. Hence, the liquidity shortage was relatively eased compared to the previous quarter (Graph 5.1.9).

Graph 5.1.9. Net Market Liquidity
(Monthly Averages, Billion TL)



Source: CBRT.

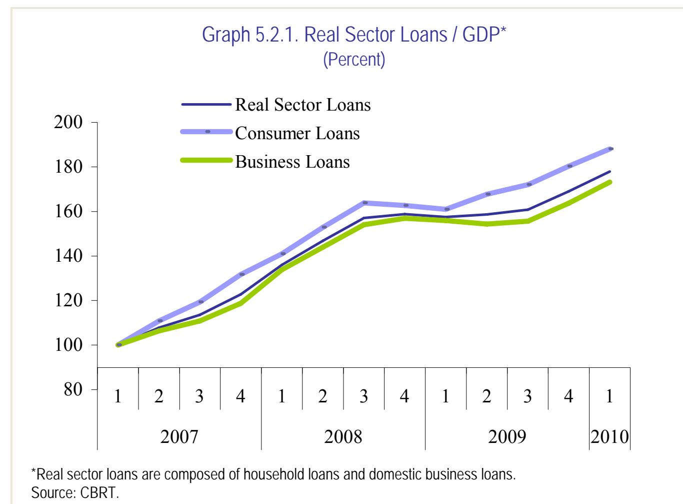
Lower policy rates and stabilizing liquidity measures continued to be effective on money and credit markets during the first quarter. With the easing of financial conditions, the expansionary impact of CBRT's monetary policy has become more pronounced.

The problems in the global economy to remain partially solved prompts economies to keep policy rates at low levels. Meanwhile, the continuing normalization in global markets and the stable recovery of domestic demand on one hand, the deteriorating inflation outlook due to adjustments in administered prices and volatile unprocessed food prices on the other hand may necessitate the withdrawal of some of the monetary measures. Thus, like many other countries, Turkey plans to withdraw stabilizing liquidity measures primarily implemented for the immediate crisis management, with a cautious and protracted approach while also observing financial stability (Box 5.2).

5.2. Financial Intermediation and Loans

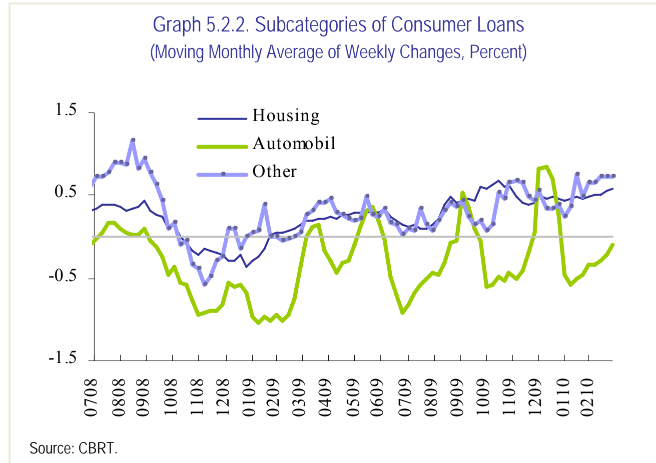
The first quarter of 2010 was marked by the increasingly benign outlook for credit markets (Graph 5.2.1). Consumer loans remained stable around the highs in the fourth quarter of 2009, while business loans recovered more robustly.

Graph 5.2.1. Real Sector Loans / GDP*
(Percent)



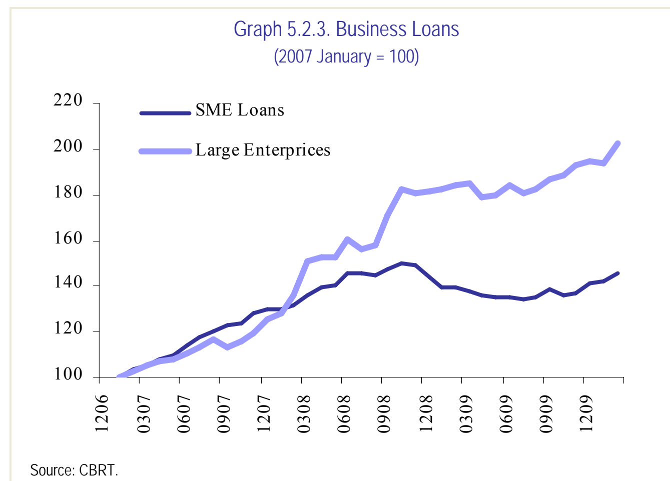
*Real sector loans are composed of household loans and domestic business loans.
Source: CBRT.

Following a similar pattern, housing and personal loans continued to rise steadily during the first quarter, together accounting for about 95 percent of consumer loans. After a sharp upsurge during the final months of 2009, automobile loans dropped remarkably in the first quarter (Graph 5.2.2).



Graph 5.2.2. Subcategories of Consumer Loans
(Moving Monthly Average of Weekly Changes, Percent)

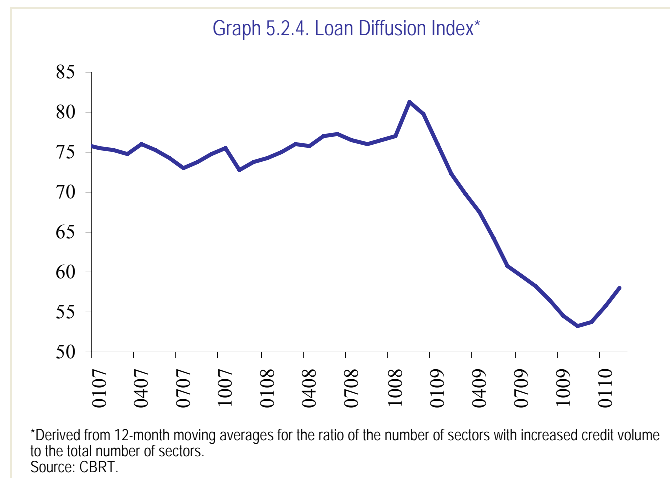
The recovery in business loans has been more widespread compared to the previous quarter. Due to their significant contribution to employment and their more limited access to bank loans during business downturns compared to larger firms, changes in lending conditions for small and medium-sized enterprises (SME) are closely monitored. Having benefited from only a small share of the increase in business loans during the fourth quarter of 2009, SME received an increased share of loans in the first quarter of 2010 (Graph 5.2.3). However, this change in lending conditions is seemingly not strong enough to narrow the crisis-driven gap between SME lending and large firm lending.



Graph 5.2.3. Business Loans
(2007 January = 100)

Conditions for business loans have improved not only across enterprises but also across sectors.[1] The ratio of sectors with a larger credit volume to total sectors increased during the first quarter (Graph 5.2.4).

[1] During the crisis, business loans to the industrial sector have flattened out, while business loans to services sector have picked up.

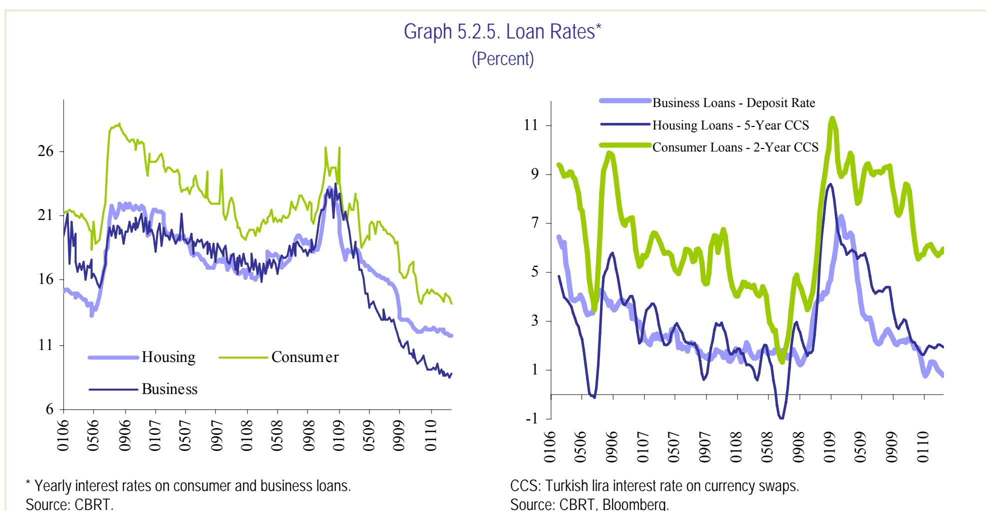


Graph 5.2.4. Loan Diffusion Index*

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

Recent data releases on real sector suggest that the demand for both consumer and business loans will continue to rise. The improved outlook for non-farm employment may heighten the expectations of consumers for the level and the stability of their future income. In fact, changes in consumer confidence index confirm this prediction. On the business side, higher demand, accelerated inventory buildup and growing investments, albeit slowly, indicate that the demand for corporate loans may also rise.

Improved lending conditions continued to spur credit expansion and economic recovery in the first quarter. Consumer loan rates remained at historic lows (Graph 5.2.5).



Graph 5.2.5. Loan Rates*
(Percent)

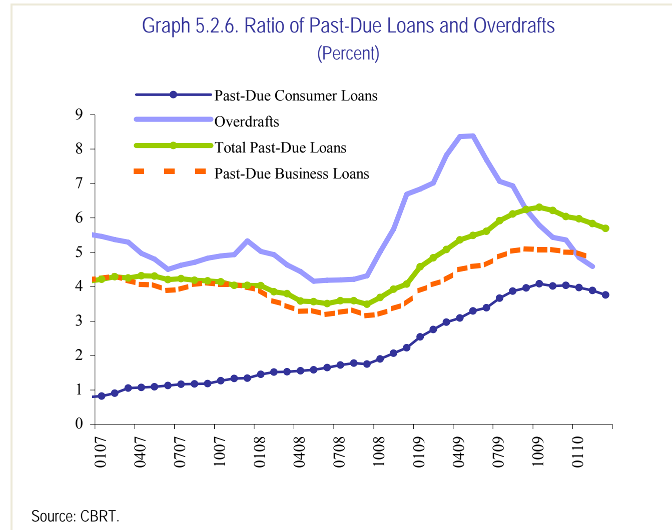
* Yearly interest rates on consumer and business loans.
Source: CBRT.

CCS: Turkish lira interest rate on currency swaps.
Source: CBRT, Bloomberg.

Business loan rates continued to fall during the first quarter of 2010, whereas on the liability side, there has been no downward movement in deposit rates since November 2009. The spread between business loan rates and deposit

rates continued to narrow due to the ongoing decline in credit risk, as implied by the developments in past-due loans and overdrafts (Graph 5.2.6).

