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1. Overview

In the fourth quarter of 2014, the persisting divergence among global monetary policies besides uncertainties regarding the normalization process aggravated the volatility in financial markets. This led the portfolio flows towards emerging economies to fluctuate and the volatilities of exchange rates in these countries to heighten (Chart 1.1). Recently, the persisting deterioration in global economic activity accompanied by mainly supply-side factors pulled down oil prices sharply. These developments caused considerable fluctuations especially in energy-exporting emerging countries. Overall, the risk premiums of emerging economies followed a volatile course due to the monetary policy uncertainties, the slowdown in economic activity and the course of oil prices (Chart 1.2).

Effects of the increased volatility in global markets were also seen in the Turkish economy, where risk premium indicators and exchange rates have fluctuated. The fall in commodity prices, mainly in oil, is expected to improve the economy especially in terms of inflation and external balance. Along with this, the tight monetary policy stance stood out as a factor that limits the negative effects of global volatilities on Turkey in this period.

Annual growth saw some deceleration after the first quarter of 2014 mainly due to the receding agricultural product upon unfavorable climatic conditions as well as the slowdown of export growth due to geopolitical risks. Indicators regarding the last quarter show that annual growth remained moderate due to weak external demand. In 2015, the growth rate is expected to surge gradually with the increased contribution of domestic demand. The positive effects of the tight monetary policy stance and macroprudential measures continued in the last quarter of 2014, causing the core underlying trend to near the target. Moreover, plummeting oil prices supported the disinflation process and inflation expectations have recently seen a noticeable improvement. Due to the fading cumulative effects of the exchange rate, the reverting of food inflation to past years’ averages as well as the falling oil prices, a notable decline in inflation is projected in 2015. Accordingly, inflation is estimated to approach target-consistent levels in mid-2015.
1.1. Monetary Policy and Financial Conditions

In the last quarter of 2014, the CBRT maintained its tight policy stance by also implementing tight liquidity policy in consideration of global volatilities. Thus, the BIST overnight repo rates have remained close to the upper band of the interest rate corridor since October in line with the liquidity policy (Chart 1.1.1). Since early 2014, the CBRT funding has been provided mainly through 1-week repo auctions. This continued in the last quarter of the year and the CBRT average funding rate hovered around the 1-week repo rate (Chart 1.1.2).

Considering the favorable developments in the inflation outlook amid the continuing fall in core inflation trends, receding oil prices and improved expectations, the CBRT decided on a measured cut in the 1-week repo rate from 8.25 percent to 7.75 percent in January. On the other hand, given the heightened volatility in global markets, overnight rates were kept unchanged with an emphasis on the need for a cautious stance to render the decline in inflation permanent. In this context, it was stated that inflation expectations, the pricing behavior and other factors affecting inflation would be closely monitored and the tight monetary policy stance would be maintained by keeping the yield curve flat until there is a significant improvement in the inflation outlook. Owing to the tight monetary policy stance, the spread between 5-year market rates and the overnight repo rates at the BIST Interbank Money Market continued to take negative values (Chart 1.1.3). Along with these developments, the yield curve has remained nearly flat (Chart 1.1.4),
The CBRT announced the outline of the monetary and exchange rate policy for 2015 on 10 December 2014, and adopted new macroprudential policies to limit macrofinancial risks and to support prudential borrowing. In this scope, to extend the maturities of external borrowing, the required reserve ratios applied to non-core FX short-term liabilities of banks and financing companies were raised. Additionally, the arrangement of the CBRT’s remuneration of TL required reserves to stimulate core liabilities was put into effect in January 2015. Moreover, technical adjustments were implemented in reserve option tranches and coefficients to meet the FX liquidity to be required due to the changes in required reserves ratios. These adjustments are expected to strengthen the automatic stabilizing feature of the ROM. The disclosed policy measures are aimed at limiting macrofinancial risks and contributing to balanced growth by supporting prudential borrowing.

Owing to the CBRT’s tight monetary policy stance and the macroprudential measures, the rate of increase in the loans extended to the non-financial sector continued on a reasonable course in the last quarter of the year. Supported also by the actions of the BRSA, consumer loans grew slower than past years, while commercial loans displayed a higher rate of increase (Charts 1.1.5 and 1.1.6). According to the current financial conditions and the results of the Loan Tendency Survey, there has not been any noticeable change in demand and supply conditions in commercial and consumer loans in the first quarter of 2015, which indicates that credit growth will maintain its current trend. This outlook in credits is expected to continue to limit medium-term inflation pressures on the one hand, and support the improvement in the current account balance, on the other.
1.2. Macroeconomic Developments and Main Assumptions

Inflation

In the fourth quarter of 2014, annual consumer inflation posted a quarter-on-quarter decline by 0.7 points and stood at 8.17 percent remaining below the forecasts of the October Inflation Report (Charts 1.2.1 and 1.2.2). Annual inflation decreased across subcategories in this period with energy prices registering the most remarkable slowdown, which was led by the plunge in international oil prices. Food prices remained as the largest contributor to inflation. Core goods registered a slight fall in annual inflation, while the improvement in the underlying trend, which has been experienced since the second quarter, halted. Meanwhile, the fall in oil prices affected fuel-related services considerably and the underlying trend of services recorded a notable improvement.

The tight monetary policy stance besides the macroprudential measures continue to improve the core inflation trend (Chart 1.2.3). At the end of 2014, the core underlying inflation trend receded to the levels prior to mid-2013, the period when the effects of the exchange rate depreciation and
negative weather conditions appeared. The leading recent development, which had the highest effect on inflation dynamics, has been the plunge in oil prices (Chart 1.2.4). Amid this decline, annual inflation in the energy prices fell remarkably and stood below zero at the year-end. Favorable cost developments driven by plummeting oil prices also contribute to the improvement in the core inflation trend.

To summarize, the last quarter of the year was marked by evident effects of the falling oil prices on inflation. A remarkable improvement was witnessed in inflation expectations after a long period and the positive effect of oil prices on the headline inflation spilled over into many subcategories, especially the services prices. Besides the international price developments that contribute to falling inflation, the gradual elimination of cumulative exchange rate effects, the decline in food inflation to past years’ averages and the tight monetary policy stance are envisaged to support the disinflation process in the upcoming period. Against this background, it is projected that consumer inflation will register a notable improvement particularly in the first quarter, and inflation will recede to target-consistent levels in mid-2015.

Supply and Demand

According to the GDP data of the third quarter of 2014, economic activity was relatively weaker compared to the outlook presented in the October Inflation Report. In the third quarter, the GDP rose by 1.7 percent on an annual basis, while growth remained limited compared to the previous quarter with 0.4 percent (Chart 1.2.5). Analysis of national income components on the production side indicate that the contraction in agricultural value-added led by adverse weather conditions is an important factor in the low growth of the national income (Chart 1.2.6). Data on the expenditures side reveal that in the third quarter, final domestic demand compensated for the fall in the first half and stood slightly above its level in the last quarter of 2013 (Chart 1.2.5). Private consumption expenditures recorded a robust recovery after two consecutive quarters. In addition, the persistently sluggish trend in private investments was reversed amid the increase in machinery and equipment investments. These two factors supported quarterly growth. However, the relatively weak course of exports limited the growth in this period.
Falling below its previous quarter average during October-November 2014, industrial production is expected to decrease on a quarterly basis in the fourth quarter in line with the decline in December’s PMI and BTS survey indicators. Yet, data for the fourth quarter of 2014 point to a quarter-on-quarter pickup in consumer demand, a moderate course in machinery and equipment investments and some recovery in construction investments. Hence, domestic demand may remain on a modest upward track in the final quarter. External demand, on the other hand, remains weak due to slowing activity in the European economies and geopolitical tensions in neighboring countries. The weak external demand puts pressure on export growth, but the fact that export growth exceeds import growth supports the re-balancing of the economy (Chart 1.2.7). Moreover, falling oil prices contribute positively to the current account balance by reducing import expenditures (Chart 1.2.8).

In 2015, domestic demand is expected to recover moderately while external demand is likely to remain weak. Depending on weather and precipitation conditions, the projected correction in the agricultural value-added will be a factor to support growth. However, there are external demand-driven downside risks to growth. Thus, in 2015, demand conditions will contribute to the disinflation process and also support the improvement of the current account balance on the back of the macroprudential measures and the more favorable terms of trade.
Oil, Import and Food Prices

In the fourth quarter of 2014, oil and import prices remained well below the projections of the October Inflation Report (Chart 1.2.9). Accordingly, oil and import price assumptions for the medium term were revised significantly downwards (Table 7.1.1). In view of the direct and indirect effects of these developments, the end-2015 inflation forecast was revised down by 0.6 percentage points compared to the previous reporting period. In food prices, the end-2015 inflation forecast was left unchanged at 9 percent.

**Chart 1.2.9. Revisions to Oil and Import Price Assumptions**

<table>
<thead>
<tr>
<th>Oil Prices (USD/bbl)</th>
<th>Import Prices (USD, 2010=100)</th>
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</thead>
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<tr>
<td>January 2015</td>
<td>January 2015</td>
</tr>
<tr>
<td>October 2014</td>
<td>October 2014</td>
</tr>
</tbody>
</table>

* Shaded region denotes the forecast.
Source: Bloomberg, TurkStat, CBRT.

**Fiscal Policy and Tax Adjustments**

Medium-term projections are based on the assumption that tax adjustments and administered prices are consistent with inflation targets and automatic pricing mechanisms. The medium-term fiscal policy stance is based on the MTP projections covering the 2015-2017 period. Accordingly, it is assumed that a tight fiscal stance will be implemented and the primary expenditures to the GDP ratio will decrease gradually.

**1.3. Inflation and the Monetary Policy Outlook**

Medium-term forecasts are based on a framework where a cautious approach will be adopted to achieve a permanent improvement in inflation outlook and the tight monetary policy stance will be maintained by keeping the yield curve flat. It is assessed that the annual loan growth rate will continue to hover around the recent reasonable levels in 2015, also thanks to the macroprudential measures. Accordingly, inflation is expected to be, with 70 percent probability, between 4.1 percent and 6.9 percent (with a mid-point of 5.5 percent) at end-2015 and between 3.2 percent and 6.8 percent (with a mid-point of 5 percent) at end-2016. Inflation is projected to stabilize around 5 percent in the medium term (Chart 1.3.1).
In sum, the end-2015 inflation forecast is revised down by 0.6 points to 5.5 percent from 6.1 percent in the October Inflation Report. This revision is driven by falling oil prices. The projected noticeable decline in inflation compared to 2014 is largely due to falling oil prices as well as projections that cumulative exchange rate effects will continue to taper off and food price inflation will recede to past years’ averages. The course of inflation in 2015 will be determined by base effects. Base effects will pull annual inflation down until August and push it up in the rest of the year (Box 3.3). Thus, annual inflation is expected to remain on a downward track until the third quarter and increase slightly to 5.5 percent due to base effects in the fourth quarter (Chart 1.3.1).

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 monetary policy outlook underlying the inflation forecast should not be perceived as a commitment on behalf of the CBRT.

1.4. Risks and Monetary Policy

Loans continue to grow at reasonable levels amid the tight monetary policy stance and the macroprudential measures. The composition of loans also moves in the desired direction. While the annual growth rate of consumer loans hovers around low levels, commercial loans remain relatively more robust. This loan outlook not only limits medium-term inflationary pressures but also contributes to the improvement in the current account balance.

The CBRT expects the growth composition to change in favor of domestic demand in the upcoming period. Languishng external demand due to weak growth in European countries, the largest export market of Turkey, and geopolitical developments in neighboring countries limit the growth of exports. Yet, with improved financial conditions and the income effect of falling oil prices, domestic demand may see some recovery. In sum, external demand remains weak whereas domestic demand contributes moderately to growth. This change in the growth composition might increase the non-

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**Chart 1.3.1.**

*Inflation and Output Gap Forecasts*

- **Shaded region** denotes the 70 percent confidence interval for the forecast.
- **Source:** CBRT.

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energy current account deficit to some extent but the current account deficit is expected to narrow further down thanks to the improvement in the energy trade balance.

There are downside risks to economic activity in the upcoming period. The lingering volatility across global financial markets and the sluggish course of confidence indices may cause private final demand to provide limited support to growth. In the case of an additional slowdown in external demand and a sizeable decline in global growth rates, the decrease in commodity prices will pull inflation down. Nevertheless, domestic economic activity may witness notable adverse effects at the same time. Under such circumstances, the CBRT will employ policy tools to support the economy.

There are many factors that might have a favorable effect on the inflation outlook in 2015. The recovery of economic activity is likely to be a gradual one and aggregate demand developments are expected to support disinflation. The tight monetary policy stance and the macroprudential measures continue to have a favorable impact on inflation, especially on core inflation indicators, which exclude energy and food. The adverse impact of cumulative exchange rate developments on annual inflation is also tapering off. Moreover, falling commodity prices, in particular oil prices, contribute to disinflation. In fact, there has recently been a notable decline in medium-term inflation expectations.

Global financial markets have followed a volatile course lately. Capital flows to emerging markets may continue to fluctuate in 2015. The ongoing uncertainty about the normalization of global monetary policies cause the global risk appetite and capital flows to be data-sensitive. The CBRT’s current policy framework is flexible enough to provide a prompt response to any impending volatility. In this regard, inflation expectations, the pricing behavior and other factors that affect inflation will be closely monitored and the tight monetary policy stance will be maintained by keeping the yield curve flat until there is a significant improvement in the inflation outlook.

Under the current monetary policy stance, the CBRT anticipates that inflation will decline to levels close to the target by mid-2015. Yet, a more persistent reduction in inflation necessitates a cautious approach in monetary policy. Cost and demand factors are currently supportive of disinflation, which creates a major opportunity to bring inflation down permanently. Sustaining low levels of inflation might contribute to investments and potential growth. In this context, the CBRT will continue to act decisively to control inflation and future monetary policy decisions will be conditional on improvements in the inflation outlook.

Developments in the fiscal policy and tax adjustments are monitored closely with regard to their effects on the inflation outlook. The baseline monetary policy stance is formulated under the assumption that fiscal discipline will be maintained and there will be no unanticipated hikes on administered prices. A revision of the monetary policy stance may be considered, should the fiscal policy deviate significantly from this framework, and consequently, have an adverse effect on the medium-term inflation outlook.

The incorporation of disinflation in the MTP as one of the main objectives was welcomed by the CBRT. Moreover, it is assessed that the implementation of the announced structural reforms would contribute to the potential growth significantly. Any measure to ensure the sustainability of the fiscal discipline and reduce the savings deficit will support macroeconomic stability and contribute positively to social welfare by keeping interest rates of long-term government securities at low levels.
2. International Economic Developments

The slowdown in global economic activity in the first half of the year continued into the third quarter both in advanced and emerging economies. On the advanced economies front, displaying a positive growth performance, the US economy diverged favorably from others, while Japan and the Euro Area continued to record weak economic activity, thus driving the slowdown in global growth. As for the emerging economies, China and India presented a sluggish outlook, while the negative growth performances of Brazil and Russia also imposed a downside risk to global growth. Last quarter indicators show that the global growth continues to decelerate.

In the last quarter of the year, the headline commodity price index recorded a quarter-on-quarter decline by 27 percent mainly due to energy prices. Accordingly, the fall in oil prices, which started in the second half of the year owing to high demand and supply conditions, continued with an accelerated pace in the last quarter of the year. This sizeable fall in commodity prices pulled down inflation rates in both advanced and emerging economies.

Monetary policy in advanced economies followed a loose course in the third quarter; and the Fed’s monetary policy continued to diverge significantly from that of other advanced economies. In line with the favorable growth performance, the Fed will likely raise policy rates to normal levels soon, while additional easing measures are being debated in the Euro Area and Japan. On the other hand, the monetary policy adopted by the central banks of emerging economies in the last quarter was shaped by the plunge in oil prices that started in the second quarter and the resulting fluctuations in financial markets. Accordingly, the most aggressive response to the fall in oil prices proved to be the 750 basis points policy rate hike by the Bank of Russia to prevent the depreciation of the ruble in the last quarter of the year. Policy divergence on a global scale and expectations for an impending tightening by the Fed aggravate the uncertainties about the future policies. Additionally, the slowdown in both the global growth outlook and economic activity in emerging economies feed risks on capital flows, which have continued to fluctuate in the last quarter. Also, given the concerns over Russia and the Middle East, fluctuations in global risk appetite and the volatility in portfolio flows are expected to persist in the upcoming period as well.

2.1. Global Growth

The slowdown in global economic growth in the first half of 2014 continued through the third quarter. Growth rates of both advanced and emerging economies lost momentum in this period. Compared to the first half of the previous year, growth rates registered a notable decline, especially in emerging economies (Chart 2.1.2). In the third quarter of 2014, in contrast to the brisk growth in the US economy, the deepening recession in Japan played a key role on the deceleration of the global growth. On the emerging economies front, the slower-than-expected growth in China and India, the ongoing recession in Brazil and the persisting slowdown in the Russian economy stood out as the factors that led to weak global economic activity.
Global PMI data for the last quarter of 2014 exhibit a worse growth performance than past quarters (Chart 2.1.3). Manufacturing industry PMI readings for the Euro Area remained flat in this period, while those of the US displayed a notable decline (Chart 2.1.4). However, the steady fall in the US unemployment rate continued into the last quarter of 2014. Moreover, consumer confidence and industrial production increased at an accelerating pace in this period. The declining PMI notwithstanding, all these developments indicate that the US economy grew further in the last quarter of the year. In the October-November period, the declining year-on-year growth of the industrial production in Japan besides the worsening consumer confidence show that the Japanese recession has continued in the last quarter.

Manufacturing industry PMI of the emerging economies registered an overall increase in the last quarter of 2014. This points to a stronger economic activity for emerging economies in the last quarter of 2014 compared to the third quarter. However, manufacturing industry PMI displayed a decline in China, Russia and Brazil in this period. Given the weight of these countries in emerging economies, economic growth is likely to lose pace in emerging economies in the last quarter of 2014. In fact, the year-on-year growth of Chinese industrial production recorded a notable fall in the October-November period of 2014.

