

## 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 over the next three-year horizon.

### 7.1 Current State, Short-Term Outlook and Assumptions

#### Changes in Key Forecast Variables

In the second quarter of 2018, consumer inflation accelerated to a level significantly higher than the April forecast (Table 7.1.1). The main drivers of the deviation of inflation forecasts were the markedly higher-than-expected import prices in Turkish-lira terms and food prices, particularly for unprocessed food (Charts 3.2.2 and 3.3.3). Price hikes spread across all subcategories, while indices for underlying trends recorded a notable deterioration. High inflation seems to weigh on pricing behavior through both expectations and backward-indexation.

As suggested by GDP and employment data released in June and backward revisions, in the first quarter of 2018 economic activity was slightly stronger than the April forecast. Accordingly, output gap forecasts are revised up for the first quarter of 2018. However, owing to the sharp depreciation of the Turkish lira and heightened uncertainty perceptions, financial market volatility increased recently, causing financial conditions to be tighter than expected. Thus, having estimated that demand conditions will slow at a faster rate in the second quarter relative to its April Inflation Report forecasts, the Bank has revised its output gap forecast down (Table 7.1.2). The output gap forecasts for the upcoming period are based on the assumptions that fiscal policy will provide increased contribution to rebalancing and that risk sentiment will improve gradually.

**Table 7.1.1: Changes in Key Forecast Variables\***

	2018-I	2018-II
Output Gap	1.8 (1.4)	0.4 (0.8)
Consumer Inflation (Quarter-end, Annual % Change)	10.2 (10.2)	15.4 (11.1)
Inflation excl. Unprocessed Food, Tobacco and Alcohol (CPIX) (Quarter-end, Annual % Change)	11.4 (11.4)	15.2 (12.9)

\* Numbers in parentheses denote the values from the April Inflation Report.

The tighter-than-expected financial conditions were largely due to both global conditions and domestic factors in the inter-reporting period. In the second quarter, mounting prospects for tighter monetary policies across advanced economies, particularly the US, created more volatility in global financial markets while the uncertainty over trade protectionism in the US dampened the risk sentiment towards emerging economies, causing country risk premiums to rise and portfolio flows to weaken. The outlook for macro indicators such as inflation and current account deficit and worries over the macro policy mix, along with geopolitical tensions, rendered Turkey more vulnerable to global fluctuations and caused financial indicators to diverge negatively from other emerging economies. Due to higher risk premium and lower portfolio flows, the depreciation and volatility in the Turkish lira were higher compared to the currencies of other emerging economies in this period.

On the credit market front, the spread between commercial loan rates and deposit rates appears to have widened in the second quarter while annual exchange rate-adjusted loan growth slowed steadily. The

Bank Loans Tendency Survey also indicates a tightening of lending standards for the second quarter, which may continue into the third quarter.

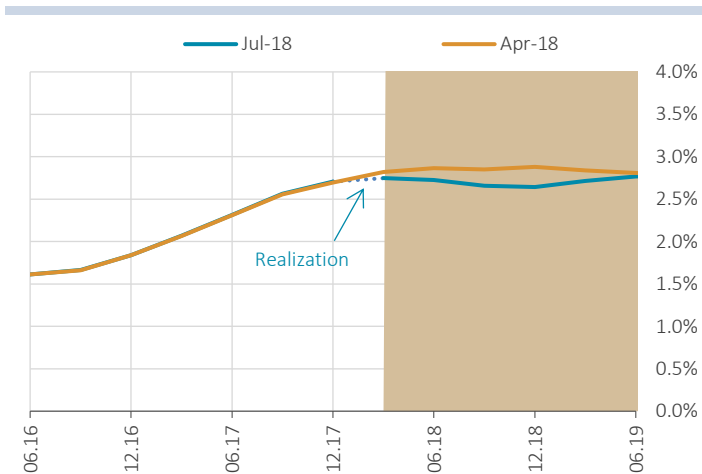
The risks posed to pricing behavior by unhealthy price formations in the market and elevated levels of inflation and inflation expectations required a more aggressive monetary tightening stance by the CBRT in comparison to the April projection. At the MPC meetings in May and June, the Bank hiked the policy rate by a total of 425 basis points and completed the simplification process regarding the operational framework of monetary policy on 1 June 2018 to improve the predictability of monetary policy and strengthen the monetary transmission mechanism. At its July meeting, the MPC kept the policy rate unchanged considering the need to monitor the slowdown in domestic demand and the lagged effects of monetary policy, but nevertheless stated that monetary policy may have to remain tight for an extended period due to risks to pricing behavior.