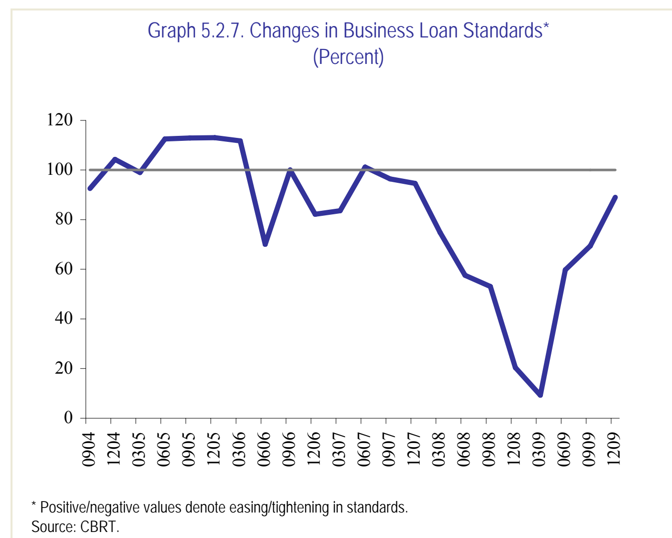
Graph 5.2.6. Ratio of Past-Due Loans and Overdrafts
(Percent)



Source: CBRT.

Likewise, the latest Loans Tendency Survey for the fourth quarter of 2009 indicate that banks have eased their loan standards. The survey showed that the tightening of consumer loans ended as of the third quarter of 2009 and the recent data confirms that this course has remained unchanged.

Graph 5.2.7. Changes in Business Loan Standards*
(Percent)



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

The survey also reveals that banks have neared the end of their tight grip on business loans as of the final quarter of 2009 (Graph 5.2.7). The prevalent easing of business loan standards in the first quarter of 2010 and the ongoing decline in interest rates indicates that tight standards for corporate lending have significantly been lifted. Banks attributed the their tight lending standards to the

uncertainty over the macroeconomic outlook during the crisis whereas the latest data suggest a notable macroeconomic recovery, thus loan standards are estimated to have improved further.

As a result, both the economic recovery and the fall in interest rates helped credit volume expand further during the first quarter. The improved loan standards appear to be another major driver of credit growth. As predicted earlier, these developments indicate that monetary policy has started provide stronger support for the credit market.

Given the lagged effects of stabilizing monetary and fiscal measures on economic activity and the improved risk sentiment, credit volume is expected to maintain its stable uptrend in the upcoming period. In view of the gradually yet steadily improving access to external funds, the sound banking system and the fiscal stance that puts no pressure on local funds, credit expansion is quite unlikely to be restrained by supply shortages. Yet, the fact that unemployment will remain elevated for some time may put strain on credit growth in coming months.

Box 5.1 The Impact of Monetary Policy Decisions on Market Returns

The pass-through from policy rates to financial asset prices constitutes the first step of the monetary transmission mechanism. Changes in financial asset prices, in turn, affect investor and consumer decisions, two essential components of economic activity. Therefore, it is crucial for central banks to ensure a reliable estimate of the effects of policy rates on financial markets.[2]

Addressing the problem of endogeneity in estimating the impact of monetary policy on asset prices is necessary for the reliability of the results since correlation does not contain sufficient information about the direction of the causality. In the literature, a common methodology to overcome this problem is by case study. This method basically compares asset prices immediately after monetary policy announcements with those immediately before, and attributes changes to monetary policy surprises.

In a comprehensive case study for Turkey, Aktaş *et al*. (2009) analyzed the impact of monetary policy between 2004 and 2008 on 6, 12 and 24-month market rates, ISE 100 and ISE Financial indices, some risk premium indicators and exchange rates. The study revealed that the impact on interest rates was positive and significant.[3]

Rigobon and Sack (2004) as an alternative to case study, adopted the use of heteroskedasticity-based Generalized Method of Moments (GMM). This method is considered to be more reliable as it requires weaker assumptions than the case study method. Employing the above methods, this Box analyzes the response of market returns to policy surprises on the days of MPC announcements, and makes an inference about the transmission mechanism. [4]

[2] Some articles in the academic literature that study the link between monetary policy and market rates are Ellingsen and Soderstrom (2001), Rigobon and Sack (2004), Ehrmann *et al*. (2005), and Gürkaynak *et al*. (2005).
[3] İnal (2006) studies the impact of monetary policy on longer term interest rates in a case study, and produces similar results to Aktaş *et a.l* (2009).
[4] For more information see Duran *et a.l* (2010).

In this analysis, market returns are the yields on government bonds traded in the ISE secondary market. Market returns are not available in a regular time-series format across each maturity, and hence, we use yield curve forecasts calculated from daily ISE data for various maturities, including the benchmark rate.[5] The policy rate is denoted by 1-month yield on government bonds. In this study, yield curve forecasts with various maturities start in March 2005; thus the sample covers March 2005-December 2009 period with 60 policy dates. Policy data is constructed as the daily difference of the original series. While the case-study methodology uses only changes in the asset prices on policy dates, the heteroskedasticity-based GMM estimates compare changes in the asset prices on and before the policy date.

The estimated responses of market returns at various maturities to a one-basis point policy surprise under both methods are shown in the second and fourth columns of Table 1.

Table 1. Forecast Results for Yields on Government Securities

	Case Study		Heteroskedasticity-Based GMM	
	Estimate	*SE*	Estimate	*SE*
6-month	0.731***	*0.085*	1.050***	*0.061*
9-month	1.092***	*0.120*	1.769***	*0.143*
12-month	1.005***	*0.117*	1.382***	*0.178*
15-month	0.866***	*0.110*	0.915***	*0.215*
18-month	0.770***	*0.110*	0.696***	*0.193*
Benchmark rate	0.724***	*0.112*	0.623***	*0.172*
21-month	0.716***	*0.113*	0.611***	*0.168*
24-month	0.687***	*0.115*	0.558***	*0.161*
27-month	0.670***	*0.115*	0.502***	*0.172*
30-month	0.659***	*0.114*	0.447**	*0.189*
33-month	0.648***	*0.112*	0.411**	*0.197*
36-month	0.637***	*0.110*	0.399**	*0.198*

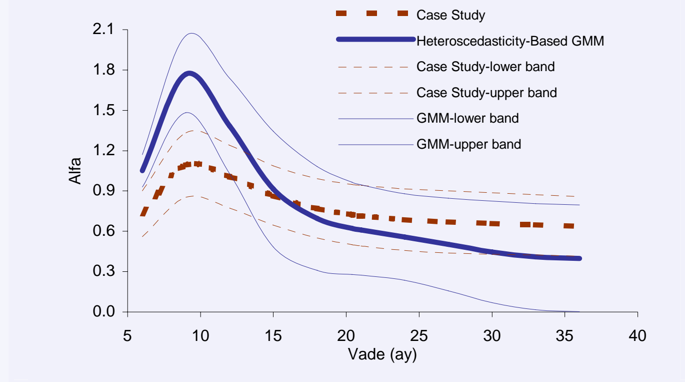
Notes: Average maturity for benchmark rate is 20.4 months. ***, ** and * denote the statistical significance at 1%, 5% and 10%, respectively.

According to GMM estimates that are considered to be more reliable for requiring a much weaker set of assumptions, yields on government bonds with maturities ranging from 6 to 36 months respond to the change in the short-term interest rate both significantly and in the same direction. At maturities longer than 9 months, the responses gradually decline; therefore when the policy rate increases, the yield curve slopes down (Graph 1). A 100-basis point increase in the short-term interest rate raises 9-month rate by 177 basis points, benchmark rate by 62 basis points, and 36-month rate by 40 basis points. These results are consistent with other empirical findings in the literature.

[5] For the yield curve forecasting method, see Akıncı *et al.* (2007).

Moreover, the fact that results for yields on bills and bonds market are both in the same direction and quantitatively similar under both methods suggests that the results are statistically reliable.[6] Based on the bills and bonds market in Turkey, these results show the pass-through of policy rates to market rates, the first step of monetary transmission, functions well.

Graph 1. Response of Government Security Rates with Various Maturities to Short-Term Rates (with a ±2 standard error band)



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[6] The results of the diagnostic tests that measure the reliability of these results are available, *inter alia*, in Duran *et al.* (2010).

Box 5.2 Post-Crisis Exit Strategy of Monetary Policy in Turkey

Central banks across the globe have played an active role in combating the global financial crisis by taking extensive measures. Accordingly, banks reduced policy rates aggressively, and injected additional liquidity to the financial system to ease its proper functioning. Moreover, in view of the shortcomings of conventional measures against the crisis and in order to provide liquidity to financial markets, central banks in advanced economies introduced unconventional policy tools that ballooned their balance sheets.

Meanwhile, the CBRT used monetary policy tools effectively to minimize the damage of the crisis on economic activity and the financial system. Considering the inflation outlook and the relatively improved risk premium for Turkey, the Bank cut policy rates by a cumulative 1025 basis points between November 2008 and November 2009, delivering the most aggressive policy rate cut across all central banks.

However, for policy decisions to be effective on economic activity, the proper functioning of the financial system is critical since the smooth functioning of the monetary transmission mechanism relies on the pass-through of policy rates to money markets and to credit markets from there. Yet, increased uncertainties and risk aversion in times of crisis can impede the orderly functioning of the financial system, leading to fluctuations in money markets. Uncertainties surrounding the financial system, coupled with the increased credit risk perception of financial institutions, can decrease the effectiveness of policy rate decisions on credit markets. This, in fact, was apparent in many advanced and emerging economies during the crisis: although policy rates were lowered sharply, money market rates remained elevated for a long time, while credit markets stopped functioning properly.

Being aware of the adverse effects of the crisis on monetary transmission mechanism, the CBRT not only slashed policy rates but also took stabilizing liquidity measures for both Turkish lira and foreign currency markets to enhance the effectiveness of rate cuts. Some of the measures focus on preventing the likely mid-crisis fluctuations in the financial system, while some aim to ensure the smooth functioning of credit markets.

In this context, the waning impact of the crisis enable in the upcoming months, the gradual withdrawal of the crisis measures aimed to mitigate the financial markets risks. Accordingly, as the effects of the crisis have tapered off, some of the measures regarding foreign currency markets are already withdrawn. Other incentives will also be withdrawn once global markets normalize evidently. Moreover, the amount of funds produced by repo auctions within CBRT's policy of providing ample liquidity, one of the measures to end the crisis-driven uncertainty surrounding Turkish lira markets, has been gradually decreased amid the normalization in money markets.