In sum, the slowdown in the global growth rate in the first nine months of 2014 will probably persist in the last three months of the year due to the decelerating growth in both advanced and emerging economies. In particular, Japanese, Chinese, Brazilian and Russian economies are expected to pull the global growth rate down in this period.
As of January, the global growth forecast for end-2014 has remained unchanged since the previous reporting period. Growth forecasts were revised upwards for the US and downwards for Japan and the UK in this period. In particular, the growth rate of the Japanese economy was revised remarkably downwards. Compared to the previous report projections, growth forecasts for 2014 remained unchanged for the Asia-Pacific region, but were revised slightly upwards for Eastern Europe, and notably downwards for Latin America (Table 2.1.1). The GDP and export-weighted global production indices revised by January forecasts indicate that the global economy continued to grow in the last quarter of 2014. However, in comparison with the October Inflation Report, the GDP-weighted index lagged behind projections, whereas the export-weighted index remained unchanged (Chart 2.1.1). Thus, Turkey’s external demand continued to exhibit a weak outlook in the last quarter of 2014. On the other hand, amid the sluggish growth prospects for emerging economies, January Consensus Forecasts envisage a slower global growth for end-2015 than stated in the October Inflation Report (Table 2.1.1). The downward revisions, which were rather notable for Brazilian and Russian economies, indicate that the deceleration in the global growth will continue in 2015 due mainly to emerging economies (Chart 2.1.1 and Table 2.1.1).

### Table 2.1.1.
Growth Forecasts for end-2014 and 2015 (Annual Percent Change)

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Source: Consensus Forecasts.
2.2. Commodity Prices and Global Inflation

The headline commodity price index posted a quarter-on-quarter decline by 27.2 percent in the last quarter of 2014. Energy prices, which have plummeted by 38.4 percent since the end of the previous quarter, appeared as the main driver of this considerable fall. Industrial metal and precious metal price indices fell by 6 and 3 percent, respectively, while the agricultural price index rose by 10.3 percent in the same period (Chart 2.2.1). This rise in agricultural prices was due to concerns over a possible restriction by Russia on wheat exports and the lower-than-expected soy production in Brazil. Meanwhile, the decline in other commodity prices was owed to downside price pressures triggered by high supply and low demand conditions.

Following the no-quota decision made at the OPEC November meeting, crude oil prices continued to decelerate further and Brent crude oil prices dropped to 55.8 USD at the year-end. Forward contracts indicate that oil prices will remain well below the levels recorded in the first half of 2014 in the upcoming period. Accordingly, the Brent crude oil contract, expiring in December 2015, was traded at 64.5 USD on January 2 (Chart 2.2.2). A price correction in US crude oil supply or an OPEC decision to restrict production may push oil prices up in the upcoming period. The relatively weak course of the Chinese economy, on the other hand, indicates that the downside pressure on industrial metal prices will continue.

In the inter-reporting period, consumer and core inflation rates in advanced economies registered a decline mostly due to the tumbling energy prices. Meanwhile, emerging economies saw a slight increase due to developments in Russia and Latin America (Charts 2.2.3 and 2.2.4).
The global inflation forecast for end-2015 was revised downwards by 0.5 points in the inter-reporting period. In general, inflation forecasts were revised significantly for all country groups. Inflation forecasts for advanced economies and the Asia-Pacific were pulled down substantially, whereas Latin America and Eastern Europe witnessed upward revisions (Table 2.2.1). The fact that the revision in Eastern Europe was mostly caused by Russia indicates that the depreciation of the ruble will mostly determine the course of inflation.

### Table 2.2.1.
Inflation Forecasts for end-2015 (Annual Percent Change)

<table>
<thead>
<tr>
<th></th>
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<td>11.7</td>
<td>12.3</td>
</tr>
<tr>
<td>Brazil*</td>
<td>6.3</td>
<td>6.4</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>5.3</td>
<td>7.1</td>
</tr>
<tr>
<td>Russia</td>
<td>6.2</td>
<td>10.8</td>
</tr>
</tbody>
</table>

* December to December.
Source: Consensus Forecasts.

### 2.3. Financial Conditions, Risk Indicators and Capital Flows

The last quarter of the year was marked by ongoing sluggish global economic activity and divergence among countries in addition to the weak global risk appetite due to financial volatilities in some countries driven by plunging energy prices (Chart 2.3.1). Fed funds futures contracts reveal that the timing of the expected policy rate hike has remained unchanged, yet long-term policy rate expectations have receded considerably (Chart 2.3.2). Accordingly, the fall in policy rate expectations was reflected in the US Treasury bonds, causing a decline in medium and long-term yields in the last quarter of the year (Chart 2.4.3).
Due to the attenuating risk appetite coupled with the growth divergence among countries in the last quarter, stock prices in emerging economies declined in contrast to those of Asian countries, which gained value (Chart 2.3.3). On the other hand, the rising stock prices in the US economy caused a limited surge in advanced economies in the same period; yet, stock prices in the Euro Area and Japan experienced no hikes (Chart 5.1.1).

Capital inflows towards emerging economies followed a volatile course in the last quarter of the year. The ongoing improvement in capital flows, which started in the second quarter, has resumed in the last quarter and capital outflows gained particular momentum in December (Chart 2.3.4). Marked by an evident quarter-on-quarter increase in volatility, the last quarter witnessed outflows, which mostly stemmed from equity markets in terms of portfolio composition.

The possibility of the Fed to exercise a higher-than-expected tightening under the exit strategy from the quantitative easing policy vis-à-vis stronger growth signals in the US and the divergence in global monetary policies are considered to aggravate the policy uncertainties in the upcoming period. Meanwhile, the slowdown both in the global growth outlook and the economic activity in emerging economies keep the downside risks to capital inflows towards emerging economies brisk. Given this
atmosphere of uncertainties fed by concerns over Russia and the Middle East, fluctuations in the global risk appetite and the volatility in portfolio flows are projected to persist in the upcoming period.

2.4. Global Monetary Policy

The plunge in oil prices and the resulting fluctuations in financial markets in the last quarter of the year had apparent effects on the course of the global monetary policy as well. This sharp decline heightened deflationary risks in the Euro Area and Japan and led to growing concerns for central banks to slip into a deflationary spiral. Accordingly, having slashed the benchmark refinancing rate down to near zero through 10 basis points cuts, which were delivered twice in the first nine-month period of 2014, the ECB announced an expanded asset purchase program in the last quarter of the year. Although the ECB had smaller room to maneuver policy rates, these developments led the Sverige Riksbank and the Norges Bank, the central banks of Sweden and Norway, which are members of the European Union but not members of the Euro Area, to pull policy rates down by 25 basis points in the last quarter. The plunge in oil prices also led the Bank of Canada to cut its key rate by 25 basis points in the last quarter (Chart 2.4.1). Meanwhile, the Swiss National Bank both reduced its policy rate and scrapped the euro peg in January.

At the emerging economies side, developments in oil prices had the most devastating effects in Russia, causing a dramatic depreciation of the ruble, which called for a 750 basis points policy rate hike in December. Similarly, amid the persisting depreciation of the Brazilian real, Banco Central do Brasil also raised policy rates by a cumulative 125 basis points—75 basis points in the last quarter of 2014 and 50 basis points in January 2015. Meanwhile, Bank Indonesia increased the policy rate by 25 basis points in November due to inflationary concerns. On the other hand, amid the developments in Europe, both the National Bank of Romania and the National Bank of Poland cut policy rates by 50 basis points in the last quarter. Likewise, the Central Bank of Chile and the Central Reserve Bank of Peru reduced policy rates by 25 basis points in order to bolster economic activity (Chart 2.4.2). Additionally, the People’s Bank of China delivered 40-basis points cut in December, while the Reserve Bank of India lowered the policy rates by 25 basis points in January.

**Chart 2.4.1.** Policy Rate Changes in Advanced Economies from Jan. 2014 to Jan. 2015* (Basis Points)

![Chart 2.4.1. Policy Rate Changes in Advanced Economies from Jan. 2014 to Jan. 2015* (Basis Points)](image)

* As of January 23.

**Source:** Bloomberg, CBR.T.

**Chart 2.4.2.** Policy Rate Changes in Emerging Economies from Jan. 2014 to Jan. 2015* (Basis Points)

![Chart 2.4.2. Policy Rate Changes in Emerging Economies from Jan. 2014 to Jan. 2015* (Basis Points)](image)
Expectations for a global economic recovery in early 2014 changed course in the middle of the year by the US economy diverging favorably from other major economies, whereas the positive outlook in the Euro Area and Japan in the start of the year was replaced by risks of deflation and recession. This led to a growing policy divergence among advanced economies. As of the last quarter of 2014, the timing and the pace of the Fed’s first policy rate hike has been debated, while for the Euro Area and Japan, additional easing measures have been questioned. Following its last meeting on December 16-17, the FOMC stated that the real economy and especially the labor market continue to witness favorable developments and that the FOMC expects inflation to rise gradually toward 2 percent as the labor market improves further and the transitory effects of lower energy prices and other factors dissipate. However, the FOMC also stated that it can be patient in beginning to normalize the stance of monetary policy.

In line with the Fed’s communication regarding policy normalization, bond yields with varying maturities also followed a divergent course throughout 2014. More specifically, 5-year bond yields remained flat across the year, while that of 10-year bonds followed a downward course (Chart 2.4.3). The fact that the expectations for a policy rate hike by the Fed reflect more on short-term rates whereas long-term rates are trending downwards, suggests that the adverse effects of the policy normalization may be more limited, especially on emerging economies, compared to the negative effects experienced after May 2013 during the first tapering talks.

In its January meeting, the ECB announced an expanded asset purchase program. Accordingly, the ECB will expand purchases to include bonds issued by Euro Area central governments, agencies and European institutions, in which the monthly asset purchases will amount to 60 billion euro. The program will start in March 2015 and is intended to be carried out until at least September 2016. The program, which includes some constraints to render the asset purchases effective, may be extended without any notified time, if deemed necessary. Against this background, the euro has depreciated against the USD to a sizeable extent.
The ongoing heterogeneity in the global monetary policy stance is likely to continue in the upcoming period. If the Fed’s monetary policy assumes a normalization process, central banks are expected to maintain the tight monetary policy stance to prevent their local currencies from depreciating. This is particularly true in countries running a current account deficit. Meanwhile, the ECB and other central banks in the Euro Area are expected to maintain their loose monetary policy for a while to support the weak economic activity.
3. Inflation Developments

In the fourth quarter of 2014, annual consumer inflation increased by 0.8 points year-on-year to 8.17 percent, rising above the uncertainty band around the inflation target. This increase was mostly due to the upsurge in prices of core goods caused largely by the depreciation of the Turkish lira. The main drivers of the inflation to surpass the uncertainty band were the exchange rate pass-through as well as the sharp increase in food prices due to drought and adverse weather conditions. Food prices also had a negative impact on services inflation through catering services. The deterioration in inflation expectations that started in mid-2013 continued over the year because of the elevated level of consumer inflation, also causing services inflation to rise. Although the annual growth rates of core inflation indicators remained high throughout 2014, the underlying trend in seasonally adjusted terms followed a downward path during the second half of the year.

In the fourth quarter of 2014, annual consumer inflation fell by 0.7 points quarter-on-quarter to 8.17 percent. Inflation was down across all subcategories in this period, with energy prices recording the most marked decline in line with plunging international oil prices (Chart 3.1). In the final quarter, although electricity and natural gas prices picked up following the price adjustments due to the cumulative cost increases from the previous period, the course of oil prices has especially played a major role in falling energy prices through domestic fuel and bottled gas prices. The decline in fuel prices also caused the relevant services prices to slow. In addition, despite the ongoing upsurge in processed food inflation over the final quarter, the partial correction in unprocessed food prices brought food inflation down slightly.

In sum, the fourth quarter was marked by the direct influence of plummeting oil prices through the energy prices and by the slowing food inflation owing to the partial correction in unprocessed food prices. Accordingly, the contribution of energy and food prices to annual inflation edged down by 0.42 and 0.25 points, respectively (Chart 3.2). Meanwhile, among other underlying trend components, inflation in core goods and services saw a limited decrease as well.
As of end-2014, adding 3.11 points, food prices have provided the highest contribution to inflation among all other subcategories. The elevated level of food prices driven by adverse weather conditions and exchange rate pressures suggests that there is room for inflation to slow down in the upcoming period. In fact, especially with the cumulative exchange rate effects tapering off and due to the base effects, the core goods inflation is estimated to decrease significantly in the first quarter. Additionally, the downtrend in import prices, particularly in international oil prices, and the envisioned moderate course of economic activity are also expected to drive inflation down. Hence, consumer inflation is projected to be on a downward trajectory in the upcoming period, more significantly in the first quarter. However, it should be highlighted that the Turkish lira volatility is a major upside risk to this outlook.

3.1. Core Inflation Outlook

Having remained elevated throughout the year due to exchange rate effects, annual core goods inflation fell by 0.5 points in the final quarter and ended 2014 at 8.89 percent (Chart 3.1.1 and Table 3.1.1). Exchange rate pressures on core goods inflation continued to wane during the fourth quarter. Durable goods inflation, which has been slowing since May, remained on the decrease due to the relatively steady course of the Turkish lira against the currency basket and the weak domestic consumption demand, and declined to 8.70 percent at the end of 2014 (Chart 3.1.2). Annual inflation in core goods excluding durables and clothing, which shows a lagged response to exchange rate changes, returned to a downtrend in the final quarter after peaking in the third quarter. Despite following a fluctuating course, annual inflation in clothing prices remained relatively flat during the last two quarters and ended the year at 8.40 percent (Chart 3.1.2). Having exerted upward pressure over 2014, the contribution of core goods to inflation decreased slightly in the fourth quarter. Yet, considering current domestic demand conditions and the high base effect from the first quarter of 2014, core goods inflation may post a substantial decline in the first quarter.

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1 Box 3.3 presents an analysis about the base effects affecting inflation over 2015.
The improvement in the underlying trend of core goods inflation observed since the second quarter halted in the final quarter (Chart 3.1.3). Yet, it should be noted that the seasonally adjusted underlying trend may occasionally follow a fluctuating course. Currently at 6 percent, the underlying trend is expected to slow further in the upcoming period, but the recent exchange rate volatility poses a risk to core goods inflation.

Annual services inflation remained elevated throughout 2014 and ended December at 8.59 percent, thus contributing to consumer inflation by 2.56 points. The high course of services inflation, which hit a five-year high by rising above 9 percent in October, was mainly attributed to restaurant and hotel prices as well as to prices of other services. However, the moderate course of communication services limited services inflation over the whole year (Chart 3.1.4). Plunging oil prices have been affecting fuel-related services categories significantly since November. In fact, prices of transport
services saw a quarter-on-quarter decline during the fourth quarter. Moreover, the rate of increase in prices of restaurants, hotels, communication and other services lagged behind the historical averages, bringing annual services inflation down by 0.4 points from the third quarter (Charts 3.1.1 and 3.1.5).

Although the easing in the annual services inflation is currently marginal, seasonally adjusted data point to a notable improvement in the underlying services inflation. According to quarterly averages, the underlying inflation trend and the diffusion index were remarkably down in the last two months of the year (Charts 3.1.6 and 3.1.7).

Despite this recent slowdown, cost-side pressures continue to drive services inflation higher, albeit less vigorously. Even though prices of catering services, a subcategory directly affected by food prices, increased at a slightly slower pace in the fourth quarter, the annual inflation in this subcategory remained elevated at 15 percent (Chart 3.1.8). Inflation in the other services category, which is closely related to domestic demand conditions and exchange rates, recorded a decline during November-December (Chart 3.1.9). This was largely attributed to the currently sluggish economic activity and the tapering effects of the Turkish lira depreciation as well as to the favorable course across subcategories affected by fuel prices and thus by transport costs.
In addition to international price developments that have been contributing to disinflation, the ongoing tight monetary policy stance has also supported the envisaged gradual improvement in services inflation. The recent reversal of the deterioration in inflation expectations observed since mid-2013 and the fall in headline inflation will have positive repercussions for subcategories of services with a strong indexing behavior. However, the fact that the net rate of increase in minimum wages, a major cost component for the services sector, is set at an average of 12.2 percent for 2015 is believed to limit the fall in services inflation.

In line with the outlook for prices of core goods and services, annual inflation in SCA-H and SCA-I fell slightly in the final quarter to 9.55 and 8.73 percent, respectively, as of end-2014 (Chart 3.1.10). Thanks to the macroprudential measures adopted in early 2014 and the tight monetary policy stance, the slowdown in the underlying trend of core inflation indicators has been more pronounced (Chart 3.1.11). Contrary to past quarters, the main driver of the improvement in the underlying trend was the services category, while core goods provided only a small contribution to this favorable outlook. According to the diffusion indices for CPI and SCA-H, the tendency to hike up prices waned quarter-on-quarter in the fourth quarter, while alternative core inflation indicators monitored by the CBRT pointed to a relatively lower inflation trend in this period (Charts 3.1.12 and 3.1.13). In sum, the slowdown in the trend of inflation became more evident in the final quarter of 2014 and indicators on the underlying trend of inflation approached target-consistent levels.
3.2. Food, Energy and Alcohol-Tobacco Prices

Having remained high over 2014 on adverse weather conditions and the depreciation of the Turkish lira, annual food inflation fell to 12.73 percent in the final quarter to a level close to the October Inflation Report assumption (Chart 3.2.1). This decline in food inflation is largely due to the partial correction in unprocessed food prices.

Annual unprocessed food inflation decreased by 3.18 points quarter-on-quarter to 12.24 percent (Chart 3.2.2). Annual inflation remained volatile in fresh fruits and vegetables and ended the year at a higher level than in the third quarter due to base effects from fresh fruit prices (Chart 3.2.3). Despite the rise in annual inflation, the latest data in seasonally adjusted terms pointed to a correction in fresh fruit and vegetable prices. Meanwhile, annual inflation in prices of other unprocessed food declined by 6 points to 13.08 percent in the fourth quarter (Chart 3.2.3). The uptrend in processed food prices that prevailed through 2014 continued into the fourth quarter due to adverse supply conditions (Table 3.1.1). Across this subcategory, annual inflation was higher in bread and grains than in other processed food (Chart 3.2.4). Thus, the year-end inflation in processed food spiked to a six-year high of 13.16 percent.