### Assumptions for External Variables

#### Global Growth

Data released in the inter-reporting period signal a more stable US growth but a slightly slowing growth momentum in the euro area for the first quarter of 2018. According to June surveys of Consensus Forecasts, growth forecasts for end-2018 are revised up for the US and down for the euro area, compared to the previous reporting period. Global growth outlook will likely remain favorable in the upcoming period, albeit somewhat moderating in the second quarter compared to the projections of the previous reporting period. Thus, the assumption for the annual growth rate of the export-weighted global production index, a measure for Turkey’s external demand, is revised slightly down for 2018 (Chart 7.1.1). Accordingly, Turkey’s external demand outlook for 2018 seems slightly weaker, largely due to the falling euro area demand, but remains promising.

**Chart 7.1.1: Export-Weighted Global Production Index\* (Annual Average % Change)**



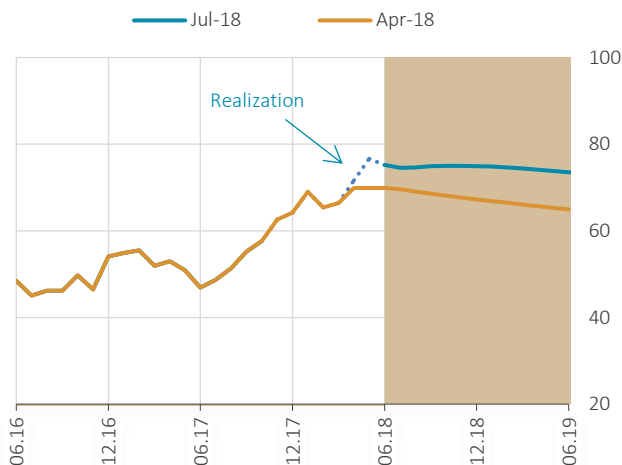
Sources: Bloomberg, Consensus Forecasts, CBRT.

\* Shaded area shows the forecast period.

#### Import Prices

Recent increases in crude oil prices on both spot and futures markets drove assumptions for crude oil prices in the April Inflation Report upwards from 68 USD to 73 USD for 2018 and from 65 USD to 73 USD for 2019 on average (Table 7.1.2, Chart 7.1.2). The assumptions for average annual increase in import prices in USD terms were revised upwards for 2018 and 2019 on account of the recent developments (Table 7.1.1, Chart 7.1.3).

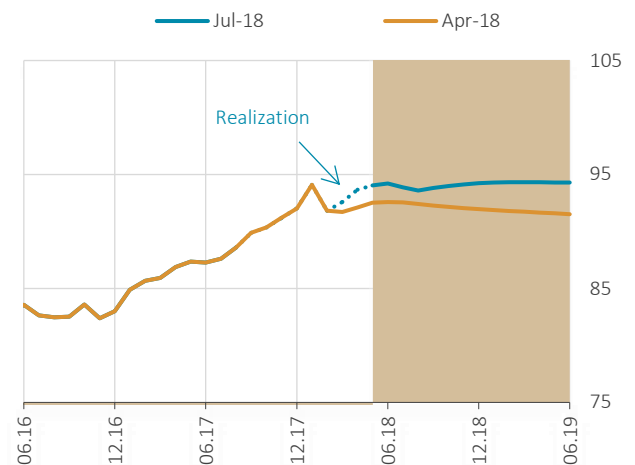
**Chart 7.1.2: Revisions to Oil Price Assumptions\* (USD/bbl)**



Source: Bloomberg, CBRT.

\* Shaded area shows the forecast period.