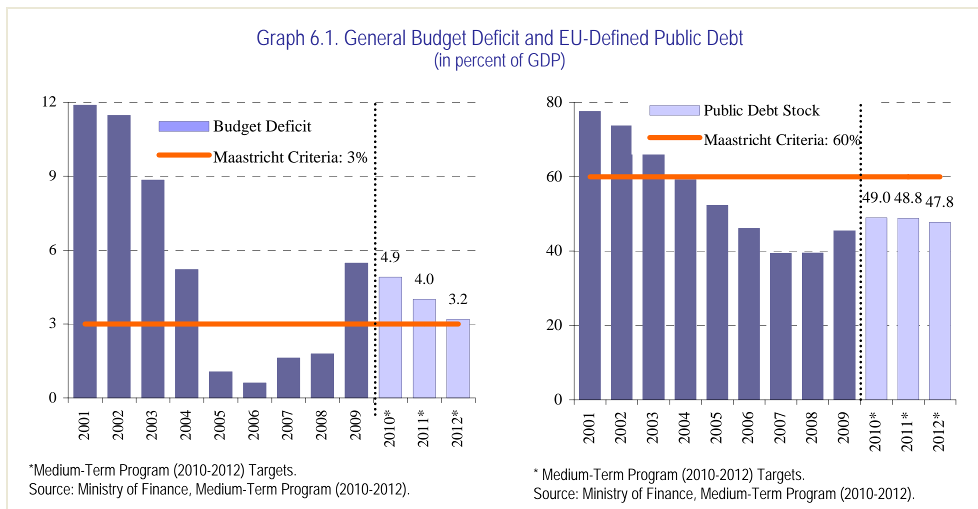
CBRT's role as a net market funder is not specific to crisis episodes. The worldwide weakening of fund flows during the crisis slowed the capital flows into Turkey, leading to a permanent liquidity shortage. The persistence of the liquidity shortage enables and requires a technical rate adjustment in coming months. Thus, the reduction in CBRT's market funds should be conceived not only as a result of the normalization in the money market, but also as a phase of transition to technical rate adjustment. Because the decreased amount of funds would allow commercial banks to adapt to conditions of permanent liquidity shortage and to a duly established new system before the technical rate adjustment takes place. Therefore, the Bank plans to conduct the technical rate adjustment gradually over a long time span. During the transition period, the CBRT will gradually lower the funds produced by repo auctions but continue to excessively fund the market. As soon as the technical rate adjustment phase is over, CBRT will fund the market with the liquidity that precisely meets the shortage. Accordingly, the interest rate on 1-week repo auctions will be the policy rate, and repo auctions will be conducted as fixed-rate quantity auctions.

On the other hand, the current pace of recovery in credit markets remains below the level that poses a pressure on inflation or a risk on financial stability. Therefore, the Bank will not rush to withdraw the crisis measures developed for credit markets. In this regard, the Bank will continue with 3-month repo auctions, although their amount may occasionally change in line with liquidity developments. Similarly, given current circumstances, the Turkish lira reserve requirement ratio is likely to remain unchanged.

In sum, as an exit strategy, the Bank primarily plans to withdraw the measures that were introduced to mitigate the mid-crisis risks on the financial system. Yet, as the TL shortage in the market persists in the post-crisis period, the Bank may stand ready to resort to technical rate adjustment in coming months. Meanwhile, the liquidity measures for credit markets are unlikely to be withdrawn in the near future. Thus, it should be emphasized again that the primary objective of Turkish lira and foreign currency liquidity actions is to ensure the orderly functioning of the monetary transmission mechanism, and therefore to enhance the effectiveness of policy rates and the policy stance. In the upcoming period, the Bank may employ other monetary policy instruments to improve the effectiveness of monetary policy and to minimize risks on the economy.

6. Public Finance

The massive fiscal stimulus packages designed to ease the effects of the global economic crisis boosted government budget deficits and debt ratios in emerging, and more substantially, in advanced economies. In addition, the contraction-driven drop in tax revenues added to the rise in budget deficits. In line with the global fiscal outlook, the ratio of government budget deficit and debt to GDP increased sharply in Turkey over 2009 (Graph 6.1).



Graph 6.1. General Budget Deficit and EU-Defined Public Debt
(in percent of GDP)

Following the drop in tax revenues due to weak domestic demand and the fall in employment, non-interest expenditures, particularly current transfers to the Social Security Agency (SSA), increased, accounting for the largest contribution to the budget deficit. Moreover, fiscal measures intended to moderate the impact of the global crisis on the Turkish economy and to boost domestic demand put additional pressure on budget balance. Hence, the budget deficit-to-GDP ratio increased markedly to 5.5 percent in 2009. This ratio, however, is lower than the MTP forecast of 6.6 percent. With the recovery in economic activity during the fourth quarter, tax revenues increased at a higher pace than envisioned in the MTP, while interest expenditures have amounted to lower than expected. Accordingly, the ratio of the EU-defined government debt to GDP has been 45.5 percent in 2009, falling behind the MTP forecast of 47.3 percent (Graph 6.1).

As the economic recovery since mid-2009 has been more robust than projected in the MTP, budget revenues are much higher than expected. An effective management of the resulting fiscal room will reduce the need for indirect tax hikes in coming months and contain fluctuations in inflation. In this respect, for maintaining fiscal discipline, the implementation of institutional and structural reforms outlined in the MTP remains of utmost importance.

As is known, the government publicly announced the plans for enacting a fiscal rule by 2011 whereby management of public finances will be conducted accordingly (Box 6.1). The fiscal rule aims to bring the fiscal deficit-to-GDP ratio back on a sustainable debt path over the medium-to-long term. Empirical studies on fiscal rules show that fiscal performance of economies with fiscal rules improves (Box 6.1). The implementation of a fiscal rule in Turkey is crucial both for ensuring a better management of expectations by enhancing the medium-to-long term predictability of the fiscal policy and also for promoting macroeconomic stability by allaying concerns about debt sustainability. An improved fiscal balance will not only diminish fiscal dominance but also enhance the effectiveness of the monetary policy.

6.1. Budget Developments

The central government budget produced a deficit of 11.3 billion TL in the first quarter of 2010, while the primary balance delivered a surplus of 3.7 billion TL (Table 6.1.1). Having posted a deficit during the first quarter of 2009, primary balance returned to a surplus in 2010 and interest expenditures dropped by 17.1 percent, narrowing the central government budget deficit considerably. The surplus in primary balance was largely driven by the recovery-induced rise in tax revenues.

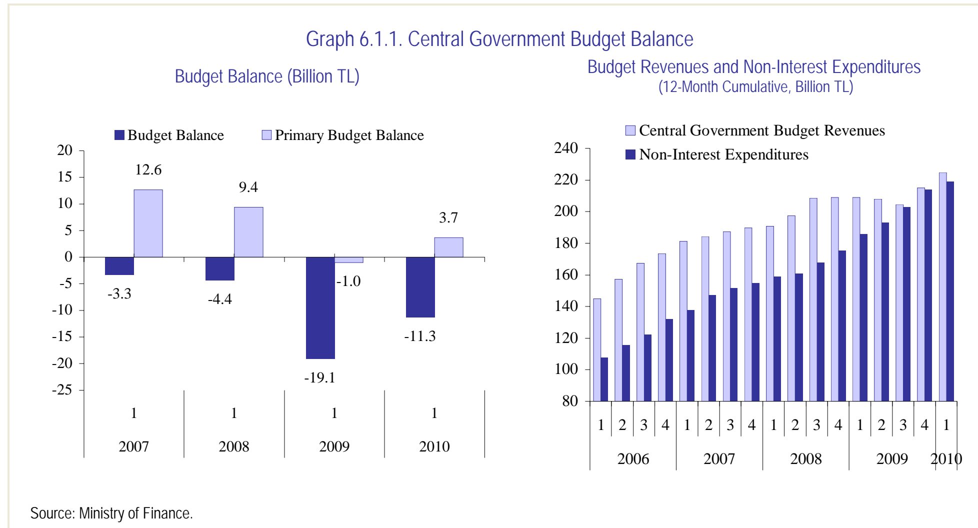
Table 6.1.1. Central Government Budget Aggregates
(Billion TL)

	2009Q1	2010Q1	Rate of Increase (Percent)	Actual/Target (Percent)
Central Government Expenditures	66.42	68.37	2.93	23.82
Interest Expenditures	18.09	15.00	-17.09	26.43
Non-Interest Expenditures	48.33	53.37	10.43	23.18
Central Government Revenues	47.30	57.03	20.58	24.09
I. Tax Revenues	38.14	47.90	25.58	24.78
II. Non-Tax Revenues	7.29	6.82	-6.51	18.61
Budget Balance	**-19.13**	**-11.34**	**-**	**22.60**
Primary Balance	**-1.04**	**3.66**	**-**	**55.75**

Source: Ministry of Finance.

Following the deepening of the global crisis during the third quarter of 2008, non-interest expenditures accelerated, while the rise in general budget revenues paused. However, tax revenues rose markedly during the fourth quarter of 2009 amid economic recovery (Graph 6.1.1). The increase in tax revenues has helped the central government budget balance and the primary budget balance to perform better year-on-year as of the first quarter of 2010 (Graph 6.1.1).

Graph 6.1.1. Central Government Budget Balance



Source: Ministry of Finance.

Central government primary budget expenditures increased by 10.4 percent year-on-year during the first quarter of 2010. Among non-interest expenditures, current transfers and personnel expenditures were up by 14.6 and 11.9 percent, respectively, whereas purchase of goods and services declined by 12.5 percent. This decline was mainly due to the fall in healthcare expenditures of green card holders as well as the fall in healthcare expenditures of public employees as these expenditures have been covered by the government's health insurance plan since January 2010. Furthermore, government premiums to the SSA surged by a remarkable 55.7 percent due to premium payments of public employees under general health insurance coverage. Shares reserved from revenues, a major component of current transfers, rose by 31.2 percent amid the rapid increase in tax revenues (Table 6.1.2).

Table 6.1.2. Non-Interest Expenditures
(Billion TL)

	2009Q1	2010Q1	Rate of increase (percent)	Actual/Target (percent)
Non-Interest Expenditures	**48.33**	**53.37**	**10.43**	**23.18**
1. Personnel Expenditures	14.50	16.22	11.92	26.88
2. Government Premiums to SSA	1.77	2.75	55.65	24.79
3. Purchase of Goods and Services	4.80	4.20	-12.48	16.68
a) Defense-Security	1.26	1.06	-15.86	11.59
b) Healthcare Expenditures	1.76	1.12	-36.15	23.36
4. Current Transfers	24.18	27.72	14.64	27.13
a) Duty Losses	1.47	0.97	-34.18	22.46
b) Health, Pension, Social Benefits	13.18	14.78	12.15	25.62
c) Agricultural Support	2.36	3.16	34.35	56.47
d) Shares Reserved from Revenues	5.02	6.58	31.15	27.52
5. Capital Expenditures	1.11	1.01	-8.85	5.35
6. Capital Transfers	0.39	0.28	-27.43	8.20

Source: Ministry of Finance.