2 In 2014, international and domestic food prices diverged basically due to domestic supply conditions. For an analysis of this issue, see Box 3.2.
Energy prices dropped by 0.74 percent in the fourth quarter. The fall in international oil prices was more marked in this period and the price of Brent crude oil ended the fourth quarter at 56 USD per barrel, down from 93 USD in the beginning of the quarter. The first-round effects of this plunge were evident in energy prices, with fuel and bottled gas prices going down by 11.2 and 6.1 percent, respectively, in the fourth quarter (Chart 3.2.5). Accordingly, the fall in fuel and bottled gas prices during August-December made a direct contribution of about -0.76 points to consumer inflation. However, the outlook for energy items in home utilities was significantly different (Chart 3.2.6). Electricity and natural gas prices were up around 9 and 8 percent, respectively, largely due to the adjustment driven by cost pressures from cumulative effects of past depreciations in the Turkish lira. This directly added about 0.4 points to consumer inflation. Likewise, after three consecutive quarters, municipal water tariffs continued to increase dramatically in the fourth quarter as well. Hence, annual energy inflation fell by 2.92 points in the final quarter to a historically low level of -1.54 percent (Chart 3.2.1). The total indirect impact of the oil price fall on consumer inflation will depend on the course of administered prices of natural gas and electricity.  

3 For more detailed information on the effects of the oil price fall on consumer inflation, see Box 3.1.
Prices of alcoholic beverages and tobacco products remained flat in the fourth quarter. Yet, the Council of Ministers’ SCT hike on tobacco products and alcoholic beverages effective as of January is projected to add about 0.25 points to the consumer inflation in January.

### 3.3. Domestic Producer Prices

Domestic producer prices (D-PPI) decreased by 0.82 percent in the fourth quarter due to the fall in manufacturing prices (Table 3.3.1). Thus, annual D-PPI inflation declined by 3.48 points quarter-on-quarter to 6.36 percent (Chart 3.3.1).

**Table 3.3.1.**

<table>
<thead>
<tr>
<th>D-PPI by Main Industry Groups</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IV</td>
<td>Annual</td>
</tr>
<tr>
<td>D-PPI</td>
<td>2.43</td>
<td>6.97</td>
</tr>
<tr>
<td>Mining</td>
<td>1.49</td>
<td>12.64</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1.50</td>
<td>8.45</td>
</tr>
<tr>
<td>Manufacturing (excl. petroleum products)</td>
<td>1.57</td>
<td>8.00</td>
</tr>
<tr>
<td>Manufacturing (excl. petroleum and base metal products)</td>
<td>1.63</td>
<td>7.85</td>
</tr>
<tr>
<td>Electricity and Gas</td>
<td>0.11</td>
<td>-1.16</td>
</tr>
<tr>
<td>Water</td>
<td>2.28</td>
<td>10.77</td>
</tr>
<tr>
<td>D-PPI by Main Industry Groups</td>
<td>Intermediate Goods</td>
<td>1.65</td>
</tr>
<tr>
<td></td>
<td>Capital Goods</td>
<td>1.09</td>
</tr>
<tr>
<td></td>
<td>Durable Goods</td>
<td>-0.15</td>
</tr>
<tr>
<td></td>
<td>Non-Durable Goods</td>
<td>2.23</td>
</tr>
</tbody>
</table>

Source: TurkStat, CBRT.

In the final quarter, manufacturing industry prices decreased by 1.01 percent, bringing annual manufacturing inflation down to 7.63 percent (Chart 3.3.2 and Table 3.3.1). In this period, the downtrend in international oil prices was influential on the decreases across all manufacturing prices. Falling international commodity prices, particularly oil prices, drove both USD and TL-denominated import prices lower in the fourth quarter (Chart 3.3.3).

**Chart 3.3.1.**

*Domestic Producer and Consumer Prices (Annual Percent Change)*

**Chart 3.3.2.**

*Manufacturing Prices (Annual Percent Change)*

Prices of the manufacturing industry excluding petroleum and base metal products, which entail information on the underlying trend of producer prices, remained flat in quarterly terms but annual inflation in this subcategory posted a quarter-on-quarter decrease (Charts 3.3.2 and 3.3.4). In the final
quarter, easing international commodity prices brought prices of intermediate and capital goods down while the prices of durable and non-durable goods picked up moderately (Table 3.3.1). Overall, in line with the outlook for import prices, international oil prices in particular, cost-side pressures on consumer prices posed by producer prices were milder in the fourth quarter compared to the third quarter.

3.4. Expectations

After trending upward through 2014, medium-term inflation expectations followed a downward track in the fourth quarter on the back of falling energy prices amid plummeting international oil prices. This improvement in medium-term expectations continued more firmly into January (Chart 3.4.1). Across maturities, near-term inflation expectations were remarkably down quarter-on-quarter, but this decline was more limited for expectations over a longer term (Chart 3.4.2). Inflation expectations currently hover above the 5-percent target set for end-2015 and end-2016.
The dispersion of both 12 and 24-month-ahead inflation expectations indicates improvement in inflation expectations compared to October (Charts 3.4.3 and 3.4.4). Specifically, the percentage of respondents expecting 12-month-ahead inflation to be between 5.5 and 6.49 percent increased significantly in this period, while those expecting it to be 7.5 percent or above recorded a notable decrease.
Box 3.1  
Effects of Oil Prices on Consumer Prices

International oil prices assumed a sharply declining course in the second half of 2014 (Chart 1). This box depicts how the changes in oil prices have affected consumer prices. *

**Chart 1. Oil Price Developments**

<table>
<thead>
<tr>
<th>Brent Crude Oil Price (USD/bbl)</th>
<th>Brent Crude Oil Price (TL/bbl, right axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td></td>
</tr>
<tr>
<td>125</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

* As of January 26. Source: Bloomberg, CBRT.

**Chart 2. Effects on Domestic Energy Prices**

<table>
<thead>
<tr>
<th>Brent Crude Oil Price (TL/bbl)</th>
<th>Fuel Price (CPI)</th>
<th>Bottled Gas Price (CPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>275</td>
<td>175</td>
<td>75</td>
</tr>
<tr>
<td>250</td>
<td>150</td>
<td>50</td>
</tr>
<tr>
<td>225</td>
<td>125</td>
<td>25</td>
</tr>
<tr>
<td>200</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Bloomberg, TurkStat, CBRT.

The immediate effects of declining oil prices on energy and thus consumer inflation are observed through fuel and bottled gas prices (Chart 2). The changes in oil prices are not reflected completely in fuel prices due to shares and taxes on final prices. This can be explained better by the following formula, which specifies how prices of fuel products are set in Turkey (EMRA, 2014).

**Final Sales Price of Fuel** = (Ex-refinery + Wholesaler margin + EMRA Revenue Share + Distributor and Dealer Margin + Lump sum SCT) * (1+VAT)

The 18 percent VAT on all fuel products is applied to the sum of the ex-refinery price, the revenue share, wholesalers, distributors and dealers’ margin and the lump sum SCT. The lump sum SCT paid in TL per liter varies by the type of fuel. For example, currently, the lump sum SCT per liter is 2.1765 TL for 95 octane unleaded gasoline and 1.5945 TL for diesel (Table 1). As the tax burden on fuel products account for a substantial share of final consumer prices, the pass-through of changes in oil prices to fuel prices is limited (the share of excise duties in total pump rates is 54 and 62 percent for diesel and 95 octane unleaded gasoline, respectively, as of November 2014). Based on the values shown in Table 1 and the above formula, the final sales price falls by 3.2 percent in response to a 10-percent ceteris paribus decline in the ex-refinery price. Therefore, assuming that the decreases in oil prices are fully passed to the ex-refinery price, about 1/3rd of the fall in international oil prices are reflected in the final domestic sales price of gasoline.

* Findings in this box are based on Akçelik and Öğünç (2015). See also CBRT (2008).
The following section analyzes to what extent the changes in oil prices affect fuel, import and consumer prices by VAR models.

(i) Pass-Through to Domestic Fuel Prices

To estimate the degree of pass-through from oil price changes to domestic fuel prices, a VAR model is estimated using monthly data for the period between January 2004 and September 2014. According to Cholesky ordering, the variables include risk premium (EMBI+ Turkey), currency basket (0.5*USD+0.5*Euro), Brent crude oil prices per barrel (in USD), output gap and the fuel price index. The lump sum SCT on fuel prices can vary over time. Thus, in order to determine the pass-through from oil prices to fuel prices, a lump sum SCT series is constructed for fuel products weighted by their shares in the consumer price index. This series is added to the model as an exogenous variable.

The results of the impulse-response analysis are standardized for a 10-percent change in Brent crude oil prices. Accordingly, a 10-percent change in international Brent crude oil prices causes domestic fuel prices to change by 2.8, 3 and 3.3 percent at the end of the first two months, 12 months and 24 months, respectively. As expected, most of the pass-through is completed by the first two months.

(ii) Pass-Through to Consumer Prices

The first-round effects of oil price changes on consumer price inflation, which occur very rapidly, are realized through prices of energy items such as fuel and bottled gas. Meanwhile, the pass-through of oil prices to prices of other energy items such as natural gas and electricity occurs with a lag. On the other hand, the indirect effects are defined as the pass-through of oil price changes to consumer prices via production costs, and these also occur with a lag. The pass-through of falling fuel prices to prices of transport services such as local transport, courier services and aviation are examples of indirect effects. Indirect effects also work through import prices (ECB, 2014). More specifically, imported goods,
which are inputs to domestic production, have direct effects on final consumption goods. Thus, oil price changes may affect domestic inflation indirectly via their effects on the prices of the trading partners’ output.

Against this background, the above VAR model was extended to estimate the degree of pass-through of oil prices to consumer prices both via direct and indirect channels. According to the Cholesky ordering of the variables, the model includes risk premium (EMBI+ Turkey), currency basket (0.5*USD+0.5*Euro), Brent crude oil price per barrel (in USD), import prices (in USD), output gap, domestic producer price index and the consumer price index. Additionally, the lump sum SCT on fuel products is added to the model as an exogenous variable.10

Results of the impulse-response analysis show that a 10-percent change in international Brent crude oil prices causes import prices to change by 3.2 and 3.4 percent and consumer prices by 0.41 and 0.49 percent at the end of the first 12 months and 24 months, respectively (Charts 3 and 4).11 Most of the pass-through of oil prices to import prices is completed within the first three quarters. Findings suggest that almost half of the pass-through to consumer prices takes place in the first four months. Although 85 percent of the pass-through occurs within a year, it takes about a year and a half for oil prices to fully reflect in consumer prices.

The model envisions a higher pass-through when the sampling begins with the post-2004 period.

The 45-percent fall in Brent crude oil prices in USD terms during July-December pulled consumer inflation down directly by 0.76 points through fuel and bottled gas prices, despite the weakening Turkish lira. Taking into account the decreases in prices of transport services over the past two months, inflation fell by 0.81 points. The pass-through projection of the above VAR model for consumer prices at end-2014 is around -0.9 points. Considering falling oil prices together with their downward impact on other fuel-related services items, the short-term projections of this model seem consistent with inflation realizations.

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9 The consumer price index is the seasonally adjusted CPI excluding unprocessed food, alcoholic beverages and tobacco (CPIX). Analyses have shown that oil prices had no statistically significant impact on unprocessed food, alcoholic beverages and tobacco. Therefore, the pass-through forecasts for the consumer price index are estimated by multiplying the impulse-response values for the CPIX of the relevant period by the average weight of the CPIX in the consumer basket.

10 The lag length is set at 3 considering the lag-length selection criteria and the autocorrelation problem.

11 The model envisions a higher pass-through when the sampling begins with the post-2004 period.
There are certain points to consider when assessing the effects of falling oil prices on consumer inflation in 2015. The above model forecasts assume the effects of rising and falling oil prices to be similar and reflect the average effects. In case of sharp falls in oil prices, the impact on consumer inflation might be more pronounced than projected by the model. Meanwhile, the response of natural gas and electricity prices, which account for most of the indirect effects of falling oil prices on consumer inflation, remains uncertain. Assuming that there will be either no or limited pass-through to natural gas and electricity prices, the effects of declining oil prices on consumer inflation will be less marked for 2015 than implied by the VAR model.

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Akçelik, F. and F. Öğünç, 2015, Pass-Through of Crude Oil Prices at Different Stages in Turkey, CBRT, mimeo.


Box 3.2 Pass-Through of International Grain Prices to Domestic Prices

The year 2014 was marked by high inflation driven mostly by food prices. On the other hand, international food prices remained moderate in this period (Chart 1). This raised the question as to whether domestic prices will be affected by international prices and also brought about the issue of external trade measures that can possibly be adopted. This study analyzes how grain-related consumer prices, which contribute largely to the food price increase, are affected by international prices (Chart 2).\(^\text{12}\)

This study covers the January 2003-September 2014 period, utilizing monthly data on consumer prices that are affected by grain prices, the producer price for wheat and international grain prices as well as the precipitation index across Turkey and the consumer price for diesel. The following indices are constructed using the weights of the 5-digit COICOP CPI subcategories: CPI affected by wheat prices, CPI directly affected by grain prices (Grains-1) and CPI directly or indirectly affected by grain prices (Grains-2). The composition of these indices is shown in Table 1.

### Table 1. Consumer Price Indices

<table>
<thead>
<tr>
<th>Index</th>
<th>Composition</th>
<th>CPI Weight (2014. Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPI affected by wheat prices</td>
<td>Regular bread, the municipality’s bread, baby and plain biscuits, pretzel sticks, wafers, cakes, pound cakes, baklava, flo and noodle</td>
<td>4.85</td>
</tr>
<tr>
<td>CPI directly affected by grain prices (Grains-1)</td>
<td>CPI affected by wheat prices, canned and bottled beer, baldo and imported rice, cornflakes and chicken, red and green lentils</td>
<td>6.45</td>
</tr>
<tr>
<td>CPI directly or indirectly affected by grain prices (Grains-2)</td>
<td>Grain-1 and catering services including rice pilaf, chicken skewers, doner kebab, pastry, roll, beer etc.</td>
<td>12.31</td>
</tr>
</tbody>
</table>

\(^\text{12}\)Findings in this box are based on Akçelik and Tüger (2015).
The purchasing power parity theorem is applied to analyze whether there is a long-term relation between international prices and domestic prices. According to the law of one price on which the absolute purchasing power parity theorem is based, unless there are natural or government-imposed external trade barriers, any product is expected to be sold at the same price everywhere (Obstfeld and Rogoff, 1996). Accordingly, \( y_{t}^{TL} \) (the TL international commodity prices in logarithms, which is the sum of the USD/TL exchange rate in logarithms and the USD-denominated international prices in logarithms) is expected to be statistically related to consumer prices in logarithms \( x_{t} \) as follows:

\[
y_{t}^{TL} = \alpha_0 + \alpha_1 x_{t} + \epsilon_{t} \tag{1}
\]

According to the absolute purchasing power parity, if \( y_{t}^{TL} \) and \( x_{t} \) are integrated of the same order, they are expected to be cointegrated. Moreover, the cointegration coefficient \( \alpha_1 \) is expected to converge to unity. In order to test the statistical significance of this theory, unit root tests were performed on the three main product groups (wheat, grains-1 and grains-2). The existence of a long-term relation among the series is examined in case the series are found to be integrated of order one after applying unit root tests to levels or in first differenced series. The cointegration tests were performed using the single-equation method by Engle and Granger (1987) as well as a bivariate VAR model based on Johansen (1988).

The null hypothesis that the first differenced series contains a unit root was rejected for wheat, grains-1, grains-2 and TL-denominated international grain prices. The null hypothesis that the series in levels contains a unit root was not rejected at the 1 percent level for TL-denominated international grain prices and the domestic prices. Having found that the TL-denominated series in levels are integrated of order 1, Table 2 presents the results of the Engle-Granger cointegration test, which is performed by checking for the unit root in residuals of regression in which the domestic price level is the dependent variable and international grains price denominated in TL is the independent variable.\(^{13}\) Accordingly, the null hypothesis of the presence of a unit root in the residuals of regression was not rejected at the 1 percent level. Hence, it was concluded that there is no long-term relation between international prices and domestic prices.

\[\text{Table 2. Results of the Engle-Granger Cointegration Test}\]

<table>
<thead>
<tr>
<th>Equation</th>
<th>Dependent variable</th>
<th>Criterion</th>
<th>Lag value</th>
<th>P-value (tau statistics)</th>
<th>P-value (z-statistics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Log(International Wheat-TL) \ Log(Wheat-PPI)</td>
<td>AIC</td>
<td>4</td>
<td>0.1495</td>
<td>0.0126</td>
</tr>
<tr>
<td></td>
<td>Log(Wheat-PPI) \ Log(International Wheat-TL)</td>
<td>AIC</td>
<td>4</td>
<td>0.3026</td>
<td>0.0460</td>
</tr>
<tr>
<td>2</td>
<td>Log(Grains-1-CPI) \ Log(International Grain-TL)</td>
<td>AIC</td>
<td>1</td>
<td>0.7819</td>
<td>0.5133</td>
</tr>
<tr>
<td></td>
<td>Log(International Grain-TL) \ Log(Grains1-CPI)</td>
<td>AIC</td>
<td>2</td>
<td>0.3286</td>
<td>0.0942</td>
</tr>
<tr>
<td>3</td>
<td>Log(Grains-2-CPI) \ Log(International Grain-TL)</td>
<td>AIC</td>
<td>1</td>
<td>0.8173</td>
<td>0.5802</td>
</tr>
<tr>
<td></td>
<td>Log(International Grain-TL) \ Log(Grains2-CPI)</td>
<td>AIC</td>
<td>1</td>
<td>0.3686</td>
<td>0.1183</td>
</tr>
</tbody>
</table>

\(^{13}\)The lag length is set according to the Akaike Information Criterion (AIC). After the result of hypothesis is determined, the process is repeated by changing the dependent variable.
Moreover, after applying the Johansen cointegration test, no cointegrating vector was found in the estimated VAR(2) models. Thus, according to both the Engle and Granger and the Johansen methods, there is no long-term cointegration between the price indices.

A VAR model was developed using monthly data to estimate the degree of pass-through from international wheat prices to domestic consumer prices. According to Cholesky ordering, the model includes international wheat prices, the producer price for wheat and the CPI affected by wheat.  

Meanwhile, domestic food prices are affected by transport costs and weather conditions. Therefore, the lagged values of the consumer price for diesel and of the index for precipitation across Turkey are added as exogenous variables to control for transport costs and weather conditions, respectively. This VAR model is estimated for the January 2003-December 2009, January 2010-September 2014 and January 2003-September 2014 periods.

The results of the impulse-response analysis are standardized by a 10-percent change in international wheat prices. Accordingly, the 10-percent change in international wheat prices causes consumer prices to change by 0.062, 0.091 and 0.007 percent for January 2003-September 2014, January 2003-December 2009 and January 2010-September 2014, respectively, at the end of the first two years. Most of the pass-through is completed by the end of the first year and a half (Chart 3).

The above VAR model’s impulse-response analyses are repeated for international grain prices and for directly affected consumer prices and directly or indirectly affected consumer prices. Accordingly, a 10-percent change in international grain prices causes consumer prices to change directly or indirectly by 0.084, 0.114 and 0.022 percent for January 2003-September 2014, January 2003-December 2009 and January 2010-September 2014, respectively, at the end of the first two years (Chart 5).

![Chart 3. The Effect of 10-Percent Change in International Wheat Prices on Consumer Prices (Percent)](#)

![Chart 4. The Direct Effect of 10-Percent Change in International Grain Prices on Consumer Prices (Percent)](#)

14 International wheat prices are denominated in TL and seasonally adjusted.

15 The monthly precipitation index across Turkey is obtained from the State Meteorological Service and is seasonally adjusted.

16 The lag length is chosen to be 2 considering the lag-length selection criteria and the autocorrelation problem.

17 The pass-through into consumer prices is estimated by multiplying the response values by the latest weight (2014) of the relevant index in the consumer basket.
To conclude, international grain prices and the domestic grain prices are not cointegrated. Furthermore, the VAR model results suggest that lately, the short-term relation has also weakened substantially. In this regard, the recent price increases driven by grain prices are evaluated to be caused by mainly domestic supply and demand conditions.

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In 2014, annual inflation hovered above the upper end of the uncertainty band due to food, services and core goods prices. Annual services inflation soared in the first three quarters amid cost-side pressures and inflation expectations but declined in the last two months on the back of falling oil prices. In the first quarter of 2014, the depreciation of the Turkish lira caused by ongoing uncertainties over global monetary policies and domestic uncertainties drove core goods inflation higher in the first half of the year. In the second quarter, the Fed’s announcement to keep policy rates low in the medium term and the reduction of long-term interest rate expectations, as well as the ECB’s policy rate cuts and the adoption of the new quantitative easing program helped to improve global liquidity conditions, while financial conditions in the same period have also recovered amid lessened domestic uncertainty. In addition, with the macroprudential measures adopted in early 2014 and the tight monetary policy stance, the adverse effects of exchange rate changes on core goods tapered off, and annual core goods inflation decreased in the second half of the year also owing to the moderate domestic demand. In this regard, core inflation indicators that remained elevated over the entire year followed a downward track in the second half. The aim of this box is to show the effects of the changes across CPI subcategories over 2014 on the annual consumer inflation for 2015 through the base effects channel.

Base effect is observed on annual inflation after 12 months if a monthly change in an index of a certain month deviates from the normal monthly change of the respective month. Therefore, when assessing the change in annual inflation, base effects should also be taken into consideration along with current monthly price developments.

Chart 1 shows the expected contributions from the base effects of CPI subcategories to the changes in the annual consumer inflation for 2015. Accordingly, the highest contribution over the year will come from the base effects in core goods, energy and food prices driven by the unprocessed food. To be more specific, core goods will impose marked base effects in the first half of the year. In January 2015, base effects from alcohol-tobacco, food and core goods will drive annual inflation lower. Base effects are expected to put downward pressure on annual inflation until August, while they are expected to pose upward pressure in the remaining months. In cumulative terms, base effects will cause the end-2015 consumer inflation to fall by a mere 0.2 points year-on-year (Chart 2). Throughout the year, the cumulative contributions of base effects will be negative for food, core goods and services and positive for energy. In particular, by August, energy prices will play a major role in the decline of the negative contribution from cumulative base effects.

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18 Normal monthly change reflects the overall trend in price movements for the respective period. Yet, there is no standard method to measure this typical change. This analysis uses the average monthly inflation rates of the subcategories for the respective month during 2008-2013 as the normal change.

19 Base effect estimations in this Box depend on the 2014 weights of CPI subcategories and CBRT (2012).

20 The size of the contribution of base effects to annual inflation may vary depending on the method for estimating the normal monthly change. As the course and the direction of the total cumulative contribution are independent from the method used, it may entail more information regarding the change in annual inflation rather than the size of the change.
to headline inflation. Meanwhile, the contribution of these effects to the change in annual core inflation excluding energy will be more pronounced. In fact, cumulative base effects are expected to bring annual SCI-H and SCI-I inflation down by 3 and 2.6 percent, respectively, by December 2015 (Chart 2).

In sum, base effects from CPI subcategories will have a major impact on annual inflation in 2015. However, it should be underlined that another factor affecting annual inflation is the current price developments, and thus base effects will not be the sole determinant of inflation realizations in 2015. In the forthcoming period, factors such as exchange rate and oil price developments, weather conditions and aggregate demand conditions may affect inflation through current prices. Nevertheless, acknowledging the contribution of base effects to the changes in annual consumer inflation is crucial for an accurate understanding of the inflation trend.

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4. Supply and Demand Developments

In the third quarter of 2014, GDP grew by a mere 1.7 percent year-on-year. On the production front, the adverse weather-driven yearly decline in the agricultural value-added was the key driver of this sluggish GDP growth. On the expenditures side, both the mild domestic demand and the slowing export growth caused economic activity to increase modestly. Although the decelerating activity in the European economies and geopolitical tensions across neighboring countries dampened export growth, the greatest contribution to annual growth came from net exports, also an account of the contraction in imports. Changes in the demand composition suggest that domestic demand provided a higher support to growth, as projected in the previous Inflation Report.

Output gap forecasts show that demand conditions were slightly more accommodative of disinflation in the second half of the year. During this period, the capacity utilization rate decreased while unemployment edged up in the manufacturing industry. The rise in unemployment was due to weaker non-farm employment amid sluggish economic activity as well as higher labor force participation. Data announced for the final quarter of 2014 point to a quarterly slowdown in the annual growth of industrial production. During October-November, industrial production lagged behind the previous quarter’s average. PMI and BTS indicators signal a moderate course in industrial production for December. Against this background, industrial production is expected to register a quarterly decline in the fourth quarter. However, indicators for the final quarter hint at some recovery in domestic demand. In this period, the production of consumption goods and the sales of automobiles and light commercial vehicles increased, while the BTS expectations for domestic orders improved. Nevertheless, both the weak exports excluding gold and the PMI and BTS indicators suggest that external demand continues to slow. Thus, economic activity is expected to remain sluggish in the fourth quarter.

A growth composition with a robust domestic demand compared to external demand seems very likely for 2015 as well. After curbing consumption in 2014, macroprudential measures are not expected to have an additional tightening effect in 2015. Moreover, the favorable effects of the ongoing improvement in financial conditions and the possible decline in inflation driven largely by falling oil prices on purchasing power are also among factors that may positively affect the contribution of consumption spending to growth in 2015. Additionally, the moderate fourth-quarter recovery in investment tendency suggests that investment spending will provide a higher support to growth in 2015. Hence, economic activity is estimated to grow at a stronger pace in 2015 compared to the previous year. On the production side, growth is likely to be higher in 2015 than in 2014 due to base effects from agricultural production. Yet, given the sluggish growth across European economies, persisting geopolitical risks and falling revenues across oil-exporting countries, exports are expected to remain weak in 2015.
In sum, domestic demand will make a gradually increasing contribution to growth in 2015, but aggregate demand conditions are expected to be supportive of disinflation as external demand will remain relatively weaker. Despite this likely change in the growth composition, the favorable developments in the terms of trade and the current macroprudential framework are expected to contribute to the improvement in the current account balance.

4.1. Supply Developments

According to the TurkStat data, the GDP posted a year-on-year increase of 1.7 percent in the third quarter. On the production side, the annual rate of increase was 2.7, 1.0 and 3.4 percent in the industrial, construction and services sectors, respectively. On the other hand, the agricultural value-added was down 4.9 percent year-on-year. As the third quarter is marked by the highest agricultural value-added of the year with 14.2 percent, this decline led to a 0.7 percentage points decrease in annual GDP growth (Chart 4.1.1). Adjusted for seasonal and calendar effects, the GDP grew by 0.4 percent quarter-on-quarter. In this period, the services value-added and the industrial and construction value-added expanded by 1.1 and 0.2 percent, respectively, while the agricultural value-added fell by 2.5 percent due to drought, restraining the quarterly growth (Chart 4.1.2.).

In the fourth quarter, the annual growth rate of industrial production slowed quarter-on-quarter (Chart 4.1.3). Moreover, during October-November, the industrial production fell by 0.9 percent from the third quarter (Chart 4.1.4). The less-than-strong pace of recovery in domestic demand and the increasingly more marked weakening in global growth caused external demand to slow, which put pressure on industrial production growth in this period. December’s PMI indicators display a decrease from November (Chart 4.1.5). Similarly, despite the favorable course in production expectations, the BTS production index for the last quarter also weakened (Chart 4.1.6). Under these circumstances, the seasonally and calendar adjusted industrial production is estimated to post a quarter-on-quarter fall in the final quarter. Despite the expected slowdown in the fourth quarter, industrial production is likely to post a higher growth in 2014 than in 2013 on the back of developments in the first three quarters.
The GDP is expected to grow at a slower pace than industrial production in 2014. This will largely be driven by the fall in crop production that was caused by the drought due to low precipitation in the 2013 and 2014 agricultural years. Indeed, crop production accounts for a major share in the GDP subcategory of agriculture and the annual changes of these two variables move mostly in tandem (Chart 4.1.7). According to the TurkStat’s crop production data for 2014, crop production was down from 2013 due to grains and fruits (Chart 4.1.8). Therefore, it is estimated that the agricultural sector will also contract and make a negative contribution to growth in 2014. Yet, should the favorable weather conditions last until June during the 2014-2015 agricultural year that started in October, the contribution of agricultural value-added to growth may return to normal and support economic growth in 2015.
4.2. Demand Developments

In terms of spending, third-quarter GDP data suggest that the greatest contribution to annual growth came from net exports, with final domestic demand also making a small yet positive contribution (Chart 4.2.1). Private consumption spending recovered robustly in seasonally adjusted terms after contracting for two consecutive quarters. The post-crisis changes across the subcategories of consumption show that the demand index for durable goods obtained by aggregating items containing durable goods such as furniture and home appliances and sales of automobiles weakened after the fourth quarter of 2010 due to macroprudential measures (Chart 4.2.2). After starting to pick up in mid-2012, durable goods demand assumed a downward track by mid-2013 due to financial tightening and elevated uncertainty. Following the strong third-quarter recovery of 2014, this subcategory has pursued a path that is supportive of the expected recovery in demand for the second half of 2014. The relatively more income-sensitive items that are not associated with durable consumption moved largely in line with the GDP growth after the fourth quarter of 2010. Although the demand for this subcategory weakened markedly in the second half of 2013, it returned to an upward track by the third quarter of 2014.

* TurkStat releases data on domestic consumption by sub-items. Furniture and home appliances, transport and communication as well as leisure and culture (including TV sales) are classified as durable goods consumption as they are mostly comprised of durable goods. Other consumption is measured as consumption excluding durables goods.

After a prolonged period of weakening, private investments hinted at some recovery. In fact, while private investments in machinery and equipment were up in the third quarter, those in construction flattened in the third quarter after the first-half uptick (Chart 4.2.3). In addition to the third-quarter recovery in private demand, the public sector also increased on the back of consumption, leading to a rise in final domestic demand components in the third quarter (Chart 4.2.4).

Data for the fourth quarter of 2014 point to an ongoing moderate recovery in domestic demand. During October-November, the production of consumption goods was up from the third-quarter average, while imports were down (Chart 4.2.5). The production of machinery and equipment, an indicator for investments, remained virtually unchanged on a quarterly basis, whereas the imports thereof increased (Chart 4.2.6). Domestic sales of automobiles and light commercial vehicles were on the rise in the final quarter (Chart 4.2.7). According to the BTS expectations for 3-month-ahead domestic orders, expectations for production of consumption goods continue to recover while those of investment goods have been improving remarkably (Chart 4.2.8). The rise in construction employment and the central government budget outturn signal a fourth-quarter increase in construction investments and public consumption. All in all, after the third quarter, domestic demand is expected to recover further in the final quarter of 2014.
The growth in exports of goods and services halted after the first quarter of 2014 while imports declined, helping the re-balancing to continue in real terms (Chart 4.2.9). In order to get a clearer picture of the effects of global economic developments on exports, the analysis of export quantity index, excluding gold, reveals that the index posted a quarterly fall in the third quarter after an increase for seven consecutive quarters (Chart 4.2.10). The slowdown in exports was also attributed to developments across neighboring countries. To be more specific, exports to Russia and Iraq were down in 2014 (Chart 4.2.11). As a result, while domestic demand grew stronger in the second half of 2014, external demand weakened, thus causing the recovery in economic activity to remain limited.
In sum, in the first three quarters of 2014, the Turkish economy was subject to developments curbing demand, such as financial tightening, increased sentiment of uncertainty and weaker external demand, as well as a negative supply-side shock caused by weather and precipitation conditions, and grew at a slower pace than in 2013. In the first half of the year, domestic demand weakened due to global and domestic uncertainties while external demand’s support for growth put a lid on the economic slowdown. In the second half, domestic demand began to recover, whereas external demand deteriorated due to the global economic downturn and geopolitical developments. In other words, the effects of the Fed’s mid-2013 announcements and the early 2014 developments on domestic demand waned, but the weaker external demand caused the recovery to lose momentum. In addition to these contractionary developments, the negative impact of weather and precipitation conditions caused the agricultural value-added to dampen growth in 2014 after providing a steady contribution between 2008 and 2013. Beside its direct impact, the decline in the agricultural value-added had an indirect impact on economic activity through demand due to the reduced purchasing power driven by rising food prices. Thus, the economic activity of 2014 was weaker than estimated in early 2014.

In conclusion, while domestic and external developments posed downward pressure on growth in 2014, agriculture created a negative supply-side shock. Therefore, non-farm GDP growth was down about 1 percent from 2013 based on fourth-quarter estimations, while GDP growth saw a more dramatic decrease.

**Outlook for 2015**

The outlook for 2015 points to a stronger domestic demand and a weaker external demand compared to 2014. Weather and precipitation conditions are expected to improve the agricultural value-added, which will support growth. The course of public spending, which is expected to increase only slightly as per the MTP, will be a key driver of growth in 2015. Against this background, although growth is expected to be faster in 2015 than in 2014, various risks are present on domestic and external demand components.
The most important risk to the growth outlook for 2015 is associated with external demand. The evolution of the forecasts published in the IMF World Economic Outlook for 2011-2014 shows that growth forecasts were revised downward over time during 2011-2014 (Chart 4.2.12). The fragile recovery of the European economies and the fact that falling oil prices will curb the demand from Turkey’s oil-exporting trading partners through the income channel add to the downside risks pertaining to external demand.

Even though external demand risks are on the downside, risks to private consumption are more balanced. The key factors that were influential in the slowing private consumption during 2014 are not expected to cause an additional tightening in 2015. Although the consumer confidence index still remains weak, the perceived convenience to purchase durable goods is recovering (Chart 4.2.13). Moreover, in 2015, falling oil prices are expected to spark improvement in the purchasing power, which in turn will have a positive impact on consumer confidence. In fact, the negative relation between the inflation expectation and the consumer confidence in the CNBC-e consumer confidence index is rather striking. The slowing consumption in 2014 was also driven by financial tightening and macroprudential measures. The installment plan ban for several items and the restriction of installments for other items caused credit card purchases to decline (Chart 4.2.14). In addition, the rise in loan rates following the Fed’s announcements in 2013 curbed consumption throughout 2014. Consumer demand might pick up in 2015 thanks to loan rates that decreased over 2014 by about 2 points from early 2014 and improving financial conditions. In sum, although the weak course of consumer confidence poses a downside risk to private consumption, the expected rise in employment and real wages, falling oil prices and improving financial conditions offset these risks.

Downside risks are more pronounced for private investment demand. Due to factors such as the strong post-crisis recovery in economic activity, the relatively lower prices of imported goods amid the appreciating Turkish lira, and cheap and ample liquidity, investments grew at a remarkable rate in 2010 and 2011. Yet, the idle capacity caused by the decelerating growth is recently believed to be a major factor restraining investments (Chart 4.2.15). To be more specific, in 1997 and 2006, when the share of private machinery and equipment investments in GDP reached a peak, the capacity utilization rate was also at its highest, whereas during 2010-2011, investment growth happened before capacity
returned to pre-crisis levels. In this regard, still-low capacity utilization rates may translate into less need for capacity-boosting investments due to idle capacity. As the exchange rate pass-through into prices of investment goods is substantially high, the price effect seems to be another negative channel restraining investments considering the recent depreciation of the Turkish lira (Chart 4.2.16). Factors such as persisting downside risks to the global economy continue to have adverse effects on investments due to demand uncertainty.