General budget revenues grew by 20.4 percent year-on-year during the first quarter of 2010. Tax revenues increased by 25.6 percent, while non-tax revenues dropped by 6.5 percent. A strong growth was recorded in all main tax categories, excluding income taxes (Table 6.1.3). The sharp rise in consumption-related tax revenues, partly driven by the base effect from the contraction in the first quarter of 2009, indicates that the economic recovery that started in the fourth quarter of 2009 continued into the first quarter of 2010. On the other hand, non-tax revenues fell behind their year-ago level due to lower capital revenues. The drop in non-tax revenues can be explained by 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)

	2009Q1	2010Q1	Rate of increase (percent)	Actual/Budget (percent)
General Budget Revenues	**45.44**	**54.72**	**20.43**	**23.80**
I-Tax Revenues	**38.14**	**47.90**	**25.58**	**24.78**
Income Tax	9.44	9.59	1.60	23.10
Corporate Tax	4.02	4.63	15.12	25.75
Domestic VAT	4.15	5.81	39.95	25.69
Special Consumption Tax	8.74	11.68	33.71	21.39
VAT on Imports	4.87	7.67	57.59	25.47
II-Non-Tax Revenues	**7.29**	**6.82**	**-6.51**	**18.61**
Enterprise and Property Revenues	1.23	1.67	36.57	24.78
Interests, Shares and Fines	4.32	4.56	5.59	25.61
Capital Revenues	1.34	0.06	-95.75	0.54

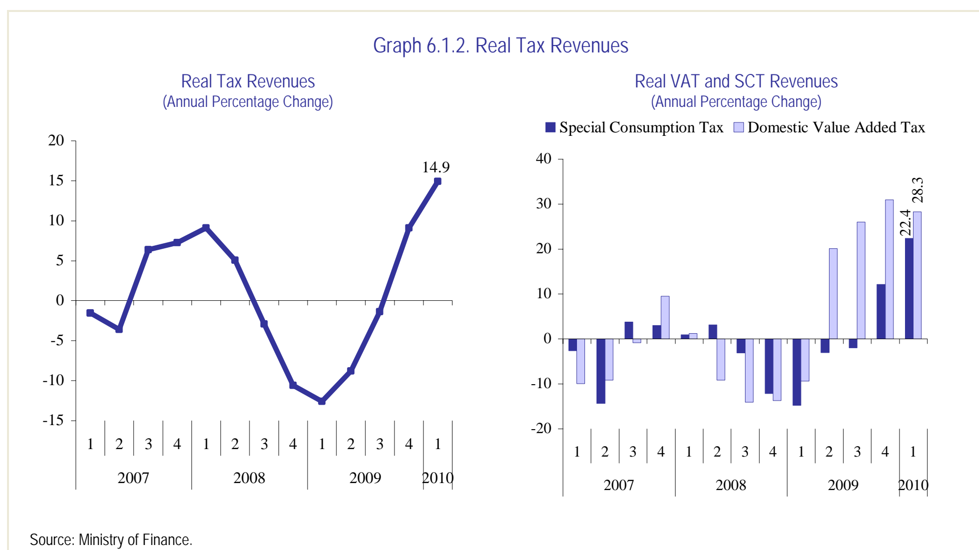
Source: Ministry of Finance.

In real terms, the year-on-year contraction in tax revenues that started in the third quarter of 2008 lost pace by the second quarter of 2009 with the recovery in private consumption demand, and has been replaced by a rapid growth as of the fourth quarter of 2009. Tax revenues grew by 14.9 percent year-on-year in real terms during the first quarter of 2010, owing both to the

base effect due to poor tax collection performance during the first quarter of 2009 and the tax adjustments in early 2010 (Graph 6.1.2). In fact, Special Consumption Tax (SCT) revenues and domestic Value Added Tax (VAT) revenues rose by 22.4 and 28.3 percent year-on-year, respectively, in real terms during the first quarter of 2010 (Graph 6.1.2). The sharp increase in SCT revenues was also triggered by the January hike in the lump sum tax on fuel and tobacco.

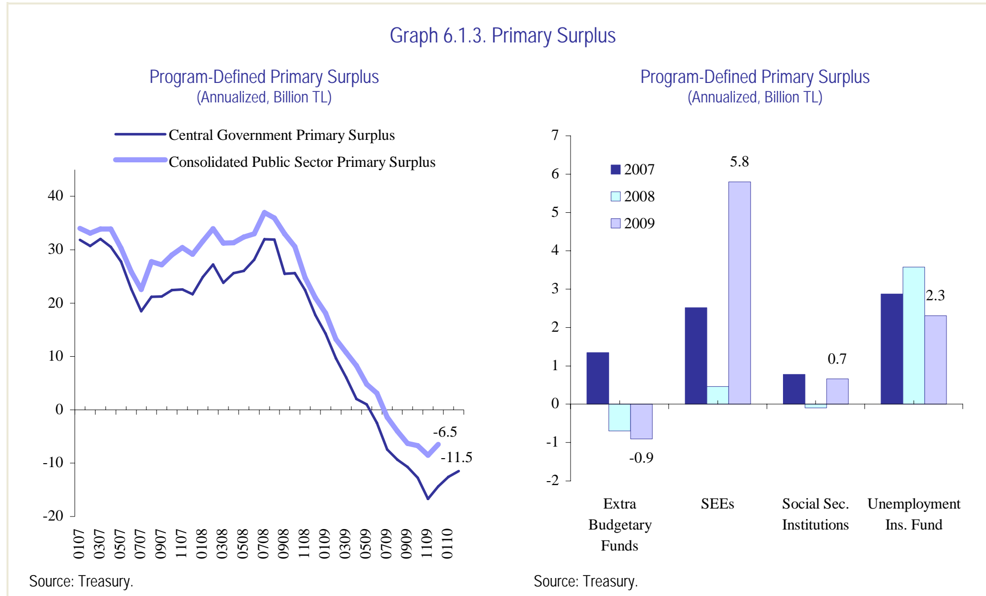
The first-quarter run-up in tax revenues may moderate in upcoming quarters with the waning of base effects, but remain robust over the entire year. As the economic recovery has been more marked than envisioned in the MTP, tax revenues are likely to significantly exceed the target set out in the 2010 budget law.

Graph 6.1.2. Real Tax Revenues



Source: Ministry of Finance.

On a 12-month cumulative basis, the dramatic weakening of the public-sector primary surplus performance that started in September 2008 has been followed by an improvement since November 2009 amid the recovery-induced increase in tax revenues and the growing influence of the resulting base effects (Graph 6.1.3). Yet, although the central government primary balance worsened considerably over 2009, the primary surplus of the State Economic Enterprises (SEEs) has improved significantly, compared with the past two years. Moreover, the primary surplus performance of extra-budgetary funds weakened markedly throughout 2009 compared with previous years, while that of social security institutions improved slightly from 2008, however, primary surplus performance of the Unemployment Insurance Fund worsened (Graph 6.1.3).



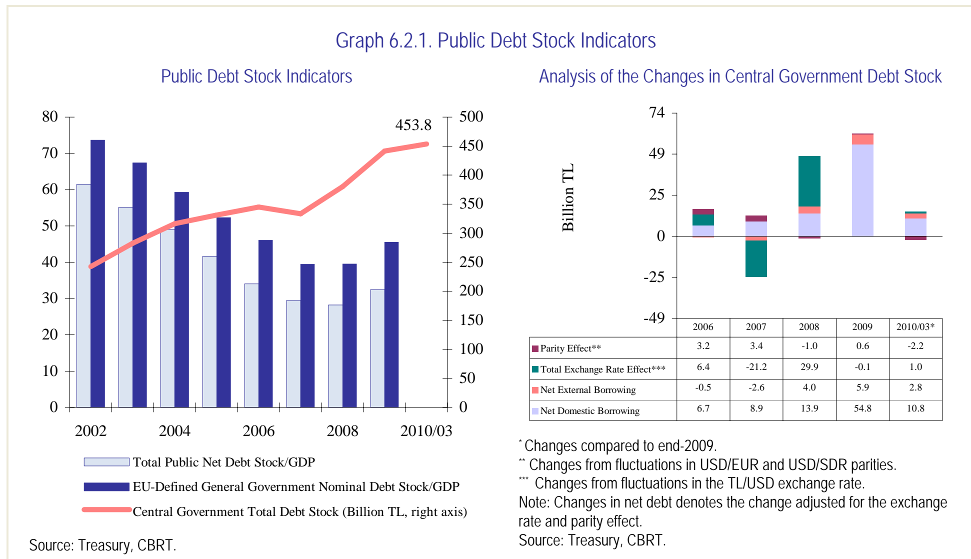
With the acceleration in central government primary budget expenditures since the third quarter of 2008, public consumption spending provided further support for GDP growth in 2009. Although the rate of increase in government spending slowed slightly during the first quarter of 2010, given the high ratio of non-interest expenditures to GDP, government spending may continue to support GDP growth in coming months, albeit at a decelerating pace. In this respect, medium-term forecasts presented in the final chapter of this Report are built on the assumption that government spending would continue to stimulate economic activity in 2010, and become neutral by 2011.

6.2. Developments in Debt Stock

The prudent fiscal policy implemented over the past few years reduced the debt burden rapidly and improved the maturity structure and currency composition of the debt significantly. However, the sharp drop in total public primary surplus since the final quarter of 2008 led to a significant increase in the public sector borrowing requirement and has adversely affected public debt stock indicators since end-2009. Despite the high domestic debt rollover ratio, the strong demand by commercial banks for government papers balanced public borrowing costs against any strains.

The central government debt stock increased by 2.8 percent from the fourth quarter of 2009 to 453.8 billion TL in the first quarter of 2010. Net domestic debt growth, net external debt growth and the total exchange rate

effect accounted for 10.8, 2.8 and 1 billion TL, respectively, of the increase in central government debt. Meanwhile, changes in parities put downward pressure on the central government debt stock (Graph 6.2.1). As of 2009, the ratios of total net public debt and EU-defined general government nominal debt to GDP have risen to 32.5 and 45.5 percent, respectively (Graph 6.2.1). Having been on a marked downtrend since 2002, public debt ratios increased in 2009 amid the poor primary surplus performance of the public sector.



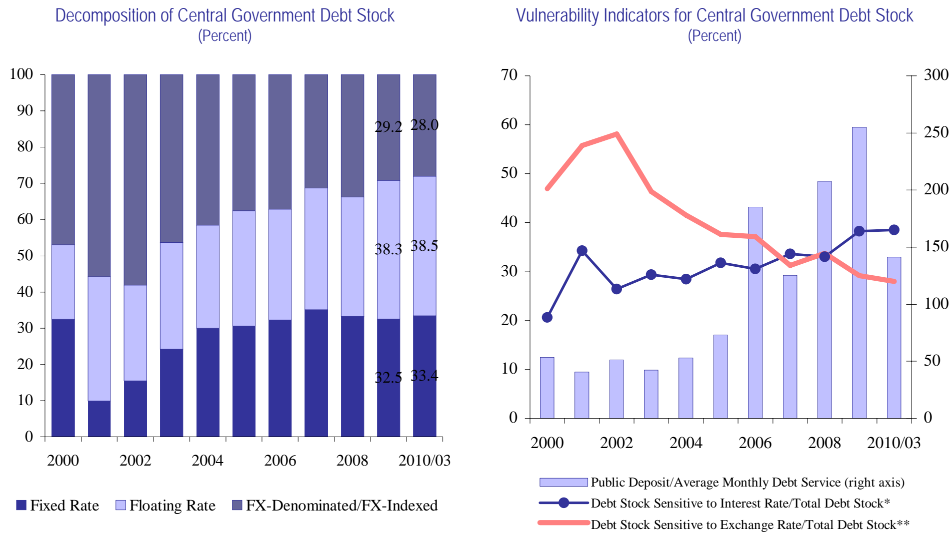
	2006	2007	2008	2009	2010/03*
Parity Effect**	3.2	3.4	-1.0	0.6	-2.2
Total Exchange Rate Effect***	6.4	-21.2	29.9	-0.1	1.0
Net External Borrowing	-0.5	-2.6	4.0	5.9	2.8
Net Domestic Borrowing	6.7	8.9	13.9	54.8	10.8

Graph 6.2.1. Public Debt Stock Indicators

Source: Treasury, CBRT.