Despite the idle capacity in the economy, it should be noted that not all private investments in machinery and equipment are made to boost capacity for the manufacturing industry. In fact, responses to the question of “goal of investments for the year ahead” in the Autumn issue of the CBRT’s semi-annual investment survey suggest that capacity-boosting investments explain only about 25 percent of the investment goals (Chart 4.2.17). Restoring worn-out facilities and increasing productivity are among other factors affecting investment decisions. On the other hand, according to the TurkStat’s Industry and Service Statistics, the services sector also plays a major role in machinery and equipment...
investments. Therefore, investments made for purposes such as productivity gains and restoration of worn-out facilities and the upward trend of the services sector are believed to support investments.

The recent improvement in the BTS investment tendency is another indicator hinting at a positive outlook for investments (Chart 4.2.18). In this regard, in case of an absence of deterioration in investor confidence and no tightening in financial conditions, investments are expected to move towards the trend line. Indeed, taking into account both the BTS data on investments and the cyclical component obtained through applying a HP filter to the data on machinery and equipment investments, the investment tendency signals recovery for private machinery and equipment investments. As a result, private machinery and equipment investments are expected to show no further decline in 2015 and remain close to 2014 readings. However, in case of an additional deterioration in perceived uncertainty or tightening in financial conditions, private machinery and equipment investments may continue to put downward pressure on growth in 2015. On the private construction investments front, the recent growth is likely to continue moderately into 2015 notwithstanding some downside risks.

To summarize, the weak growth in the European economies due to structural problems, the likely decline in oil-exporting markets’ growth performances and the uncertainty about capital flows and financial conditions following the Fed’s announcements are among the major downside risks to growth in 2015. The expected recovery in consumer demand on the back of the strong post-crisis employment performance, lower oil prices compared to 2014 and the easing in financial conditions, as well as greater room for maneuvering monetary policy amid the narrowing in current account deficit and the decline in inflation, strong public finances and the expected recovery of the agricultural value-added are among the factors to support growth.

In conclusion, demand conditions are supportive of the decline in inflation while the correction in the current account balance continues. In 2015, domestic demand is expected to recover modestly whereas external demand will remain weak. Thus, aggregate demand conditions are estimated to support disinflation in 2015 (Chart 4.2.19). Despite this likely change in the growth composition, the improved terms of trade and the current macroprudential framework is expected to contribute to the improvement in the current account balance (Chart 4.2.20).
4.3. Labor Market

After flattening in the first quarter of 2014, total and non-farm unemployment have started to surge and have remained on the rise, albeit more slowly, as of October (Chart 4.3.1). The weak outlook of non-farm employment after the first quarter and the uptrend in the labor force over the whole year put upward pressure on non-farm unemployment (Chart 4.3.2). Non-farm employment dropped during the second quarter and most of the third quarter, but recovered slightly by August. Yet, the improved employment rate lagged behind the rapidly growing labor force, causing the unemployment rate to climb further.

The analysis of non-farm employment by sectors indicates that the services sector was the main driver of non-farm employment growth (Chart 4.3.3). The rise in the services employment as of the first quarter of 2014 is mostly attributed to the contribution of trade, restaurants and hotels. In addition, business services as well as education and healthcare, the latter of which are dominated by the public sector, also contributed to the growth in services employment in this period. The decline in non-farm employment during the second and third quarters was driven by the industrial and construction sectors. Employment in these sectors began to recover by August. As hinted by developments in economic activity, industrial production is unlikely to recover in the fourth quarter (Section 4.1). The production of non-metallic minerals, which is closely related with the construction sector, was up by a modest 0.65 percent from the third quarter during October-November. As of October, employment in industrial and construction sectors appears to have a more positive outlook than implied by data on production.
While industrial production fell slightly during the fourth quarter, survey indicators signal some increase in employment. The total employment expectation, which is among the CBRT’s BTS indicators reflecting the views of private firms operating in the manufacturing industry, posted more optimistic expectations in the fourth quarter (Chart 4.3.4). Similarly, the PMI pertaining to employment that includes the assessments of the private firms operating in the manufacturing industry was on the rise in the fourth quarter. Although these indicators present a benign outlook for industrial employment, the weak course of production developments restricts the expectation for employment growth. According to data obtained from Kariyer.net, a human resources firm, the total number of new job posts decelerated. In addition, the number of applications per job post, which is a leading indicator for unemployment, continues to surge in the fourth quarter of 2014 (Chart 4.3.5). This increase is largely attributed to both the fall in the number of new job posts and the ongoing rise in the number of applications.
Following the first quarter of 2014, employment growth slowed but wages increased at a faster pace than inflation. Thus, total wage payments continued to support domestic demand, albeit having lost momentum. However, at the same time, household domestic consumption spending, which excludes durable goods spending, increased only slightly (Chart 4.3.6). On the cost front, wages put upward pressure on firms’ cost increases in 2014. The minimum wage hikes that were set at the onset of 2014 and the subsequent average wage hikes hovered above the inflation forecast for 2014. The annual rise in the hourly wage index was 12 percent as of the third quarter of 2014 (Chart 4.3.7). Due to this rise in hourly wages, unit wages posted a year-on-year increase at a rate close to inflation as of the third quarter (Chart 4.3.8). The recently announced new minimum wages for 2015 reflect an annual nominal wage increase of 12.2 percent on average. Based on the estimated inflation rate, these values point to a notable real increase in wages for the upcoming year. All in all, given the currently moderate course of productivity gains, the growth rate of unit wages is unlikely to decelerate in the forthcoming period. Considering their weight in the cost structure of a firm, labor costs are of secondary importance, but in the absence of productivity gains, wage hikes might be a factor that adds to inflation inertia, particularly in the labor-intensive services sector.

In sum, after easing since the second quarter of 2014, non-farm employment grew at a reasonable rate during August-October thanks to the contribution of the recovering construction and industrial sectors. However, due to higher labor force participation, unemployment rates continued to rise. In view of leading indicators and the October data, employment is expected to improve in the fourth quarter but unemployment is unlikely to decrease given the rising labor force participation.
Non-financial firms’ tendency to borrow in long-term FX-denominated loans has been very high in Turkey, albeit on the decline in recent years. This is largely due to the macroeconomic instability of the 1990s as well as the failure to generate sufficient long-term TL-denominated funds in the domestic financial system and the elevated levels of the external fund premium for TL-denominated loans. Financially strong, large and exporting firms met their financial needs mostly through long-term FX-denominated borrowing to make their investments. On the other hand, SMEs, which have the highest funding need and produce largely for the domestic market, failed to utilize this facility adequately and were subject to the high external fund premium of the banking system.

There are two major problems arising from the failure of the Turkish financial system to provide firms with adequate funds. The first one is the lack of access to funds by the SMEs, the potential engines for innovation, and their failure to generate adequate jobs, thus the inefficient use of the growth potential (World Bank, 2010). The second problem is the existence of an inadequate amount of long-term TL-denominated funds and massive FX-denominated borrowings of large firms; hence, the increasing exchange rate sensitivity of the economy against abrupt changes in external capital flows and the resulting threat to financial stability.

On the other hand, there are advantages to borrowing in FX-denominated loans. First of all, borrowing in long-term FX-denominated loans at low cost may enable large and exporting firms to enhance their growth potential. Moreover, their borrowing in FX rather than in TL-denominated loans may allocate TL funds towards other economic agents or firms in need of funds. Indeed, the amount of funds used by SMEs and consumers through the banking system in Turkey has grown dramatically in recent years.

There are two factors affecting the growth performance of firms with regard to the share of FX-denominated loans in their total liabilities, which is referred to as liability dollarization rate in the literature. Firstly, when the supply of domestic currency denominated funds is limited, firms’ access to FX-denominated funds has a favorable impact on their growth performance. Secondly, the increasing amount of FX-denominated liabilities and imported input use of economic agents heightens the fragility of the economy particularly through the balance sheet channel, thus hindering the conduct of an independent monetary and exchange rate policy. The net effect of these countering channels on firms’ growth performance deserves to be assessed on the basis of an empirical analysis.

This box is based on the analysis covering the 1996-2010 period, and using data of about 7000 firms, which report their financial tables regularly for at least three consecutive years as per the CBRT Sectoral Balance Sheets. The firms contained in the data set, which account for around 58 percent of sales, 72 percent of exports and 40 percent of FX-denominated loans in the economy, make up a large share of economic activity.

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1 This box is based on Alp and Yalçın (2015).
2 Among factors causing liability dollarization in the literature are variables such as the immature credit markets for TL-denominated long-term loans, the significant volatility in exchange rates and capital flows, macroeconomic volatility, insufficient institutional capacity, economic policy uncertainties and regulation deficiencies. In order of importance based on estimation results, Alp and Yalçın (2015) list the factors raising the liability dollarization rate of firms in Turkey as follows: the significant inertia due to dollarization, the high public borrowing requirement, the appreciation of the Turkish lira, the increase in firms’ exports, the growing share of net tangible assets, which act as collateral, the rising inflation rate, the high leverage ratio, the growth of firm size and the fall in the VIX.
Chart 1 shows the course of liability dollarization rates by firm size over time. Accordingly, the liability dollarization rate is observed to increase with size. Moreover, liability dollarization rate is found to be declining for SMEs, while remaining flat for large firms in recent years. A similar finding is evident for firms with a high export to sales ratio (export rate), whose dollarization rate is high and flat.

Chart 2 displays the weighted growth rates of real sales and employment for manufacturing firms according to the magnitudes of their liability dollarization rates. Accordingly, firms with no FX-denominated liabilities (dol rate=0) display a poor performance in their sales and employment growth rates during normal (non-crisis) times. This suggests that firms with no access to FX-denominated loans in Turkey are financially restrained. Firms with a liability dollarization rate between zero and 25 percent have a markedly stronger average sales growth performance compared to others. The average employment growth rate of firms with zero dollarization is negative in all sub-periods, and employment growth increases as the dollarization rate rises. On the other hand, during the period of 2008-2010, which is marked by the effects of the global crisis, the contraction in sales is quite significant for firms with a dollarization rate higher than 75 percent and there is hardly any employment growth. This finding implies that firms with very high dollarization rates fail to grow in terms of their sales during times of crisis when the exchange rate volatility is high. Furthermore, this observation is also in line with the findings obtained from the econometric analysis in the following section.

The effects of the liability dollarization on firms’ sales and employment growth are estimated by using a dynamic panel method utilizing Generalized Method of Moments (GMM). Accordingly, the determinants of firms’ real sales and employment growth are modeled separately. In the simplest model, the main determinants of sales growth are the lagged value of the sales growth, liability dollarization, the ratio of real sales to employment, which denotes firms’ productivity, firm-specific variables such as exports-to-sales ratio and the leverage ratio, the change in real exchange rate to reflect domestic macroeconomic variations.
developments and VIX to capture international developments. The determinants of the employment growth are the growth of firms’ real tangible assets and the above variables used in the sales growth model.

In order to find out whether the degree of the liability dollarization and firms’ exports ratios are sensitive to the crisis episodes of 2001 and 2008-2009, the model was enriched by the inclusion of dummy variables. Accordingly, dummy variables are generated to classify firms by their liability dollarization and exports as firms with high and low liability dollarization rate and firms with high and low exports rate. Moreover, two crisis dummy variables are constructed. The first crisis dummy variable takes the value of 1 for the 2000-2002 period and 0 otherwise to control for the 2001 crisis, while the second crisis dummy variable takes the value of 1 for the 2008-2010 period and 0 otherwise to control for the 2008-2009 crisis. Estimations are repeated by including the interaction terms for liability dollarization rate and the above dummy variables into the model.

Against this background, the findings of the descriptive analysis of the data and the estimation of the above models are summarized below. The findings highlighted here are mostly focused on the results pertaining to the sales growth. The results for employment growth estimations, which are not presented here due to shortage of space, are observed to be mostly in tandem with those for sales growth.

Econometric results show that an increase in liability dollarization drives firm’s growth rates higher. In other words, access to a low-cost FX-denominated fund alleviates borrowing constraints, thus supporting the growth performance of firms. This impact is more evident in exporters with high dollarization rates. Yet, across firms with a low exports ratio (non-exporting firms included) but with high liability dollarization rate, dollarization is estimated to have an adverse impact on the growth performance of firms. In other words, in unhedged balance sheets, liability dollarization is found to have a negative effect on sales growth rates of firms. Accordingly, to avoid the exchange rate risk, these firms are advised to use financial derivatives in the short term and increase their FX-denominated income in the long term.

* By period averages, firms above the 75 percentile are classified as firms with high dollarization rates while firms ranking below the 50 percentile are classified as firms with low dollarization rates. Similarly, firms ranking above the 75 percentile of exports to sales ratios are classified as firms with high export ratios (exporters) while firms below 50 percentile are classified as firms with low export ratios (non-exporting firms included).

* For further details, see Alp and Yağcı (2015).
The estimations also show that the impact of liability dollarization on the growth performance of firms was positive during the 2001 crisis but negative during the 2008-2009 crisis, when external demand was remarkably weak. This finding confirms the fact that, in order to avoid the exchange rate risk, firms should be more competitive in export goods whose external demand is less sensitive to cyclical movements or crises. Thanks to the competitive advantage gained amid the Turkish lira depreciation and the strong external demand in 2001, liability dollarization is estimated to have a positive influence on the growth performance of firms, but due to the weak external demand during the crisis of 2008-2009, dollarization led to a contraction in firms’ growth performances even though the negative balance sheet effect was more limited compared to the crisis of 2001.

Among firm-specific variables, leverage ratio, export ratio and labor productivity made a positive contribution to the sales growth performance of firms, while the lagged value of sales growth contributed negatively. The coefficients of the leverage and the productivity are found to be very high. This finding implies that it is possible to increase the growth performances of firms in Turkey to a great extent by improving their access to finance and raising their labor productivity. In addition, estimating a positive coefficient for exports shows that firms tend to maintain a balance between their income and borrowing in terms of currency composition. An increasing export share not only boosts direct sales but also supports the sales growth performance of firms indirectly by alleviating the financial constraints through easing their access to FX-denominated loans.

The above analysis shows that firms can restrain negative balance sheet effects and thus have a sustainable growth performance if they establish a balance between their FX-denominated liabilities and FX-denominated assets (natural hedge). Furthermore, it appears that, by increasing their export performances, SMEs are able to minimize their borrowing constraints by borrowing in FX-denominated loans and thus have a higher growth performance. In sum, adopting policies to raise firms’ competitiveness in external markets not only facilitates low-cost FX-denominated borrowing but also avoids the negative balance sheet effects of these liabilities. In this regard, more sustainable profit margins and growth rates are attainable only if export rates are higher.

REFERENCES


Developments in energy prices entail significant dynamic effects for many countries. Since most of the energy needs in Turkey are met through imports, energy items make up a majority of the consumption basket, and energy-exporting countries account for a large share of Turkey’s exports. The movements in energy prices can be influential on the economy through various channels. Due to these channels, the current account balance, inflation and external demand are sensitive to the changes in energy prices.

This box analyzes the effects of post-2006 changes in international energy prices on some macroeconomic variables. The analysis is based on the methodology by Kılınç and Tunç (2014), which estimates monetary policy shocks.\(^5\)

The macroeconomic variables for the Turkish economy are expressed in the following structural form,

\[
A(L)y(t) = \varepsilon(t),
\]

where \(y(t)\) are variables observed at time \(t\); \(A(L)\) is a non-singular coefficient matrix with a lag value of \(L\); and \(\varepsilon(t)\) denotes the structural shocks at time \(t\). Based on the block exogeneity assumption, \(y(t)\), \(A(L)\) and \(\varepsilon(t)\) can be treated as domestic and external factors in the following way:

\[
y(t) = \begin{bmatrix} y_d(t) \\ y_e(t) \end{bmatrix},
\]

\[
A(L) = \begin{bmatrix} A_{11}(L) & A_{12}(L) \\ A_{21}(L) & A_{22}(L) \end{bmatrix},
\]

\[
\varepsilon(t) = \begin{bmatrix} \varepsilon_d(t) \\ \varepsilon_e(t) \end{bmatrix}.
\]

If the reduced form equation is written as \(B(L)y(t) = u(t)\), the structural shocks can be re-written in terms of the reduced form equation residuals:

\[
\varepsilon(t) = A_0 u(t).
\]

Based on the block exogeneity assumption, domestic variables affect external variables neither simultaneously nor in a lagged fashion. Therefore, the entry \(A_{21}(L)\) always takes the value of 0. Block exogeneity is an important and plausible assumption particularly for small open economies.

The model uses monthly data, where external variables \((y_e)\) are the World Bank Energy Price Index, World Industrial Production Index and the Fed funds rate (monthly effective federal funds rates), while domestic variables \((y_d)\) are GDP, CPI, M3, the exchange rate, EMBI and the average overnight interest rate at the IMM.

Chart 1 shows the effect of a 1-percent fall in international energy prices on other macroeconomic variables by impulse-response functions. Changes in energy prices appear to have a major impact on inflation. Consumer prices in Turkey decline in response to the 1-percent fall in global energy prices and this decline reaches a peak of 0.07 percent by the second quarter. This effect is also statistically significant over the whole period. Another variable that generates a strong statistically significant response is the risk premium indicator EMBI. Falling energy prices lead to a rapid decrease in Turkey’s risk premium, which amounts to 0.015 points at the end of a quarter. This finding is consistent with the fact that energy imports are a key driver of external deficit in Turkey and decreases in energy prices help external deficit to narrow.

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\(^5\) For the structural VAR model and the block exogeneity assumption, see Kılınç and Tunç (2014).
Accordingly, falling energy prices can be considered as contributing to the decline in Turkey’s riskiness by helping to restore the current account balance. As an immediate response, the real exchange rate increases (appreciates) in line with the fall in the risk premium but decreases (depreciates) later. Changes in the GDP, on the other hand, are not statistically significant throughout the period but a 1-percent fall in energy prices causes the GDP to grow by about 0.02 points over almost a year. Economically speaking, this effect on GDP is due to counteracting individual factors such as the increased domestic purchasing power driven by lower energy prices as well as the adversely affected GDP performance of energy producing economies accounting for a large share in Turkey’s exports and the resulting decrease in the external demand from these economies. Lastly, on the interest rate front, the overnight rate appears to have eased in line with the reduced inflation and risk premium. This decline is statistically significant and reaches a peak by the second quarter.