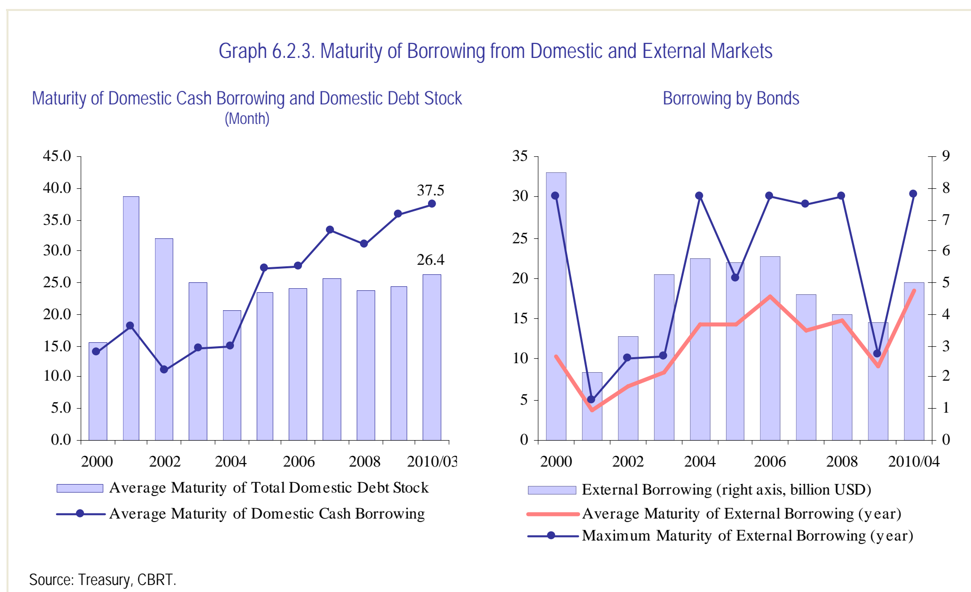
* Changes compared to end-2009.
** Changes from fluctuations in USD/EUR and USD/SDR parities.
*** Changes from fluctuations in the TL/USD exchange rate.
Note: Changes in net debt denotes the change adjusted for the exchange rate and parity effect.
Source: Treasury, CBRT.

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 risks has decreased considerably. Recently, the share of exchange-rate-sensitive (FX-denominated and FX-indexed) instruments in central government debt stock declined, while the share of floating rate instruments increased. This has continued into March 2010 (Graph 6.2.2). Depending on market conditions, the Treasury's funding program for 2010 plans to limit FX-denominated domestic borrowing to a maximum of 50 percent of FX-denominated domestic debt redemptions in 2010. Accordingly, the share of exchange-rate-sensitive instruments in central government debt stock may continue to fall throughout 2010, while the share of floating-rate and fixed-rate instruments may rise.



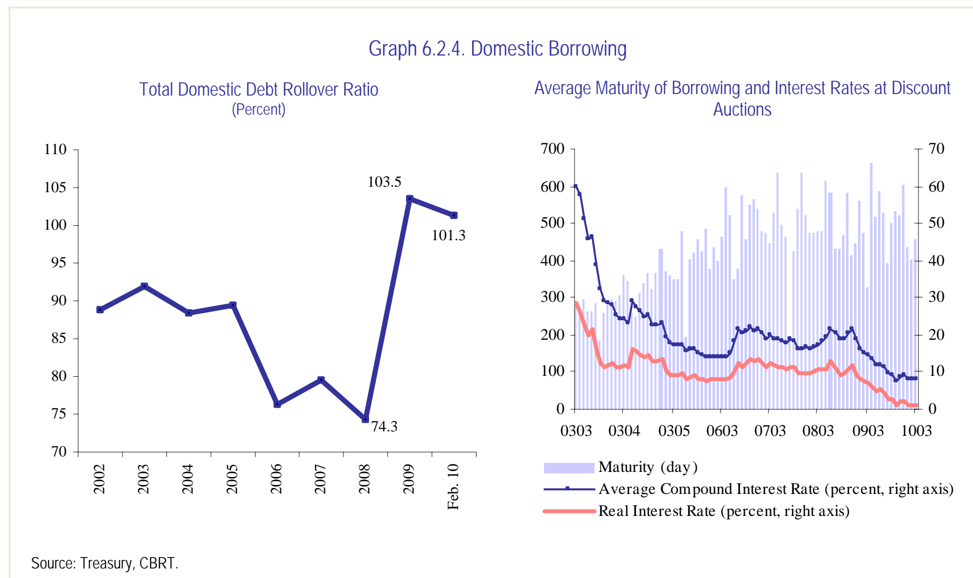
* Debt stock sensitive to interest rate contains discounted securities with a maturity less than 1 year and government securities with flexible interest rates.
** Debt stock sensitive to exchange rates contains external debt stock and FX-denominated and FX-indexed domestic debt stock.
Source: Treasury,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

Following the financing strategy intended to reduce the liquidity risk, the ratio of public deposits to average monthly debt service ended March 2010 at 141.3 percent (Graph 6.2.2). The average maturity of domestic cash borrowing was longer from the 2009 average, causing the average maturity of total domestic debt to reach to 26.4 months in March 2010 (Graph 6.2.3). Moreover, bond issues yielded a 5 billion USD worth of long-term external debt in April 2010, with an average maturity of 18.4 years (Graph 6.2.3).



Source: Treasury, CBRT.

Having fallen rapidly since early 2009, the average monthly-weighted ex-ante real interest rates realized in Discount Treasury Bill auctions declined to 1 percent in March 2010 (Graph 6.2.4). Despite the increased domestic borrowing requirement, the drop in real domestic borrowing costs to recent historic lows has substantially eased concerns about public debt sustainability.



Hovering below 100 percent since 2002, total domestic debt rollover ratio declined to 74.2 percent in 2008. As the high budget deficit was mainly financed by domestic borrowing, domestic debt rollover ratio climbed to 103.5 percent in 2009, and to 101.3 percent as of the first two months of 2010 (Graph 6.2.4). The Treasury expects total domestic debt rollover ratio to fall in the remainder of 2010 and average around 95 percent over the entire year. The decline in domestic debt rollover ratio is critical in ensuring that the increased public sector borrowing requirement does not crowd out private resources and hamper the effectiveness of monetary policy decisions.

Box 6.1 **Fiscal Rule: General Framework and Planned Practice in Turkey**

I. General Framework of Fiscal Rules and Experiences Across Countries

A fiscal rule is defined as a permanent constraint on fiscal policy through simple numerical limits on budgetary aggregates (Debrun *et al.*, 2008). The first fiscal rule was introduced about 150 years ago (in most US states since mid-19th century and in Switzerland's cantons since 1920s), and after WW II, several countries (Germany, Italy, Japan and Netherlands) introduced fiscal rules that underpinned their stabilization programs (Kopits, 2001). In early 1990s, only a few countries had fiscal rules. With the growing concerns over fiscal discipline and debt sustainability, fiscal rules are now more systematic and have been widespread. As of 2009, there are 80 countries implementing national and/or supranational fiscal rules out of which, 21 is advanced, 33 is emerging and 26 is low-income economies (IMF, 2009).

While fiscal rules can serve different goals, there are primarily four different types of fiscal rules that promote debt sustainability (Table 1) (IMF, 2009):

I. Budget balance rules, which can be specified as overall balance, structural or cyclically adjusted balance, and balance "over the cycle". These rules help ensure that the debt-to-GDP ratio converges to a finite level. [1] Primary balance rules are less linked to debt sustainability as increases in interest payments do not require an adjustment even if they affect the budget balance and public debt.

II. Debt rules set an explicit limit or target for public debt as a percent of GDP. This type of rule is effective in terms of ensuring convergence to a debt target. However, it does not provide sufficient guidance for fiscal policy when debt is well below the target.

III. Expenditure rules usually set permanent limits on total, primary, or current expenditures in absolute terms, in growth rates or as a percent of GDP. These rules are not directly linked to the debt sustainability objective since they do not constrain the revenue side. However, when accompanied by a debt or a budget balance rule, expenditure rules serve as an operational tool in maintaining a fiscal balance consistent with sustainability.

[1] Unlike the structural or cyclically adjusted balance rule that specifies an annual target, the balance "over the cycle" rule requires the attainment of a nominal budget balance *on average* over an entire economic cycle.

IV. Revenue rules set ceilings or floors on revenues and are aimed at controlling revenue collection and/or balancing tax burden. These rules are also not directly linked to the control of public debt, as they do not constrain spending.

Fiscal rules differ depending on their implied policy responses to business cycles. Overall balance, primary balance and debt rules provide the lowest degree of flexibility as a stabilizing fiscal policy in smoothing out economic fluctuations (Table 1). A structural or cyclically adjusted balance rule does not provide room for discretionary fiscal stimulus even though it allows the full operation of automatic stabilizers against fluctuations and hence, it is effective in maintaining economic stability[2]. On the other hand, "over the cycle" rule provides room for both discretionary and cyclical adjustments. Expenditure rules do not exclude cyclical and discretionary changes in tax revenues, yet, they do not usually permit discretionary expenditures. Revenue rules limit the operation of automatic stabilizers on the revenue side, and therefore are unable to smooth fluctuations.

Table 1. Properties of Different Types of Fiscal Rules Against Key Objectives*

	Objectives		
Type of fiscal rule	Debt Sustainability	Economic Stability	Government size
Overall Balance	++	-	0
Primary Balance	+	-	0
Cyclically Adjusted Balance	++	++	0
Balanced Budget over the Cycle	++	+++	0
Ratio of Public Debt to GDP	+++	-	-
Expenditure	+	++	++
Revenue			
Revenue Ceilings	-	-	++
Revenue Floors	+	+	-
Limits on Revenue Windfalls	+	++	++

* Positive signs (+) indicate stronger property, negative signs (-)indicate weaker property, zeros (0) indicate neutral property with regard to objective.
Source: IMF, Fiscal Rules – Anchoring Expectations for Sustainable Public Finances, December 16, 2009.

Fiscal rules have also been used to contain the size of the government and support intergenerational equity. Containing the size of government is a key function of expenditure rules, as well as revenue ceiling rules (Table 1). In addition, balance rules can be used to support intergenerational equity by conserving public assets generated from natural resources. Revenue rules may also be operational in providing priority spending by allocating funds for specific sectors (e.g. education and health).

[2] Automatic stabilizers are fiscal mechanisms, such as taxes and transfers, that ease the impact of fluctuations without direct fiscal intervention.