In conclusion, global energy prices seem to have a profound impact on the Turkish economy. As a result of the fall in energy prices, the inflation and the risk premium decline, while the GDP grows slightly and the interest rate drops.

REFERENCES

5. Financial Markets and Financial Intermediation

Global financial markets remained volatile in the last quarter. Japan, China and the Euro Area displayed a sluggish growth outlook in contrast to the signals of improvement in the US economic activity given by growth figures and leading indicators. All these led to policy divergence among advanced economies. Expectations of a sustained loose monetary policy in the Euro Area and Japan and perceptions regarding the earlier-than-expected normalization in the Fed’s monetary policy strengthened. On the other hand, despite the recovery in economic activity, the Fed’s announcement for patience on the policy rate hike kept uncertainties regarding the policy rate decision. Moreover, the diversified effects of elevated geopolitical risks in the Middle East and the marked fall in oil prices of the oil-exporting and importing economies caused fluctuations in global financial markets.

The fall in oil prices had consequences particularly on the macroeconomic indicators of oil-exporting countries and their financial markets, yet underpinned the improvement in the current account deficit and inflation outlook of energy-importing Turkey. Decreasing oil prices besides the quantitative easing packages launched in the Euro Area and Japan and the Fed’s announcement for patience regarding the policy rate increase had relatively more positive effects on financial markets in Turkey and limited the negative reverberations of fluctuations in global financial markets on domestic markets. The improved inflation outlook and current account deficit had positive effects on the risk perceptions regarding Turkey in addition to the exchange rate, equity and bond markets.

The FCI calculated for Turkey indicates that financial conditions proved more supportive on a quarterly basis, yet do not signal any apparent acceleration in credits in the last quarter of 2014 (Chart 5.1). In this period, index components provided mostly positive yet limited contributions to financial conditions (Chart 5.2). The contribution of credit conditions and loan rate has been near zero, while that of the risk premium, the exchange rate, stock gains and market rates proved positive in the last quarter.

![Chart 5.1. Financial Conditions and Credit Growth*](image)

![Chart 5.2. Contributions to FCI**](image)

* For further details on measuring FCI, see the CBT Research Notes in Economics No. 12/31.
** Slope of the yield curve is denoted by the spread between 10-year and 2-year interest rate. For pre-2010 period, 10-year cross currency swap rate is used due to absence of 10-year interest rates.
Source: CBRT.
5.1. Financial Markets

Global Risk Perceptions

The persisting uncertainty over global monetary policies in the last quarter of 2014, the rather high US annual economic growth in the third quarter similar to the second quarter and the rebound in leading indicators led to a strong perception that the Fed might antedate the policy rate increase. On the other hand, the ECB kept the negative interest rates on the deposit facility unchanged against the sluggish course of economic activity in the Euro Area and the existing deflationary conditions. Moreover, in the first quarter of the year, the ECB launched the pre-announced 2-year asset-backed securities purchase program to stimulate the economy. The implementation of quantitative and qualitative easing policies by the Bank of Japan to enhance the economy considering the second and third-quarter-data, which pointed to a contraction, stood out as another notable development in this quarter. Persisting uncertainties regarding global monetary policies, elevated geopolitical risks and the plunging of energy and commodity prices led to sharp increases in volatility indices in this period (Charts 5.1.1 and 5.1.2). Following the deteriorated risk sentiment, global investors fled increasingly towards safe-haven US assets with their preferences shifting from equities to government bonds, which sustained the downtrend in the long-term rates in the US (Chart 5.1.1).

![Chart 5.1.1. 10-Year US Treasury Bond Rates and MOVE Index](chart1.png)

In the last quarter, signals by the Fed regarding a policy rate hike upon the announcement of the US growth figures, the risk of lower-than-estimated growth rates in emerging economies besides tumbling energy prices deteriorated the risk sentiment towards emerging economies, leading to a higher risk premium. In fact, after the decline in the first half of the year, the EMBI assumed an upward course in the second half (Chart 5.1.3). On the other hand, the CDS premium, which followed a fluctuating course in the second half of the year, saw a sharp increase in the last quarter amid the elevated risk perception particularly towards oil-exporting countries upon the fall in energy prices (Chart 5.1.4).
Portfolio Flows

The loss of momentum in growth performances across emerging economies and the uncertainties surrounding global monetary policies caused portfolio outflows from emerging economies in the last quarter of 2014 to continue in early 2015 (Chart 5.1.5). Portfolio flows to Turkey increased in this period amid falling energy and commodity prices that decreased the sovereign risk and diverged remarkably from that of other oil-exporting emerging economies. Abundant portfolio inflows in the October-November period were followed by limited outflows in December. Meanwhile, in cumulative terms, portfolio flows posted positive figures from the start of 2014 (Chart 5.1.6).

*Includes equity and bond flows.
Source: EPFR.

* Excludes repo and includes equity and bond flows.
Source: CBRT.
Exchange Rates

The favorable data on US growth and employment, the economic recovery exhibited by leading indicators and the Fed’s statements led to an expectation in the markets that the Fed might start to normalize the monetary policy earlier than estimated. On the other hand, expectations that the loose monetary policy will be maintained through new quantitative easing measures in the Euro Area and Japan caused the US dollar index to rise further in the last quarter. Currencies of emerging economies have depreciated against the USD since the publication of the October Inflation Report (Chart 5.1.7).

In the last quarter, the Turkish lira moved in tandem with the currencies of other emerging economies. The relationship between the exchange rate basket and the risk premium continued and both saw large fluctuations, yet increased slightly. The exchange rate basket, which was around 2.50 TL on 31 October 2014, the publication date of the October Inflation Report, stood at 2.48 TL on 22 January 2015 (Chart 5.1.8). The Turkish lira depreciated by around 4.5 percent against the USD, but appreciated by about 5 percent against the euro.

Against these developments, implied exchange rate volatilities of the emerging market currencies have increased as of the midst of the last quarter of 2014 (Chart 5.1.9). In line with the recent unfavorable course of the global risk appetite, the implied volatility of the Turkish lira has heightened on par with the currencies of other emerging economies. Additionally, the movement in exchange rates observed as of the middle of the last quarter was also seen in risk reversal positions that denote the differences among the volatilities implied by call and put options. Parallel to the developments in the implied exchange rate volatilities amid the Russia-driven fluctuations in mid-December, risk reversal positions have also increased (Chart 5.1.10). The increase in this difference shows that expectations for Turkish lira depreciation outweigh those for appreciation.
Monetary Policy

Global financial markets followed a fluctuating course in the last quarter of 2014. New easing packages were announced in Europe and Japan in this period, while the slowdown in economic activity continued in countries except for the US. In spite of the expectations of normalization in the Fed’s monetary policy, the slowdown in the global economy may postpone the start of this normalization process. Ongoing uncertainties regarding this process caused the global risk appetite and capital flows to remain sensitive to the data. The CBRT maintained its tight monetary policy stance during this period. However, given the favorable developments especially in inflation indicators excluding energy and food as well as the improved inflation expectations, the CBRT reduced the 1-week repo auction rate from 8.25 points to 7.75 points in January 2015.

To maintain balanced growth and the permanence of capital inflows during the normalization of the global monetary policy, the CBRT raised the banks’ transaction limits at the Foreign Exchange and Banknotes Markets from 10.8 billion USD to USD 21.62 billion as of 10 December, considering the increase in banks’ balance sheets and the CBRT’s international reserves.

On the other hand, due to persisting uncertainties regarding global finance and economic activity developments, implementation of macroprudential policies to limit macrofinancial risks and support prudent borrowing is significant. Accordingly, containing short-term and foreign currency denominated borrowing is important. The analysis of the private sector external borrowing indicates that a large portion of short-term external borrowing is owned by the banking sector and the short-term liabilities of the banking sector have increased rapidly in recent years (Chart 5.1.11). The CBRT announced on 3 January 2015 that the required reserve ratios applied to non-core FX-denominated short-term liabilities of banks and financing companies were raised to extend the maturities of external borrowing (Chart 5.1.12). The average reserve requirement ratio for FX, which was 11.7 percent, was raised to 12.8 percent. The extension of maturities in the banking sector is expected to increase the CBRT reserves’ coverage ratio of short-term external debts. Moreover, the CBRT’s arrangement on the remuneration of TL required reserves for stimulating core liabilities was put into effect in January 2015.
These arrangements are expected to limit macrofinancial risks and contribute to balanced growth by supporting prudent borrowing (Box 5.1).

In line with the decision to simplify the operational framework of the monetary policy made at the interim MPC meeting in January 2014, the CBRT funding has been provided mostly through 1-week repo auctions since the publication of the October Inflation Report (Chart 5.1.13). Meanwhile, given the geopolitical risks and the volatility in financial markets since September 2014, a tight monetary policy has been supported by a tight liquidity policy. Thus, the BIST overnight repo rates have remained close to the upper band of the interest rate corridor since the publication of the October Inflation Report due to the liquidity policy (Chart 5.1.14).

The spread between 5-year market rates and the BIST overnight repo rates has posted negative values since the last quarter of 2014 (Chart 5.1.15). Owing to the tight liquidity policy, the fall in market rates has been more limited in short-term rates and the yield curve has remained almost flat (Chart 5.1.16). The CBRT will closely monitor inflation expectations, pricing behavior and other factors...
affecting inflation in the upcoming period and maintain its tight monetary policy stance by keeping the yield curve flat until there is a significant improvement in the inflation outlook.

With the announcement on 3 January 2015, the CBRT introduced changes to reserve option tranches and coefficients to strengthen the automatic stabilizing feature of the ROM. Accordingly, to meet the required FX liquidity due to the adjustments in the reserve requirement ratios, the ROC in the first 30-percent-tranche was lowered by 0.2 points. Furthermore, with the upper limit of the facility unchanged, the corresponding ROC to each additional tranche was raised by 0.2 points for tranches above 55 percent (Chart 5.1.17). This change is expected to reduce the use of ROM to a limited extent under the condition that other factors affecting the use of the ROM remains constant. Moreover, increased ROC in upper tranches is estimated to underpin the automatic stabilizing feature of the ROM against capital movements. The use of ROM by banks stands at 90 percent (54.2/60) for FX and 88 percent (26.3/30) for gold as of the maintenance period on 16 January 2015 (Chart 5.1.18).

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**Chart 5.1.15.**
Market Rates and the CBRT Funding Rate (Percent)

**Chart 5.1.16.**
Yield Curve (Percent)

**Chart 5.1.17.**
FX Reserve Option Coefficients

**Chart 5.1.18.**
Banks’ Use of ROM for FX* (Percent)
CBRT reserves have declined compared to the October Inflation Report (Chart 5.1.19). Banks’ reserves maintained under the FX reserve option decreased due to the fall in the use of the ROM, while reserves maintained against the FX reserve requirement remained almost unchanged in this period. Moreover, the CBRT announced that the required portion of the FX requirements of energy-importing SEEs would be met directly by the Undersecretariat of the Treasury and the CBRT as of 17 December 2014. Meanwhile, the CBRT raised the limits of export rediscount credits on 23 January 2015 and widened the scope of firms that can utilize these loans. These changes will enable exporters and the services sector firms, which have FX-denominated earnings, to make greater use of the CBRT rediscount credits. The CBRT reserves increased by 13 billion USD via export rediscount credits in 2014 and are expected to exceed 15 billion USD in 2015 through the introduction of new facilities. However, continuing with FX selling auctions will lower the CBRT’s FX reserves in the upcoming period (Table 5.1.1).

Chart 5.1.19.
CBRT FX Reserves*
(Billion USD)

Table 5.1.1.
Contribution to FX Reserves*
(Billion USD)

<table>
<thead>
<tr>
<th></th>
<th>FX Sales (-)</th>
<th>Rediscount Credits (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2014</td>
<td>1.05</td>
<td>0.48</td>
</tr>
<tr>
<td>April 2014</td>
<td>1.02</td>
<td>0.36</td>
</tr>
<tr>
<td>May 2014</td>
<td>0.50</td>
<td>2.06</td>
</tr>
<tr>
<td>June 2014</td>
<td>0.42</td>
<td>1.54</td>
</tr>
<tr>
<td>July 2014</td>
<td>0.38</td>
<td>1.46</td>
</tr>
<tr>
<td>August 2014</td>
<td>0.21</td>
<td>1.38</td>
</tr>
<tr>
<td>September 2014</td>
<td>0.31</td>
<td>1.42</td>
</tr>
<tr>
<td>October 2014</td>
<td>0.72</td>
<td>1.32</td>
</tr>
<tr>
<td>November 2014</td>
<td>0.80</td>
<td>0.79</td>
</tr>
<tr>
<td>December 2014*</td>
<td>2.19</td>
<td>1.34</td>
</tr>
<tr>
<td>January 2015*</td>
<td>1.55**</td>
<td>2.04***</td>
</tr>
<tr>
<td>February 2015</td>
<td>1.33***</td>
<td></td>
</tr>
<tr>
<td>March 2015</td>
<td>1.27***</td>
<td></td>
</tr>
</tbody>
</table>

* As of January 16.
Source: CBRT.

Market Rates

Due to the fall in the emerging market sovereign risk premium in the beginning of the last quarter of 2014, market rates decreased in emerging economies. In December, the uncertainties in global markets resulted in volatile market rates. Furthermore, market rates continued to fall in January (Charts 5.1.21 and 5.1.22), while Turkey’s market rates registered a decline due to the improved inflation outlook in this period. Turkey’s proximity to regions dominated by geopolitical and economic risks caused market rates to follow a more volatile course than in any other emerging economy. Five-year and 6-month market rates have registered the most dramatic fall in Turkey across other countries since the previous reporting period (Charts 5.1.23 and 5.1.24).
The CBRT continued with a tight monetary policy stance by resorting to additional liquidity measures in the last quarter of 2014 due to growing geopolitical unrest and financial market volatility since September. Meanwhile, parallel to the fall in market rates in this period, the median of the expected overnight rate distribution at the BIST Repo and Reverse Repo Market shifted left in the inter-reporting period (Chart 5.1.25). Inflation expectations, another factor that may be influential on market rates, posted a decline compared to October (Chart 5.1.26).
In the last quarter of 2014, real interest rates in Turkey followed a fluctuating course parallel to the developments in global markets. Amid the limited improvement in 2-year inflation expectations, the course of nominal interest rates became the main determinant of the real interest rates in this quarter (Chart 5.1.27). Meanwhile, the benchmark rate recorded a notable decline early in the last quarter and followed a volatile path in December due to global uncertainties parallel to the sovereign risk (Chart 5.1.27). In this period, Turkey’s 2-year real interest rate displayed a larger decline than other emerging economies and ranked around the middle among them (Chart 5.1.28). This is attributed to an improved outlook in inflation and external balance coupled with the CBRT’s tight monetary policy stance.

Loan Rates and Banking Sector Funding Costs

Having increased notably in early 2014, rates on loans extended to the non-financial sector declined gradually afterwards amid loosened domestic and external financing conditions. The largest fall in consumer loans appeared in personal loans with a quarter-on-quarter decline by around 50 basis points (Chart 5.1.28). Rates on commercial loans, which are mostly extended in the short term, increased in the start of the quarter, yet recently trended downwards. Accordingly, commercial loan
rates displayed a 50 basis-point rise in the last quarter of 2014 compared to the end of the third quarter (Chart 5.1.29). According to the Loan Tendency Survey results of the last quarter, banks also tightened the conditions for fees and commissions (non-interest charges), albeit slightly.

Following a moderate rise in the third quarter of 2014, deposit rates posted an uptick by approximately 40 basis points in the last quarter due to the pass-through from short-term market rates. This is consistent with the banks’ claim in the Loan Tendency Survey that domestic funding conditions tightened. Due to the fall in commercial loan rates at the end of the last quarter, the spread between the commercial loan rate and the deposit rate went slightly below 3.30 percent (Chart 5.1.30). Thus, rates on bills and bonds issued by banks posted a decline because of fund inflows towards Turkey in the last quarter in contrast to the deposit and the CBRT average funding rates (Chart 5.1.31).

5.2. Credit Volume and Monetary Indicators

The net credits to the GDP ratio, which is critical to financial stability and an indicator of the relationship of credit growth with economic activity and aggregate demand, trended further downwards in the last quarter of 2014 and fell to 10 percent reflecting the slowdown in the credit growth (Chart 5.2.1). In the next quarter, with the CBRT’s prudent policy stance, the net credits to the
GDP ratio will follow a moderate course. Meanwhile, firms’ external credit use remained close to historical averages in this period, implying that firms had easy access to external borrowing (Chart 5.2.2).

The annual growth rate of loans extended to the non-financial sector, which has been slowing due to the CBRT’s tight monetary policy and the BRSA’s measures introduced in early 2014, followed a flat course in the last quarter of the year. The annualized total loan growth rate reflecting loan developments over the past three months neared past years’ averages. Measures by the BRSA coupled with the weak course of consumer confidence indices led to a slower growth in consumer loans compared to commercial loans. Against these developments, loans extended to the non-financial sector posted a 16.5 percent year-on-year growth in exchange rate adjusted terms at the end of the last quarter of 2014 (Chart 5.2.3), while the 13-week moving average covering the last quarter recorded a 16.7 percent growth in annualized terms (Chart 5.2.4). The similar course of annual and annualized growth rates implies that the total credit growth rate will be sustained in the short term. The Loan Tendency Survey results indicate that banks do not foresee any noticeable change in the demand and supply conditions in commercial and consumer loans in the first quarter of 2015, which supports the expectation of a sustained flat course.
Having assumed an uptrend since May, the annualized growth rate of consumer loans reached 15 percent in August and remained so through the rest of the year (Chart 5.2.5). Analysis of sub-items of consumer loans, which neared the seasonal averages in the second half of the year, indicates that housing loans with higher interest-rate-sensitivity and an average maturity of 5 years display a higher annualized growth rate compared to other subcategories, whereas other consumer loans follow a weak course. According to the Loan Tendency Survey results, the weak course in personal loans stems from the expectations regarding the overall economic activity. This can be confirmed by the slight tightening in personal loan standards. Automobile loans, on the other hand, registered a strong rebound due to the base effect. As a result, the annualized growth rate of housing loans stood at 20.7 percent at the end of the quarter, while that of personal loans remained below the average of past years with 13.5 percent in the same period (Chart 5.2.6). According to the results of the Loan Tendency Survey that covers the last quarter, banks project a slight tightening in standards of all consumer loan subcategories in the first quarter of 2015, and some increase in demand for personal loans in contrast to a limited fall in housing and automobile loans.

![Chart 5.2.5. Consumer Loan Growth](chart5.2.5.png)

![Chart 5.2.6. Consumer Loan Growth](chart5.2.6.png)

Having hovered around seasonal averages in the third quarter, the annualized growth rate of commercial loans exceeded the past years’ averages in the last quarter (Chart 5.2.7). This movement in commercial loans, which followed a stronger course than consumer loans, mostly stems from FX-denominated commercial loans. The annualized growth rate of commercial loans extended in FX, which has trended upwards since April 2014, stood at 20 percent in the last quarter (Chart 5.2.7). According to the Loan Tendency Survey results, commercial loan standards were tightened slightly. Banks implemented this tightening in similar amounts in terms of firm size, maturity and currency. The major factor driving this tightening appears to be expectations regarding overall economic developments. The survey results suggest that demand for commercial loans displayed a slight decline. Across firm size, SMEs and large-sized firms recorded similar falling figures. In terms of maturities, demands for both long and short-term commercial loans saw a slight tightening. Banks do not expect any change in commercial loan standards in the first quarter of 2015. However, long-term commercial loan standards may be tightened to a small extent. The survey results suggest a limited rise in loan demand from SMEs, which is expected to appear mostly in commercial loans extended in TL.
In the last quarter of 2014, the annual growth rate of consumer loans continued to decline, while that of total credits remained flat due to the mild increase in commercial loans. The tight monetary policy stance accompanied by macroprudential measures led to a faster growth in commercial loans compared to consumer loans, supporting the balancing of the economy. The loan growth that has been slowing due to policies adopted by the CBRT and the BRSA is expected to near the deposit growth rate gradually (Chart 5.2.9). The convergence of loan and deposit growth rates is a factor that will enhance the resilience of the banking sector against possible financial fluctuations by also reducing the banking sector’s need for external financing.

Monetary Indicators

The uptrend in credits extended to the private sector continued to determine the annual growth of M3, the broad measure of money supply, in the last quarter of 2014. The decline in the rate of increase in the Private Sector Claims mostly including the credits extended by banks to non-financial private individuals and institutions constituted the main factor of the decline in the growth of the M3.
Public Sector Claims, which have been contributing positively to the M3 growth since the second quarter, provided further support in the last quarter. The negative contribution of net external assets posted a quarter-on-quarter increase. Meanwhile, the negative contribution of the item Other, which displayed a relatively steady course in line with bank profitability, is still a non-deposit funding source for the banking sector, yet recorded an uptick compared to the end of the second quarter (Chart 5.2.10).

The annual growth of seasonally adjusted currency in circulation recorded a quarter-on-quarter decline in the last quarter of 2014 (Chart 5.2.11). This was driven by the slowdown in consumer loan growth and moderation in private domestic demand due to the tight monetary policy stance and the macroprudential measures.
Box 5.1 Remuneration of Required Reserves

Required reserves (RR) are the amount of funds maintained by banks against their liabilities in local or foreign currencies at the central bank. \(^1\) RR were first maintained due to precautionary motives in the gold standard period. Later, RR were maintained also for monetary control and liquidity management purposes (Gray, 2011). The cost of holding RR for banks is reflected to deposit owners and/or borrowers. \(^2\) Remuneration of the RR alleviates the cost of this intermediation. The standard remuneration practices are expected to raise deposit rates and reduce the loan rates resulting in a lower loan-deposit rate spread. Therefore, remuneration of RR may both encourage domestic savings and spur economic growth.

Depending on the magnitude of the preferred effect on the loan-deposit rate spread, the central bank will decide to what extent the RR will be compensated for the funding cost. If the financial system has a structural liquidity gap and commercial banks meet their liquidity requirements by borrowing from the central bank, the lending rate of the central bank could be set as the remuneration rate (Gray, 2011). Central banks usually set the remuneration rate lower than the policy rate. Fixing the spread between the policy rate and the remuneration rate does not completely remove the cost, yet eliminates the sensitivity of the RR funding cost to the changes in the policy rate. According to an IMF study that examines the RR practices of the central banks of 121 countries in 2010, 35 central banks remunerate RR, 25 of which pay remarkably lower than the policy rate, while the remaining 10 pay at the policy rate or a little lower.

As stated in the CBRT press release of 21 October 2014, TL required reserves have been remunerated since November 2014 (CBRT, 2014a). In this press release, the remuneration of TL RR by the CBRT is intended to be used as a macroprudential tool depending on the core liability ratio (ratio of deposit and equities to loans) as of 2015. Accordingly, by bank-based variation of the remuneration rate, the aim is to encourage banks to use deposits and their own equities as opposed to external borrowing. This policy is supposed to contribute to financial stability by further strengthening the healthy structure of the banking sector. Moreover, this policy is envisaged to bear positive effects on supporting domestic savings and ensuring balanced growth. Encouraging domestic savings may play a role in the narrowing of the current account deficit, which is a structural issue in Turkey.

As the amounts of FX and gold to be maintained within the scope of the ROM, which was enforced at the end of 2011, are decided by banks themselves, this mechanism is expected to act as an automatic stabilizer against external shocks. The ROM functions to strengthen the FX and gold reserves of the banking system, and the country in turn, in periods of massive capital inflows. This mechanism contributes to balanced growth by slowing the turnover of rapid capital inflows into domestic credits. In fact, banks

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\(^1\) Along with banks, financing institutions are also subject to reserve requirement practices in Turkey.

\(^2\) Reinhart and Reinhart (1999), in a study on emerging economies, find that changes in required reserve ratios affect both deposit and loan rates.
frequently resorted to the ROM facility from its enforcement to mid-2013 and in periods of surge in capital inflows from abroad. In times of strong capital outflows, the cost of external resources is expected to rise relatively and the use of the ROM is envisioned to fall. Upon the Fed’s normalization signals in the monetary policy in mid-2013, emerging economies experienced sizeable capital outflows. However, Turkish banks had faced no difficulties in access to external resources and the CBRT pursued a tight and cautious monetary policy. These two led the funding cost of FX resources to remain advantageous against the funding cost of TL resources, and this facility continued to be widely used. In short, the Turkish banking system did not need to use the ROM’s automatic stabilizing feature in that period. As stated in the CBRT announcement of October 21, the TL remuneration rate will move in tandem with the CBRT average funding rate, which is a major indicator of banks’ TL funding costs. This mechanism will stabilize the funding cost of TL required reserves for banks to a great extent. Accordingly, the use of the ROM will mostly depend on the funding cost of foreign currency resources and the automatic stabilizing feature of the ROM will grow stronger.³

In a system where the ROM is active, remuneration of TL RR will affect both the funding costs and the FX/TL liquidity balance. Breakeven ROCs denote the ratio at which the banks remain indifferent to maintaining the TL RR in TL or FX.⁴ Depending also on the remuneration rate, banks are expected to use the ROM facility less frequently in case of a change in the breakeven ROC in favor of TL resources. This may cause FX liquidity to increase in the market, while also resulting in a TL liquidity requirement and higher deposit rates. Accordingly, the CBRT’s remuneration of RR may stimulate domestic savings, especially those in TL, in three distinct ways: (i) by enabling banks to pay higher rates on deposits without resulting in a decline in their profitability; (ii) by facilitating domestic deposit collection as the RR remuneration rate depends on the banks’ use of core liabilities; (iii) by reducing the comparative cost advantage of the FX maintained within the scope of the ROM and making it more advantageous for banks to borrow in TL rather than FX.

In sum, domestic savings are expected to be higher as banks will set higher deposit rates owing to remuneration. However, the effect of remuneration on loans is ambiguous. The new practice of RR remuneration may affect loans through two opposite channels: (i) by reducing the TL RR funding cost of banks and the cost borne by loan borrowers from banks, in turn; (ii) by discouraging the extension of loans as the RR remuneration rate according to the core liability ratio is set inversely proportional to the credit volume of banks.

Accordingly, implementation of remuneration is expected to raise deposit rates, yet its effect on loan rates remains uncertain. Lastly, even a partial compensation of the funding cost of TL RR may affect the profitability of banks favorably. The new RR remuneration announcement is expected to raise the market value of banks via increased stock prices while this increase is expected to vary across banks according to their core liability ratios.

³ For further details, see Aslaner et al. (2014), Ünalmış and Ünalmış (2015).
⁴ See, Küçüksaraç and Özel (2012).
In fact, following the RR remuneration announcement on 21 October 2014, price increases in selected banks’ stocks quoted at the BIST display an association with their core liability ratios. Chart 1 indicates that banks with high core liability ratios have usually higher returns.

To summarize, the effect of the new RR implementation of the CBRT on deposit rates is expected to be positive, while that on loan rates is ambiguous due to the two distinct channels, which are counteracting each other. Moreover, the data indicate that markets have effectively priced the new RR announcement.

REFERENCES


Ünalmış, D. and I. Ünalmış, 2015, Zorunlu Karşılıklara Faiz Ödenmesi [in Turkish], CBT Research Notes in Economics No. 15/01.
6. Public Finance

The central government budget balance posted a slight year-on-year deterioration in 2014, yet performed better than the target set in the budget period. This was mainly driven by tax revenues that are not a stable and permanent source of revenues. Tax revenues stood a little above the target, while primary expenditures maintained the high-rated increase that started in 2012 and increased above the target in 2014.

The MTP covering the 2015-2017 period envisages a fiscal policy that will reduce inflation as well as the current account deficit and raise domestic savings and growth potential in the upcoming period. Accordingly, it is projected that fiscal discipline led by tight fiscal policy practices will be sustained and the debt stock to GDP ratio will continue to taper off during the implementation of the MTP (Table 6.1). In addition, those policies, which may permanently raise the level of expenditures in the medium and long term by exploiting temporary sources of revenues, will be evaded. It is evaluated that the envisaged fiscal adjustment will be achieved, especially by keeping primary expenditures under control.

<table>
<thead>
<tr>
<th>Table 6.1</th>
<th>Central Government and General Government Budget Balance (Percent of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>Expenditures</td>
<td>26.1</td>
</tr>
<tr>
<td>Primary Expenditures</td>
<td>22.9</td>
</tr>
<tr>
<td>Interest Expenditures</td>
<td>3.2</td>
</tr>
<tr>
<td>Revenues</td>
<td>24.9</td>
</tr>
<tr>
<td>Tax Revenues</td>
<td>20.8</td>
</tr>
<tr>
<td>Other</td>
<td>4.1</td>
</tr>
<tr>
<td>Budget Balance</td>
<td>-1.2</td>
</tr>
<tr>
<td>Primary Balance</td>
<td>2.0</td>
</tr>
<tr>
<td>General Government Budget Balance</td>
<td>-0.7</td>
</tr>
<tr>
<td>General Government Primary Balance</td>
<td>2.6</td>
</tr>
<tr>
<td>EU-Defined Nominal Debt Stock</td>
<td>36.2</td>
</tr>
</tbody>
</table>


Efforts paid to achieve fiscal adjustment by slowing down primary expenditures during the implementation of the MTP are expected to underpin the CBRT’s primary objective to maintain price stability and support macroeconomic stability. Thus, implementing fiscal policy in accordance with the MTP framework is critical. On the other hand, it should be emphasized that strengthening the fiscal framework by the institutional and structural improvements projected in the MTP remains to be of utmost importance for the sustainability of the fiscal discipline and the completion of the fiscal adjustment.

6.1. Budget Developments

The central government budget posted a deficit of 22.7 billion TL, while the primary budget balance registered a surplus of 27.2 billion TL in 2014 (Table 6.1.1). The central government primary budget surplus and the budget deficit posted a slight deterioration compared to 2013, but performed
better than targeted in 2014. Although primary budget expenditures overshot the 2014 target, non-tax revenues turned out to be higher than the target. Also, by the contribution of the limited fall in interest expenditures, the central government budget deficit remained below the 2014 target by 10.6 billion TL.

Table 6.1.1.
Central Government Budget Aggregates
(Billion TL)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>Rate of Increase (Percent)</th>
<th>Actual/Target (Percent)</th>
<th>Target (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Government Budget Expenditures</td>
<td>408.2</td>
<td>448.4</td>
<td>9.8</td>
<td>102.7</td>
<td>7.0</td>
</tr>
<tr>
<td>Interest Expenditures</td>
<td>50.0</td>
<td>49.9</td>
<td>-0.2</td>
<td>96.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Primary Expenditures</td>
<td>358.2</td>
<td>398.5</td>
<td>11.2</td>
<td>103.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Central Government Budget Revenues</td>
<td>389.7</td>
<td>425.8</td>
<td>9.3</td>
<td>105.6</td>
<td>3.5</td>
</tr>
<tr>
<td>I. Tax Revenues</td>
<td>326.2</td>
<td>352.4</td>
<td>8.1</td>
<td>101.2</td>
<td>6.8</td>
</tr>
<tr>
<td>II. Non-Tax Revenues</td>
<td>49.4</td>
<td>56.8</td>
<td>14.9</td>
<td>127.2</td>
<td>-10.8</td>
</tr>
<tr>
<td>Budget Balance</td>
<td>-18.5</td>
<td>-22.7</td>
<td>-</td>
<td>68.2</td>
<td>-</td>
</tr>
<tr>
<td>Primary Balance</td>
<td>31.4</td>
<td>27.2</td>
<td>-13.4</td>
<td>145.4</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Ministry of Finance.

The central government budget deficit to the GDP ratio, which declined to 1.2 percent amid the favorable budget performance in 2013, is estimated to increase slightly to 1.3 percent in 2014 (Chart 6.1.1). Meanwhile, the primary budget surplus to the GDP ratio assumed an upward course and reached 2 percent at end-2013, after declining to 1.1 percent in the third quarter of 2012. On the other hand, the ratio is estimated to decline to 1.6 percent in 2014.

Chart 6.1.1. Central Government Budget Balance (Annualized, Percent of GDP)

Chart 6.1.2. Central Government Budget Revenues and Primary Expenditures (Annualized, Percent of GDP)

Having surged since 2012 and reaching 22.9 percent at end-2013, the central government primary expenditures to the GDP ratio hit 23.2 percent in the third quarter of 2014, which is the highest level recorded since 2008. This ratio is expected to fall slightly to 22.8 percent in the last quarter of 2014 (Chart 6.1.2). On the other hand, the central government budget revenues to the GDP ratio increased upon robust economic activity as well as tax adjustments in September 2012 and January 2013, reaching 24.9 percent at end-2013. This ratio is estimated to drop to 24.4 percent in 2014, mainly due to slowing tax revenues based on domestic demand.
The central government primary budget expenditures, which have trended upwards since the second half of 2012, increased further in 2014. Accordingly, the central government primary budget expenditures registered a year-on-year increase of 11.2 percent in 2014 (Table 6.1.2).

In 2014, current transfers, personnel expenditures and purchase of goods and services, which are major items in primary expenditures, registered an increase of 9.1, 14.7 and 11.8 percent, respectively. Personnel expenditures and government premiums to SSI stand out as the main drivers of the surge in primary expenditures. On the other hand, expenditures on the purchase of goods and services, capital expenditures, capital transfers and lending items overshoot the initial subsidies for 2014 to a sizeable extent and stood considerably above the target. Most of the upsurge in lending resulted from the rise in loans extended to SEEs.

<table>
<thead>
<tr>
<th>Table 6.1.2.</th>
<th>Central Government Primary Expenditures (Billion TL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>Primary Expenditures</td>
<td></td>
</tr>
<tr>
<td>1. Personnel Expenditures</td>
<td>358.2</td>
</tr>
<tr>
<td>2. Government Premiums to SSI</td>
<td>96.2</td>
</tr>
<tr>
<td>3. Purchase of Goods and Services</td>
<td>16.3</td>
</tr>
<tr>
<td>4. Current Transfers</td>
<td>36.4</td>
</tr>
<tr>
<td>a) Duty Losses</td>
<td>148.7</td>
</tr>
<tr>
<td>b) Health, Pension and Social Benefits</td>
<td>3.8</td>
</tr>
<tr>
<td>c) Agricultural Support</td>
<td>71.8</td>
</tr>
<tr>
<td>d) Shares Reserved from Revenues</td>
<td>6.7</td>
</tr>
<tr>
<td>5. Capital Expenditures</td>
<td>39.9</td>
</tr>
<tr>
<td>6. Capital Transfers</td>
<td>43.8</td>
</tr>
<tr>
<td>7. Lending</td>
<td>7.7</td>
</tr>
</tbody>
</table>

| Source: Ministry of Finance. |

In 2014, the central government general budget revenues recorded a year-on-year increase of 9 percent (Table 6.1.3). In this period, tax revenues and non-tax revenues increased by 8.1 and 14.9 percent, respectively. Tax revenues remained slightly above the target for 2014, while non-tax revenues increased considerably above the target.

<table>
<thead>
<tr>
<th>Table 6.1.3.</th>
<th>Central Government General Budget Revenues (Billion TL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>General Budget Revenues</td>
<td></td>
</tr>
<tr>
<td>I-Tax Revenues</td>
<td></td>
</tr>
<tr>
<td>Income Tax</td>
<td>375.6</td>
</tr>
<tr>
<td>Corporate Tax</td>
<td>326.2</td>
</tr>
<tr>
<td>Domestic VAT</td>
<td>63.8</td>
</tr>
<tr>
<td>Domestic Tax</td>
<td>29.0</td>
</tr>
<tr>
<td>Domestic VAT</td>
<td>38.0</td>
</tr>
<tr>
<td>SCT</td>
<td>85.5</td>
</tr>
<tr>
<td>VAT on Imports</td>
<td>62.7</td>
</tr>
<tr>
<td>II-Non-Tax Revenues</td>
<td></td>
</tr>
<tr>
<td>Enterprises and Property Revenues</td>
<td>49.4</td>
</tr>
<tr>
<td>Interests, Shares and Fines</td>
<td>14.3</td>
</tr>
<tr>
<td>Capital Revenues</td>
<td>23.7</td>
</tr>
</tbody>
</table>

| Source: Ministry of Finance. |

A closer scrutiny of tax revenues reveals that income and corporate tax revenues displayed relatively high-rated increases in 2014, and the rate of increase in tax revenues declined from 9 percent to 5.5 percent when income and corporate tax revenues are excluded. This is largely attributed to the slowdown in tax collection based on domestic consumption. Among consumption-based tax revenues, the SCT and import VAT revenues rose by 6.6 and 2.6 percent, respectively, while domestic
VAT revenues increased merely by 0.3 percent. The details of SCT revenues show an increase by 21.6 and 8 percent in tax revenues on motor vehicles and tobacco products, respectively, whereas tax revenues on petroleum and natural gas products, which account for a large share of total SCT revenues, edged up by 1 percent.