Over time, countries have moved away from a single rule towards a combination of rules closely linked to debt sustainability. Since early 2009s, a significant proportion of countries with fiscal rules have budget balance and debt target rules jointly (Table 2). This reflects the fact that governments' preferences for rules is closely linked to fiscal sustainability. In general, both types of rules are jointly used in emerging market economies mainly due to concerns over fiscal sustainability.

Table 2. Fiscal Rules by Countries

	Type of Rule[1]	Time Frame[2]	Coverage[3]	Statutory Base[4]
Advanced Economies				
Austria	BBR, DR	Annual	GG, CG	IT, S
Canada	ER, BBR, DR	Annula	CG	PC
Denmark	ER, RR, BBR, DR	CA or multiyear	GG	IT, PC
France	ER, RR, BBR, DR	Annual (ER multiyear)	GG, CG	IT, S, PC
Germany	ER, BBR, DR	Annual (ER multiyear)	GG, CG	IT, C
Italy	BBR, DR	Annual	GG	IT
Japan	ER	Multiyear	CG	S
Netherlands	ER, RR, BBR, DR	Multiyear expenditure ceiling	GG	IT, CA
Norway	BBR	CA or multiyear	CG	PC
Spain	BBR, DR	CA or multiyear	GG	IT, S
Sweden	ER, BBR, DR	Annual (ER multiyear)	GG, CG	IT, PC
United Kingdom	BBR, DR	CA or multiyear	GG	IT, PC
Emerging Market Economies				
Argentina	ER, BBR, DR	Annual	GG, CG	S
Brazil	ER, BBR, DR	Annual	GG	IT, C
Chile	BBR	Multiyear	CG	PC
Czech Republic	ER, BBR, DR	Annual (ER multiyear)	GG, CG	IT, S
Hungary	BBR, DR	Annual	GG	IT, S
India	BBR	Annual	CG	S
Israel	BBR, ER	Annual (ER multiyear)	CG	S
Mexico	BBR, RR	Multiyear expenditure ceiling	GG	S
Poland	BBR, DR	Annual	GG, CG	IT, C
Slovak Republic	BBR, DR	Annual	GG	IT

1. BBR = Budget Balance Rule; DR = Debt Rule; ER = Expenditure Rule; RR = Revenue Rule.
2. CA = Cyclically Adjusted.
3. GG = General Government; CG = Central Government.
4. IT = International Treaty (Represents a 3 percent of GDP threshold for the budget deficit and a 60 percent of GDP threshold for the public debt, as specified by the Maastricht criteria for EU member states); C = constitutional; LA = Legal Adjustment; PC = Political Commitment; CA = Coalition Agreement.
Source: Adapted from IMF (2009).

Another striking fact regarding country experiences is the increasingly widespread use of structural and cyclically adjusted balance rule. The over-the-cycle balance rule, on the other hand, has so far only been adopted by the UK and Switzerland, and furthermore, the UK has suspended the rule due to financial crisis.

There are differences in fiscal rules across advanced and emerging market economies (Table 2). These differences mostly originate from institutional factors as well as varying degrees of sensitivity to exogenous shocks. Advanced economies tend to favor flexibility. In fact, more than 25 percent of advanced economies have cyclically adjusted balances compared to 10 percent of emerging economies (IMF, 2009). Another striking difference across country groupings is enforcement procedures being more common in emerging economies.

II. The Fiscal Rule for Turkey

Fiscal adjustments such as the Budget Law for Fiscal Year of 1998, "primary surplus" targets annually set by the economic stability program after the crisis in 2001, the Public Finance and Debt Management Law enacted in 2002 and regulations such as the Public Fiscal Management and Control Law adopted in 2003 can all be interpreted as "implicit fiscal rules" (Yükseler, 2010). Furthermore, the MTP released on September 16, 2009 and covering the period from 2010 to 2012 publicly announced that the legal framework for the adoption of an explicit fiscal rule in Turkey would be completed by 2010. In this respect, as of 2011 budget period, fiscal policy implementation is expected to be consistent with the fiscal rule.

The planned fiscal rule in the MTP has been defined as follows:

$$\Delta a = y\,(a_{-1} - a^*) + k\,(b - b^*)$$

Δa: public deficit adjustment/GDP
a_{-1} : year-ago public deficit/GDP
a^* : public deficit target over medium-to-long term GDP
b : real GDP growth rate
b^* : average long-term real GDP growth rate
y : coefficient for speed of convergence of public deficit to medium-to-long term targets
k : coefficient of procyclicality

(**y** and **k** are negative numbers. A negative **Δa** denotes that public deficit declines).

Accordingly, public deficit can be adjusted by taking into account the extent of the deviation in the year-ago deficit from the medium-to-long term target and the deviation of real GDP growth from the average long-term growth rate.

The MTP states that the parameter values, the definition and coverage of public deficit, enforcement, monitoring and reporting procedures, exceptional provisions and other factors would be finalized during the development of the legal framework.

Although the fiscal rule for Turkey, by category, is closer to be defined as a budget balance rule, in view of the fact that there is a one-to-one relationship between the long-term budget deficit and the public debt, the fiscal rule for Turkey also targets a deficit to GDP ratio consistent with a sustainable debt path in the medium-to-long term. This relationship can be described by a standard debt dynamics equation:

$$D_{t+1} = r_t D_t + S_t - T_t + D_t \qquad (1)$$

D: Debt stock (nominal),
S: Non-interest expenditures (nominal),
T: Total public revenues (nominal),
r: *Nominal interest rate.*

The above variables can also be expressed in percent of GDP if the equation is multiplied by $(Y_{t+1}/Y_{t+1})(1/Y_t)$, and nominal GDP growth, $(g^n{}_t)$, when stated as (Y_{t+1}/Y_t)-1, produces the following equation:

$$(1 + g^n{}_{t+1})d_{t+1} = r_t d_t + s_t - t_t + d_t \quad (2)$$

Lower cases represent variables in percent of GDP.

When total budget deficit-to-GDP ratio is expressed as $a_t = (r_t d_t + s_t - t_t)$, equation (2) can be rewritten as follows:

$$(1 + g^n{}_{t+1})d_{t+1} = a_t + d_t \quad (3)$$

Solving the above equation by replacing the steady state values yields the following relationship between steady state values for budget deficit, debt stock and growth:

$$a^* = g^{*n} \times d^* \quad (4)$$

Assuming a 10 percent GDP growth (g^{*n}=0,1), the long-term relationship between the budget deficit target and the debt stock target implied by equation (4) is shown in the table below:

Table 3. Relationship Between Long-Term Budget Deficit and Debt Stock

Long-Term Budget Deficit Target (a^*)	Long-Term Debt Stock (d^*)
0.5	5.0
1.0	10.0
1.5	15.0

Table 3 shows that there exists a corresponding debt-to-GDP ratio for each budget deficit target level in the medium-to-long term. For example, a budget deficit of 1 percent is compatible with a debt-to-GDP ratio of 10 percent in the long run.

III. Conclusion

Empirical studies on the effectiveness of fiscal rules suggest that countries implementing fiscal rules have been associated with improved fiscal performance (IMF, 2009). Fiscal rules provide an operational tool in establishing and maintaining a stable fiscal policy consistent with sustainable debt dynamics, and induce the implementation of a more prudent and permanent fiscal discipline (OECD, 2002). In this regard, the fiscal rule to be introduced by 2011 in Turkey is expected to further enhance fiscal discipline, significantly contribute to achieve and maintain macroeconomic stability, and therefore, improve the effectiveness of monetary policy. However, in view of the country experiences, fiscal rules may only be functional if the required institutional and legal framework is pre-established and fiscal transparency is ensured.

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7. Medium-Term Projections

This Chapter summarizes the underlying forecast assumptions, and presents medium-term inflation and output gap forecasts and the monetary policy outlook over a three-year horizon.

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

The first-quarter data on economic activity were largely consistent with the outlook presented in the January Inflation Report. However, inflation exceeded the January forecast by 1.2 percentage points. The higher-than-expected rise in food prices and the changes in administered prices accounted for 0.8 and 0.4 percentage points, respectively, of this deviation.

After an all-time high rise in the fourth quarter of 2009, food prices continued to increase at a historically high pace during the first quarter of 2010. Changes in meat prices due to supply shortages have been the major driver of the run-up in both unprocessed and processed food prices. Vegetable prices also picked up at an unprecedented rate during the first quarter 2010, reinforcing the uptrend in food prices. Therefore, food price inflation exceeded forecasts by about 3 percentage points in the first quarter, driving annual CPI inflation up by 0.8 percentage points.

The January tax hike on fuel, alcoholic beverages and tobacco products intended to maintain fiscal balance added 1.9 percentage points to CPI inflation, surpassing the January forecast of 1.5 percentage points (Table 7.1.1).

National accounts data for the fourth quarter of 2009 are largely consistent with the outlook presented in the January Inflation Report. The weak global growth outlook restrains resource utilization and economic activity in export-oriented sectors, while the effect of fiscal and monetary policies on domestic demand becomes more pronounced. Government spending on goods and services supports the growth, while the recovery in private domestic demand is relatively moderate. Inventory buildup has yet to become permanent, indicating that uncertainties regarding the aggregate demand outlook remain.

Developments in the past three months have led to a revision of our output gap forecasts. Firstly, TURKSTAT's national accounts data were

subject to backward revision. Secondly, domestic demand grew at a stronger than expected pace. The rebound in the demand for goods particularly sensitive to current income points to the growing impact of stabilizing fiscal policies. Accordingly, our output gap forecasts, the starting point for our medium-term forecasts, have been revised upwards, as shown in Table 7.1.1.

The price of Brent crude oil has performed in line with our first-quarter forecast of 80 USD/bbl. Yet, in view of the recent changes in international crude oil prices, the price of Brent crude oil is assumed to average around 85 USD/bbl in 2010.

Table 7.1.1. Sources of Revisions to Inflation Forecasts

	January 2010 IR				**April 2010 IR**			
Output gap	2009 Q3: -8.1 2009 Q4: -7.3 2010 Q1: -5.8				2009 Q3: -7.5 2009 Q4: -6.0 2010 Q1: -4.7			
Food prices	2010: 7% 2011: 6.5% 2012: 6%				2010: 9% 2011: 7% 2012: 7%			
Administered prices and taxes	Adding 1.5 percentage points to 2010 inflation				Adding 1.9 percentage points to 2010 inflation			
Oil prices	2010: 80 USD 85 USD in and after 2011				2010: 85 USD 90 USD in and after 2011			
Euro area growth forecasts[1]	2010		2011		2010		2011	
	CF	*WEO*	*CF*	*WEO*	*CF*	*WEO*	*CF*	*WEO*
	1.3	0.3	1.6	1.3	1.2	1	1.5	1.5

[1] Consensus Forecasts (CF) January 2010 and April 2010 (average annual growth, %);
World Economic Outlook (WEO), October 2009 and April 2010.

The gloomy outlook for food prices has been one of the main contributors to the upward revision of inflation forecasts. Among food prices, the sharpest increase has been recorded in meat prices. Skyrocketing meat prices due to shortage of livestock had a larger impact on unprocessed and processed food prices during the first quarter of 2010. Since the supply shortage is attributable to structural problems, meat prices are unlikely to improve markedly in the short run. Therefore, we revised our food inflation assumptions up from 7 to 9 percent for 2010, and from 6.5 to 7 percent for end-2011. Assumptions for the following years are also revised up from 6 to 7 percent (Table 7.1.1).

The weak global growth outlook may continue to dampen economic activity and employment in export-oriented sectors over coming months, while government spending would contribute further to GDP growth, albeit at a gradually slowing pace. Thus, we assume that aggregate demand conditions

would continue to support disinflation in the upcoming period, though to a lesser degree than in the previous report.

As stated in the January Inflation Report, the global growth outlook remains important for the assumptions underlying medium-term forecasts, both given the fact that demand conditions would largely depend on global growth over the medium term as well as the effects of global recovery on international commodity prices.

First-quarter data releases suggest that the outlook for the global economy has improved relative to previous quarter. However, regional differences markedly emerge. Although global growth forecasts were revised upwards in the first quarter, the speed of exit from recession will vary across countries and regions.

First-quarter global growth forecasts have been revised mostly upwards amid mounting optimism fueled by signs of global economic recovery. Consensus Economics revised its global growth forecast for 2010 up by 0.2 percentage points to 3.2 percent in April, while IMF raised its forecast by 0.3 percentage points to 4.2 percent in its latest World Economic Outlook. These updates were largely driven by upward revisions to the US and Asia-Pacific economies. On the other hand, given the problems unfolding in the Euro area, Turkey's major export destination, Euro area growth forecasts for 2010 were revised further downward in the last quarter, to 1.2 percent in the April 2010 issue of Consensus Forecasts (Table 7.1.1). Thus, we built our medium-term forecasts on the assumption that foreign demand would recover modestly in 2010.

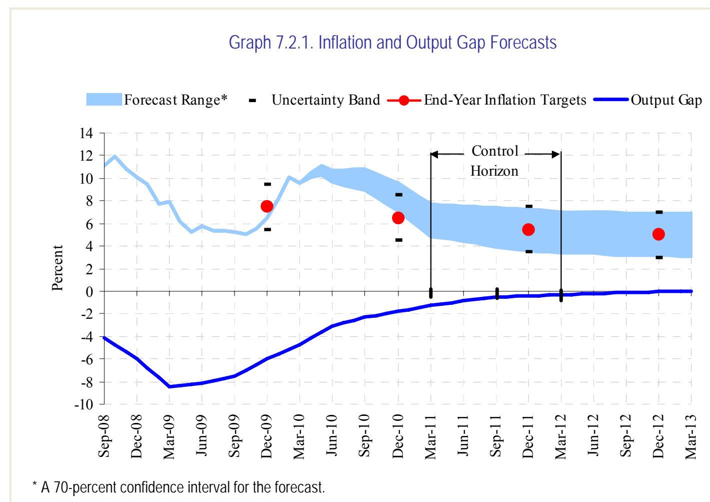
International commodity prices, another main input to medium-term forecasts, started to rise again in April after having flattened during the first quarter of 2010. This rise was mainly driven by the mounting signs of global economic recovery. Nevertheless, the ongoing downside risks to the recovery in advanced economies keep commodity prices from rising further. Accordingly, our crude oil price assumptions underlying the medium-term forecasts are revised slightly up to 85 and 90 USD/bbl for 2010 and 2011, respectively (Table 7.1.1). Moreover, our medium-term forecasts are based on the assumption that other commodity prices and imported input costs would increase gradually in line with oil prices amid the modest recovery in the world economy.

The macroeconomic framework underlying our forecasts is based fundamentally on the assumption that credit market conditions would continue to improve in the upcoming period. Both the current monetary policy and the recently fallen risk premium for Turkey have buoyed the credit market. The historic lows in loan rates and the partial recovery in consumer confidence have recently boosted loan demand. Meanwhile, the decline in overdue loans and overdraft checks amid economic recovery reduces the credit risk and helps banks ease their loan standards. The improved outlook for global liquidity conditions and risk appetite is likely to spur credit expansion in Turkey over the upcoming period. Therefore, we have developed our medium-term forecasts on the assumption that the use of loans is spread to the broader economy and financial tightening has considerably less adverse impact on economic activity.

7.2. Medium-Term Outlook

Against this background, assuming that the liquidity measures are normalized gradually over the short term and that policy rates are kept constant at current levels for sometime followed by limited increases starting in the last quarter of 2010, with policy rates staying at single digits throughout the three-year forecast horizon; the medium-term forecasts suggest that, with 70 percent probability, inflation will be between 7.2 and 9.6 percent with a mid-point of 8.4 percent at end-2010, and between 3.6 and 7.2 percent with a mid-point of 5.4 percent by the end of 2011. Furthermore, inflation is expected to decline to 5.0 percent by the end of 2012 (Graph 7.2.1).

Graph 7.2.1. Inflation and Output Gap Forecasts



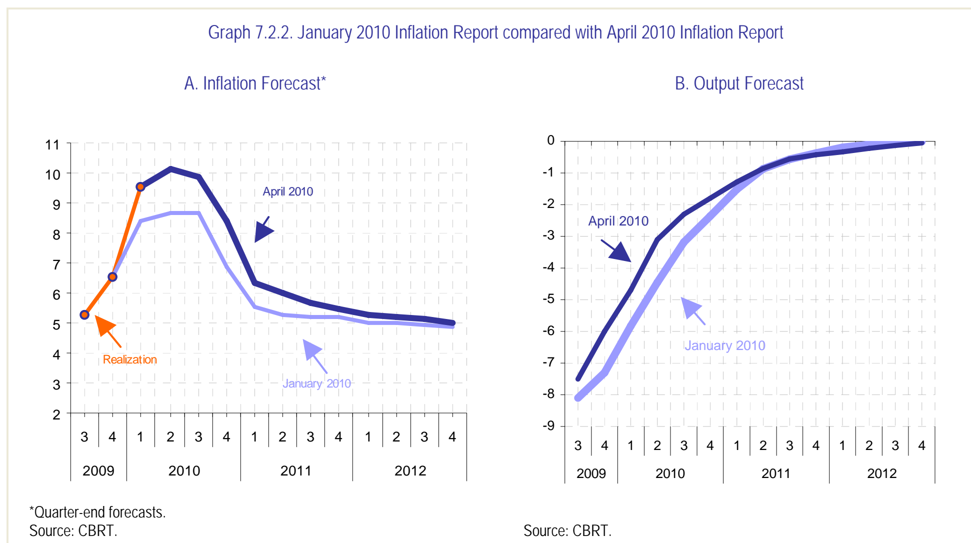
* A 70-percent confidence interval for the forecast.

In sum, on the back of food prices, tax adjustments and the upward revision to the output gap forecast, we expect inflation to exceed the January

forecast by 1.5 percentage points at end-2010 (Graph 7.2.2 A). Assuming that the impending monetary tightening would contain the second-round effects of the above factors, medium-term forecasts are left unrevised.

Our output gap forecasts based on the above assumptions are shown in Graph 7.2.1. Due to the backward revision of the GDP data and the stronger-than-expected domestic demand, output gap forecasts are revised up from the previous reporting period. However, estimates for the pace of economic recovery are left unchanged (Graph 7.2.2 B). Therefore, we expect output gap to close in the long run and aggregate demand conditions to continue to support disinflation for some time, albeit to lesser degree than in the January Inflation Report.

Graph 7.2.2. January 2010 Inflation Report compared with April 2010 Inflation Report



*Quarter-end forecasts.
Source: CBRT.

Source: CBRT.

The temporary tax cuts in 2009 and the extreme volatility in unprocessed food prices suggest that inflation will fluctuate over 2010. Similarly, core inflation indices are expected to rise further in April due to the base effects from last year's tax cuts, and start falling by mid-2010. Thus, inflation is expected to hover significantly above the target for some time before resuming a downtrend by the final quarter of 2010 with the removal of these temporary effects, and return back to levels consistent with the target by early 2011 (Graph 7.2.1).

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.

Temporary implications of tax adjustments and base effects may cause inflation to remain elevated for a while in coming months, drawing attention to the management of 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 their pricing plans and contracts. 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, particularly 24-month ahead inflation expectations, are significantly above the revised inflation forecasts (Table 7.2.1).

Table 7.2.1. CBRT Inflation Forecasts and Expectations

	CBRT Forecast	CBRT Expectation Survey[1]	Inflation Target[2]
2010 year-end	**8.4**	8.2	6.5
12-month ahead	**6.3**	7.2	6.2
24-month ahead	**5.2**	6.9	5.3

[1] April results, 2nd survey period.
[2] Calculated by linear interpolation of year-end inflation targets for 2010, 2011 and 2012.
Source: CBRT.

7.3. Risks and Monetary Policy

The fact that inflation will remain elevated for sometime, warrants the close monitoring of price setting behavior. The combination of several unfavorable developments, such as unprocessed food and oil price increases, base effects and administered price hikes, has led to a significant increase in inflation since the last quarter of 2009. Although these factors are temporary, they cause headline inflation to significantly exceed the inflation target, leading to an adverse impact on inflation expectations (Box 7.1). Apart from items that are directly affected by cost push effects, current pricing behavior does not reveal a deterioration to an extent that might endanger the achievement of the medium-term targets. However, monetary tightening may be implemented sooner than envisaged in the baseline scenario, should inflation expectations continue to rise and lead to a deterioration in general price setting behavior.

Although downside risks regarding global economic activity have been decreasing, they remain to be a concern. Rising budget deficits and ongoing problems in credit, real estate and labor markets across developed economies continue to pose downside risks for the recovery in global activity. Should the global conditions deteriorate again, and consequently delay the domestic recovery, the policy rate may remain constant for a longer period than envisaged under the baseline scenario.

Uncertainties regarding the lagged effects of the strong monetary stimulus pose upside risks on both domestic and global economic activity. Given that the recovery in domestic demand has been relatively robust, a faster-than-envisaged recovery in external demand could lead to a rapid narrowing in the idle capacity, which, coupled with cost push pressures, may delay the attainment of the medium-term inflation targets. In this respect, should the recovery in economic activity turn out to be faster than expected, the monetary tightening implied in the baseline scenario may be implemented sooner than envisaged.

Prospects regarding the pace of growth in developing economies, especially in China and India, have been posing upside risks regarding oil and other commodity prices. The increasing share of these economies in world demand has been creating additional pressures on commodity prices. If commodity prices rise faster than expected in the forthcoming period and delay the disinflation, then the CBRT, in order to eliminate the risks of deteriorating price setting behavior, may implement the monetary tightening described in the baseline scenario sooner than envisaged.

CBRT will continue to monitor fiscal policy developments closely while formulating monetary policy strategy. Since the second half of 2009, economic activity has been stronger than envisaged in the MTP, leading to a better-than-expected performance in budget revenues. Using this fiscal room mostly to reduce the government debt, as implied by the fiscal rule, would enhance demand management and ease the need for indirect tax hikes, therefore providing more flexibility regarding the conduct of a stabilizing monetary policy. In this respect, it is believed that should the goals set out in the MTP be implemented through institutional and structural improvements, such as enacting and establishing the fiscal rule, it would be possible to keep policy rates at single-digit levels over the medium term.