The higher-than-targeted budget performance in 2014 was mainly driven by non-tax revenues. Non-tax revenues performed well as profit transfers from the CBRT and state banks to the budget as venture and ownership revenues remained above the target.

Having turned positive amid tax hikes in September 2012 as well as the base effect, the annual rate of change in real tax revenues started to slacken in the third quarter of 2013 and took negative values in the second quarter of 2014. Driven partly by the base effect and also by the relatively high collection in income and corporate taxes, real tax revenues increased slightly in the third quarter of 2014. However, real tax revenues remained unchanged on an annual basis in the last quarter (Chart 6.1.3). Among consumption-based tax revenues, domestic VAT and import VAT revenues receded by 9.7 and 6.6 percent in real terms, respectively, while the SCT revenues increased by 3.4 percent in the last quarter of 2014 (Chart 6.1.4).

### 6.2. Developments in the Public Debt Stock

Public debt stock indicators displayed a favorable outlook in 2014. The total public net debt stock and the EU-defined general government nominal debt stock continued to decline as a percentage of the GDP. The share of fixed-rate securities in the total debt stock increased, while the average maturity of the debt stock increased and the real cost of borrowing remained low in recent months.

The central government debt stock stood at 612 billion TL in 2014 (Chart 6.2.1). In the third quarter of 2014, the ratio of the total public net debt stock and the EU-defined general government nominal debt stock to GDP decreased by 2.2 and 2.1 points, respectively, compared to end-2013.
The share of fixed-rate securities in the total debt stock increased slightly from end-2013 (Chart 6.2.2). An analysis of the interest and exchange rate structure of domestic borrowing suggests that the share of fixed-rate borrowing registered a year-on-year increase in the first eleven months of 2014. The ratio of public deposits to average monthly debt service stands at 278.9 percent. The average term-to-maturity of the domestic debt stock rose to 55 months (Chart 6.2.3). Meanwhile, external borrowing by bond issues amounted to 6.3 billion USD, with the average maturity standing at 14.8 years (Chart 6.2.4).

The domestic debt rollover ratio stood at 81.3 percent as of November 2014 (Chart 6.2.5). Having plummeted from early 2009 to early 2011, the average real interest rate1, which rose in the second half of 2013 due to global financial fluctuations and the cautious monetary policy stance, has recently recorded low levels (Chart 6.2.6).

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1 Real interest rates are calculated by subtracting the 12-month-ahead CPI expectation of the CBRT Survey of Expectations from nominal interest rates (average annual compounded interest rate at the Treasury’s TL-denominated zero-coupon securities auction).
Chart 6.2.5.
Total Domestic Debt Rollover Ratio (Percent)

Chart 6.2.6.
Average Maturity and Interest Rates of Borrowing at Discount Auctions

Source: Treasury, CBRT.
7. Medium-Term Projections

This chapter summarizes the underlying forecast assumptions and presents the medium-term inflation and output gap forecasts as well as the monetary policy outlook for the upcoming 3-year horizon.

7.1. Current State, Short-Term Outlook and Assumptions

Financial Conditions

In the last quarter of 2014, global financial markets followed a volatile course. The policy divergence among advanced economies grew more evident and oil prices had diverse effects on energy importers and exporters, resulting in countries to differ across the globe. The fall in oil prices affected inflation and the current account outlook favorably, bearing positive effects on risk perceptions pertaining to the Turkish economy. Additionally, quantitative easing packages announced by the ECB and the Bank of Japan accompanied by the Fed’s statement of patience for policy rate hikes limited the adverse effects of these fluctuations on domestic markets.

Inflation

Annual consumer inflation stood well above the target at end-2014 with 8.17 percent (Box 7.1). The quarter-on-quarter fall in inflation by 0.7 points was mostly attributed to receding energy prices amid the fall in international oil prices. Moreover, the slight fall in food inflation due to the partial correction in unprocessed food prices also had a positive effect. In this period, core goods and services, which are among the underlying inflation trend components, also decreased, albeit marginally. Thus, the underlying inflation trend declined more markedly in the last quarter.

Consumer inflation increased by 0.8 points compared to end-2013 readings. This rise was driven by the depreciation of the exchange rate and food price hikes across the year. Furthermore, the elevated course of the services prices also constituted a negative effect.

Demand Conditions

In the third quarter of 2014, the GDP increased slowly by registering a 1.7 percent year-on-year growth. Accordingly, the output gap was revised slightly downwards for the second half of 2014 (Table 7.1.1). The sluggish growth in economic activity was mainly driven by the sluggish export growth due to geopolitical factors. Moreover, the agricultural sector registered a lower value added, which also restricted growth. The seasonally adjusted data suggest a strong increase in private consumption expenditures after two consecutive quarters, and private sector investments signaled for recovery. Thus, final domestic demand developments displayed a slight improvement in the third quarter. However, this rise proved milder than expected. In sum, aggregate demand conditions provided higher contribution to the decline in inflation in the third quarter.

In line with the weak course of exports, the annual rate of increase in industrial production slowed in the last quarter compared to the third quarter. Industrial production lagged behind the third quarter readings in the October-November period. Meanwhile, domestic demand indicators exhibited
no signs of further acceleration. Against this background, domestic demand continued with a trend of mild recovery, while external demand remained weak in the last quarter of 2014.

External demand developments signal increased downside risks. The persisting slowdown in the global economy and the expected fall in demand from oil exporting countries with reduced oil revenues due to decreasing oil prices may curb external demand. In fact, the export-weighted economic activity index displays some slowdown compared to the previous report. Accordingly, exports may contribute less to growth in the upcoming period (Chart 7.1.1).

Oil, Import and Food Prices

In the last quarter, oil and import prices stood far below the path projected in the October Inflation Report (Chart 7.1.2). Accordingly, the assumptions for average oil and import prices were revised considerably downwards for the medium term (Table 7.1.1). The direct and indirect effects of these developments pulled the end-2015 forecasts down by 0.6 points compared to the previous report. The end-2015 assumption for food prices was maintained as 9 percent.
Fiscal Policy and Tax Adjustments

Medium-term forecasts are based on the assumption that tax adjustments and administered prices are consistent with inflation targets and automatic pricing mechanisms. The medium-term fiscal policy stance is based on the MTP projections covering the 2015-2017 period. Accordingly, it is assumed that a tight fiscal stance will be implemented and the primary expenditures to GDP ratio will taper off during this period.

Table 7.1.1. Revisions to Assumptions

<table>
<thead>
<tr>
<th></th>
<th>October 2014</th>
<th>January 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Gap</td>
<td>-1.50</td>
<td>-1.60</td>
</tr>
<tr>
<td>Food Prices (Year-end Percent Change)</td>
<td>2015</td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td>2016</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>8.0</td>
</tr>
<tr>
<td>Import Prices (Average Annual Percent Change, USD)</td>
<td>2015</td>
<td>-3.3</td>
</tr>
<tr>
<td></td>
<td>2016</td>
<td>-</td>
</tr>
<tr>
<td>Oil Prices (Average, USD)</td>
<td>2015</td>
<td>92</td>
</tr>
<tr>
<td>Export-Weighted Global Production Index (Average Annual Percent Change)</td>
<td>2014</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>2015</td>
<td>2.4</td>
</tr>
</tbody>
</table>

7.2. Medium-Term Forecasts

Medium-term forecasts are based on the assumption that a cautious approach is adopted for the permanent recovery of the inflation outlook and the tight monetary policy stance will be maintained to keep the yield curve nearly flat. It is further assumed that the annual loan growth rate will continue to post plausible readings in 2015 on the back of the adopted macroprudential measures. Accordingly, inflation is expected to be, with 70 percent probability, between 4.1 percent and 6.9 percent (with a mid-point of 5.5 percent) at end-2015 and between 3.2 percent and 6.8 percent (with a mid-point of 5 percent) at end-2016. Inflation is projected to stabilize around 5 percent in the medium term (Chart 7.2.1).
In sum, the end-2015 inflation forecast, which was 6.1 percent in the October Inflation Report, was revised downwards by 0.6 points to 5.5 percent (Chart 7.2.2). This revision stemmed from the decline in commodity prices, particularly oil. On the other hand, the course of inflation in 2015 will be determined by the base effects. Base effects are projected to pull inflation down until August, and push it up for the rest of the year (Box 3.3). Accordingly, the annual inflation will continue to decrease until the third quarter and reach 5.5 percent in the last quarter with a slight uptick due to the base effects.

Output gap forecasts are displayed in Chart 7.2.3. Accordingly, the output gap path was revised slightly downwards compared to the October Inflation Report. This revision was caused by the sluggish course of national income for the third quarter of 2014 and the further negative external demand outlook.

Unpredictable price fluctuations in items beyond the monetary policy domain, such as unprocessed food and tobacco, are among major factors that cause a deviation in inflation forecasts. Hence, inflation forecasts excluding unprocessed food and tobacco prices are also publicly announced. Accordingly, inflation forecasts excluding unprocessed food, tobacco and alcoholic beverages are presented in Chart 7.2.4. The inflation indicator as measured above is expected to fall in the first three quarters of 2015, but pick up slightly by the final quarter due to base effects and stabilize around 4.5 percent in the medium term.
Comparison of the CBRT’s Forecasts with Inflation Expectations

It is critical that economic agents take the inflation target as a benchmark in their plans and contracts, and focus on the underlying trend of medium-term inflation, rather than temporary price fluctuations. Likewise, it is crucial that the CBRT’s current inflation forecasts be compared with inflation expectations of other economic agents to serve as a reference guide. Accordingly, 12-month and 24-month-ahead inflation expectations of the Survey of Expectations’ respondents are above the CBRT’s baseline scenario forecasts (Table 7.2.1). Furthermore, even though the fall in inflation expectations in the inter-reporting period signals a considerable improvement, the fact that the expectations still hover above the inflation target necessitates close monitoring of expectations and the pricing behavior.

### Table 7.2.1.
**CBRT Inflation Forecasts and Expectations**

<table>
<thead>
<tr>
<th></th>
<th>CBRT Forecast</th>
<th>CBRT Survey of Expectations*</th>
<th>Inflation Target**</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 Year-end</td>
<td>5.5</td>
<td>6.8</td>
<td>5.0</td>
</tr>
<tr>
<td>12-month-ahead</td>
<td>5.4</td>
<td>6.8</td>
<td>5.0</td>
</tr>
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<td>24-month-ahead</td>
<td>5.0</td>
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* January 2015 survey period results.
** Calculated by linear interpolation of year-end inflation targets for 2015-2016.
Source: CBRT.
Box 7.1 Reasons for the Changes in end-2014 Inflation Forecasts

Throughout 2014, the main drivers behind the revision to end-2014 inflation forecasts have been commodity and food prices as well as exchange rate developments. The drought in 2014 led to upward revisions in food prices, while uncertainties over global growth and the monetary policies of advanced economies led to heightened volatility in the exchange rate and commodity prices, particularly in oil. Inflation receded to 8.2 percent at end-2014, remaining below the October Inflation Report projection of 8.9 percent.

The CBRT is liable to inform the public by publishing reports as per the inflation targeting regime. Accordingly, this box gives a summary of the revisions to year-end inflation forecasts throughout 2014, along with the underlying reasons.

January Inflation Report

Inflation forecasts were formed under the assumption that the liquidity policy would be tight and the annual credit growth rate would near the reference value of 15 percent as of the second half of 2014 on the back of the adopted macroprudential measures. Inflation was envisaged to remain high in the first half of the year due to tax adjustments and the lagged effects of exchange rate developments. However, inflation was expected to trend downwards starting from the second half of the year with the tapering of these effects. Accordingly, the year-end inflation for 2014 was projected to be 6.6 percent in the January 2014 Inflation Report. Core inflation indicators were estimated to decline gradually starting from the second quarter of 2014.

April Inflation Report

In the last quarter of 2013, economic activity remained largely consistent with the outlook presented in the January Inflation Report. Final domestic demand accelerated slightly with the public demand, while private demand remained mild. Output gap forecasts were pulled slightly downwards due to tighter financial conditions since the previous reporting period as well as the leading indicators that signal a slowdown in the private final domestic demand.
Food price inflation for end-2014, which was assumed to be 8 percent in the January Inflation Report, was raised to 9 percent due to the unfavorable course of food prices in the first quarter. This revision pushed the 2014 year-end inflation forecast up by 0.3 points. On the other hand, assumptions for average oil and import price increases for 2014 were revised slightly upwards in the April Inflation Report compared to the previous Report and this revision raised the year-end inflation by 0.1 points. The pricing behavior deteriorated in the first quarter of 2014 due to the relatively high course of inflation and adversely affected the underlying inflation, adding around 0.3 points to the year-end inflation forecast.

**July Inflation Report**

Economic activity in the first quarter proved largely consistent with the projections of the April Inflation Report. The languishing private demand was compensated by the soaring public demand in this period, which resulted in the final domestic demand to remain flat. In view of the leading indicators on production and spending, economic activity in the second quarter was projected to follow the envisaged course in the April Inflation Report.

Consumer price inflation in the second quarter followed a rather negative course due to the rise in food prices, drought and the exchange rate developments, and increased by 0.8 points quarter-on-quarter to 9.2 percent. The second quarter saw higher oil prices and lower import prices than those projected in the April Inflation Report. Therefore, the average oil price assumption for 2014 was revised upwards, while that of import prices was revised downwards. As a result, due to the expected favorable course in import prices, waning cumulative effects of the exchange rate and the sluggish private final domestic demand, inflation was projected to decelerate and hit 7.6 percent at the year-end as envisioned in the April Inflation Report.

**October Inflation Report**

Economic activity lagged behind the projections of the July Inflation Report in the second quarter of 2014. Final domestic demand continued to slow down in the second quarter, while exports followed a weaker-than-envisioned course amid the developments in global growth. Consequently, the output gap was revised slightly downwards in the October Inflation Report (Chart 1). This revision pulled the end-2014 inflation forecast down by 0.1 points.

The third quarter witnessed lower-than-estimated prices in oil and imports compared to the July Inflation Report, leading to downward revisions in oil and import price assumptions for 2014. These revisions pulled the end-2014 inflation forecast down by 0.3 points (Table 1).

Owing to the high course of food inflation in the third quarter, the year-end food inflation assumption was raised from 9 percent to 12.5 percent. This revision added 0.8 points to the end-2014 inflation forecast. Price increases in electricity and natural gas by 9 percent, which were announced in early October, proved higher-than-projected in the July Inflation Report, leading to an upward revision in the year-end inflation forecast for 2014 by 0.2 points. Meanwhile, the deterioration in the pricing behavior added 0.7 points to the year-end inflation forecast. As a result, the inflation forecast for end-2014 was revised upwards by 1.3 points compared to the July Inflation Report and set as 8.9 percent (Chart 2).
Table 2. Revisions to end-2014 Inflation Forecasts

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Contributions to Forecast Revisions (Percentage Point)

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<td>Underlying Inflation</td>
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<td>Output Gap</td>
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* The difference between forecast and the actual inflation. The year-end inflation for 2014 was realized as 8.2 percent.
Source: CBRT.

Inflation Realization at end-2014

Developments in import prices in the last quarter of 2014 stood out as the main driver of the lower-than-projected inflation. This was especially fuelled by the developments in oil prices. The downward course of import prices accounts for the 0.6 points of the difference between the end-2014 forecast presented in the October Inflation Report (8.9 percent) and the actual inflation of 8.2 percent (Table 2).

Food and tobacco prices remained largely consistent with projections in the last quarter of the year. On the other hand, the pass-through from import prices to the respective services sectors proved more favorable than anticipated. This indicates that the fall in import prices has started to affect the pricing behavior positively. Thus, the 0.1 points of the difference between the October Inflation Report forecast and the year-end realization was driven by the improvement in the underlying trend.

In sum, the inflation forecast for end-2014 changed across quarters mainly due to food and import prices besides the underlying inflation (Chart 2). In line with its accountability principle, the CBRT has clearly informed the public about the revisions to inflation forecasts accompanied by the reasons via Inflation Reports, thus fulfilling the liability of accountability on a regular basis.
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5. Degree of Rigidity in Residential Rents in Turkey
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### Abbreviations

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<tr>
<th>Abbreviation</th>
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<td>AMA</td>
<td>Automobile Manufacturers Association</td>
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<tr>
<td>bbl</td>
<td>barrel</td>
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<td>Borsa Istanbul</td>
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<td>BRSA</td>
<td>Banking Regulation and Supervision Agency</td>
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<td>BTS</td>
<td>Business Tendency Survey</td>
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<td>Central Bank of the Republic of Turkey</td>
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<td>CDS</td>
<td>Credit Default Swap</td>
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<td>COICOP</td>
<td>Classification of Individual Consumption According to Purpose</td>
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<td>CPI</td>
<td>Consumer Price Index</td>
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<td>Domestic Producer Price Index</td>
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<td>The US dollar index</td>
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<td>European Central Bank</td>
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<td>Factor Model Based Core Inflation Indicator</td>
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<td>FOMC</td>
<td>Federal Open Markets Committee</td>
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<td>FX</td>
<td>Foreign Exchange</td>
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<td>Gross Domestic Product</td>
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<td>Standard and Poor’s</td>
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## 2015 Calendar for MPC Meetings, Inflation Report and Financial Stability Report

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