Since the last quarter of 2008, the CBRT, without conflicting with its primary objective of price stability, has focused on containing the adverse effects of the global crisis on the domestic economy—which has been achieved to a large extent. Monetary policy will continue to focus on price stability in the period ahead. Adherence to the commitment for 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 the medium term. 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 Communication Policy and Inflation Expectations Following Recent Inflation Developments

Inflation has increased rapidly since the fourth quarter of 2009[1], mainly due to temporary factors that basically lie outside the control of monetary policy, such as the rise in unprocessed food prices resulting from adverse weather conditions, tax-driven price hikes and the low base effect from a year earlier. Inflation is expected to fluctuate significantly above the target in the near term before resuming a downtrend by the fourth quarter of 2010 with the removal of these temporary effects.

In the meantime, findings on how the sensitivity of inflation expectations to official targets, actual inflation rates and temporary fluctuations of inflation has changed from previous quarters will provide valuable insight regarding the efficiency of the current communication policy. To this end, this Box analyzes the sensitivity of inflation expectations to both inflation target and core inflation measures as well as to the difference between CPI inflation and core inflation indices.

Our forecasts are based on the assumption that the numerical difference between CPI inflation and special CPI aggregates reflect inflation movements driven by factors outside the control of monetary policy. In this regard, we produced H_dif and I_dif variables by subtracting core inflation measures H and I, respectively, from overall CPI inflation. Together with the annual percentage rate of increase in the measures of underlying inflation, H and I, these variables substitute the actual inflation rates in the model that was previously studied by Başkaya, Kara and Mutluer (2008)[2] and Başkaya, Gülşen and Orak (2010)[3] and designed to measure the impact of inflation targets, actual inflation rates and several control variables (i.e. exchange rate changes, risk premium, industrial production index and changes in oil prices) on inflation expectations. Thus, the model decomposes actual inflation rate into trend and cyclical components.

[1] CPI inflation rose from 5.08 percent in October 2009 to 9.56 percent in March 2010. Unprocessed food prices added 2.6 percentage points to annual inflation as of March, while January adjustments on administered prices and taxes contributed by 1.9 percentage points.

[2] Başkaya, Y. S., Kara, H. and D. Mutluer-Kurul, 2008, "Inflation Expectations and Monetary Policy in Turkey", CBRT Working Paper, No. 08/01.

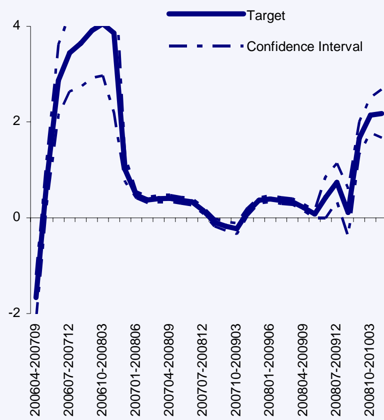
[3] Başkaya, Y. S., Gülşen, E. and M. Orak, 2010, "2008 Hedef Revizyonu Öncesi ve Sonrasında Enflasyon Beklentileri", CBRT Economic Note No. 01/10.

$$\Pi^{b}{}_{i,t,t+k} = \beta_0 + \beta_1 \Pi^{h}{}_{t,t+k} + \beta_2 h_{t-1} + \beta_3 h_fark_{t-1} + \gamma X_t + u_t \text{, } k=12, 24.$$

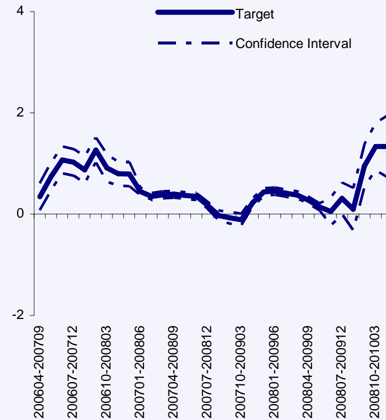
In this model, $\Pi^{e}{}_{i,t,t+k}$ means "*k*"-month ahead inflation expectations of participant "*i*" answering CBRT's Expectations Survey at time *t*, $\Pi^{T}{}_{t,t+k}$ *represents* the "*k*"-month ahead inflation targets at time t ; h_{t-1} expresses the previous month-end value of annual percentage change in Index H ; h_dif_{t-1} denotes the previous month-end difference between CPI annual inflation realization and the annual percentage rate of increase in Index H; and X_t represents other control variables.[4] The model covers the period between April 2006, when CBRT's Expectations Survey[5] started asking participants' 24-month ahead inflation expectations, and April 2010, and is estimated based on the 12- and 24-month ahead data from the second survey period.

Measuring change in expectations formation is critical for providing insight into the Bank's effectiveness in managing expectations. Therefore, the above regression analyses are updated by 18-month moving windows, the resulting coefficients are displayed in graphics format, and change in the expectations' sensitivity to relevant variables is observed. In this respect, Graph 1 and Graph 2 show change in the coefficient that is estimated to measure the sensitivity of 12- and 24-month ahead inflation expectations referred to as β_1 in the above equation to inflation targets.

Graph 1. Sensitivity of 12-Month Ahead Inflation Expectations to Inflation Targets (18-month moving windows)



Graph 2. Sensitivity of 24-Month Ahead Inflation Expectations to Inflation Targets (18-month moving windows)

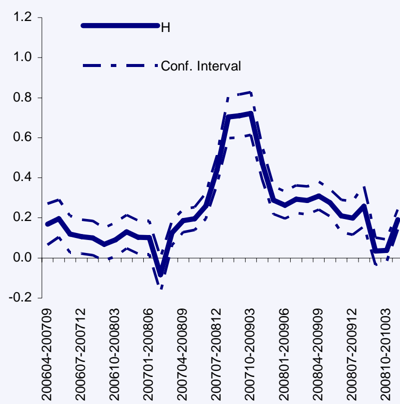


[4] A similar equation is developed for index I.

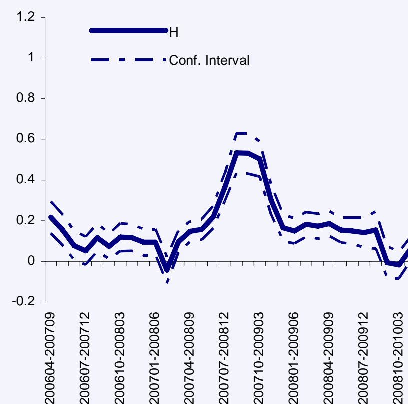
[5] The objective of the Expectations Survey is to measure the expectations of decision-making experts and professionals in the financial and business sector about consumer inflation, interest rates, exchange rates, current account balance and GDP growth. The expectations survey is conducted twice a month, in the first and third weeks. For more information see http://www.CBRT.gov.tr/ikt-yonelim/beklenti/bilginotu.pdf.

Graphs 1 and 2 show that inflation targets are having a more marked impact on inflation expectations. The recent increase in the expectations' sensitivity to targets coincides with CBRT's renewed emphasis, following the rise in inflation due to temporary factors, on the requirement for economic agents to set medium-term targets as a benchmark in adjusting their expectations, which provides valuable insight into the efficiency of the Bank's communication policy.

Graph 3.Sensitivity of 12-Month Ahead Inflation Expectations to Index H (18-month moving windows)

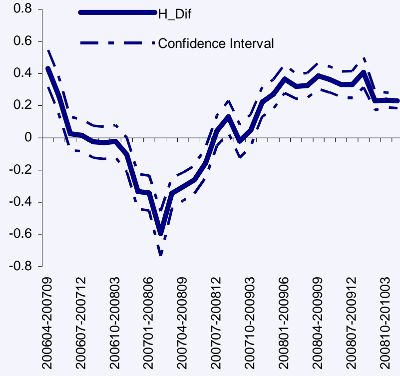


Graph 4. Sensitivity of 24-Month Ahead Inflation Expectations to Index H (18-month moving windows)

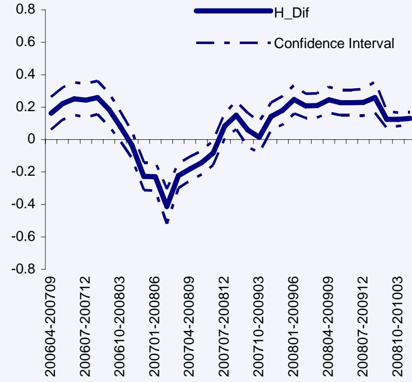


Graphs 3 and 4 show how the coefficient, expressed as β_2 in the above model and measuring both 12- and 24-month ahead inflation expectations' response to core index H, has changed over time. Strikingly, the level of these estimates have been down from previous periods in recent months. Meanwhile, 12- and 24-month ahead expectations have been slightly less sensitive to the difference between CPI inflation and core index H (H_dif) than in previous periods (Graphs 5 and 6). As emphasized by the Bank, these findings reveal that there has been no significant deterioration in the expectations of economic agents following the recent pick-up in inflation due to temporary factors and CBRT's official targets have a growing impact on the expectations for the medium-term inflation outlook. These observations are consistent with the modest increase in 12- and 24-month ahead inflation expectations, 1 and 0.7 percentage points, respectively, although inflation has increased by about 4.5 percentage points for the last six months. These analyses deliver the same qualitative and quantitative results when repeated using core inflation measure I.

Graph 5. Sensitivity of 12-Month Ahead Inflation Expectations to the H_dif
(18-month moving windows)



Graph 6. Sensitivity of 24-Month Ahead Inflation Expectations to the H_dif
(18-month moving windows)



In sum, despite being driven by temporary factors that basically lie outside the control of monetary policy, the recent rise in inflation pose a threat to inflation expectations and the overall pricing behavior. In this respect, it is more critical that the Bank maintain an effective communication policy focusing on the reasons behind the pick-up in inflation and on the medium-term inflation outlook. In fact, CBRT's communication strategy against the movements in inflation has limited the deterioration in expectations despite higher inflation. Moreover, the increased sensitivity of inflation expectations to inflation targets despite the recent upward and volatile trend in inflation can be interpreted as evidence of confidence in monetary policy over the medium term.

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Abbreviations

BTS	Business Tendency Survey
CBRT	Central Bank of the Republic of Turkey
CCS	Cross Currency Swaps
CDS	Credit Default Swap
CPI	Consumer Prices Index
CEEMEA	Central Eastern Europe, Middle East and Africa
ECB	European Central Bank
EMBI	Emerging Markets Bonds Index
Fed	Federal Reserve
GDBS	Government Domestic Borrowing Securities
GDP	Gross Domestic Product
IMF	International Monetary Fund
IFS	International Financial Statistics
ISE	İstanbul Stock Exchange
MPC	Monetary Policy Committee
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
SME	Small and Medium-Sized Enterprises
TURKSTAT	Turkish Statistical Institution
TL	Turkish Lira
USA	United States of America
WEO	World Economic Outlook
VAT	Value Added Tax

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)