**Chart 7.1.3: Revisions to Import Price Assumptions\* (Index, 2010=100)**



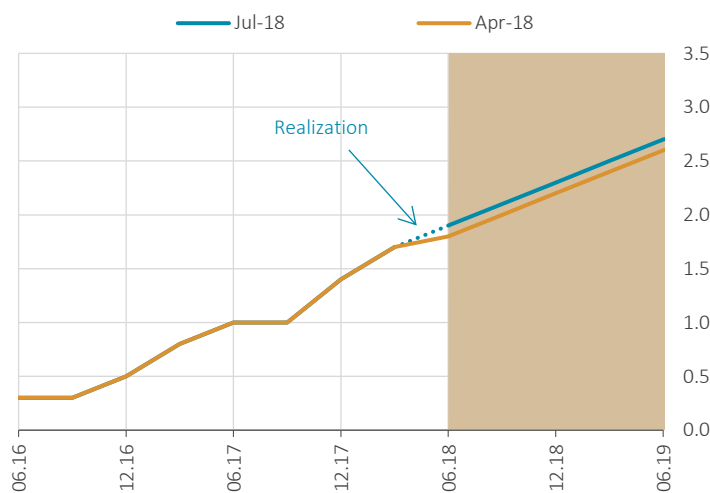
Source: Bloomberg, CBRT.

\* Shaded area shows the forecast period.

### Monetary Policies of Advanced Economies

The decisions taken at the Fed and ECB meetings that followed the release of the April Inflation Report hint at a slightly faster pace of global monetary policy normalization in comparison to the previous reporting period. The Fed raised its policy rate for the second time this year at its June meeting while the ECB decided to end its bond-buying program in December 2018 and affirmed that there would be no rate hikes until the summer of 2019. Therefore, the exogenous assumption for the foreign interest-rate path is revised slightly upwards compared to the April report (Chart 7.1.4). In the second quarter of 2018, growing protectionist measures in international trade hampered global risk appetite, hitting financial markets across emerging economies. Our forecasts are based on the assumption that the global risk sentiment will not worsen further over the upcoming period.

**Chart 7.1.4: 3-Month US Bond Rates\* (Quarter-end, %)**



Source: June Survey of Consensus Forecasts.

\* Shaded area shows the forecast period.

## Unprocessed Food Prices

Another external variable underlying medium-term forecasts is the path of unprocessed food prices. Unprocessed food inflation hit 23.2 percent at the end of the second quarter of 2018, significantly exceeding the assumptions cited in the April Inflation Report. This upsurge was mostly driven by supply shortages in some products and exchange rate developments. Unprocessed food inflation is assumed to converge to its historical averages and decline to 12 percent at the end of the year, as prices of some vegetables and fruits are expected to normalize with the supply of new products in the period ahead. Against this background, the food inflation forecast is revised upwards from 7 percent to 13 percent for end-2018, and from 7 percent to 10 percent for end-2019 (Table 7.1.2).

## Fiscal Policy, Administered Prices and Tax Adjustments

Fiscal policy remained supportive of economic activity. Some arrangements on administered prices and tax adjustments curbed further rise in inflation. By lowering proportional taxes on tobacco products as of July, any inflationary pressure from cigarette prices is avoided (Box 3.1). The new sliding-scale pricing implementation since May prevented spillovers from higher international oil prices and exchange rates into fuel prices. The Bank's forecasts reflect the assumption that the sliding-scale pricing methodology will remain valid until the end of the year. On the other hand, given the possible pass-through from exchange rates and oil prices to costs, it is assumed that energy items excluding fuel will witness price adjustments at higher rates in the third quarter than those envisaged in the April Inflation Report.

Medium-term projections are based on a framework entailing a fiscal policy focused on lowering inflation in the medium term and conducted in coordination with the monetary policy. Accordingly, our forecasts are based on a scenario in which the support of the public sector for economic activity is replaced by a neutral stance, particularly in 2019, the growth of spending and current transfers is therefore more subdued, and government-controlled prices and wages are set broadly consistent with inflation targets to reduce backward-indexation. The strong policy coordination to lower inflation and achieve macroeconomic rebalancing is envisaged to gradually improve the risk premium and uncertainty perceptions (Box 7.1).

**Table 7.1.2: Revisions to Assumptions\***

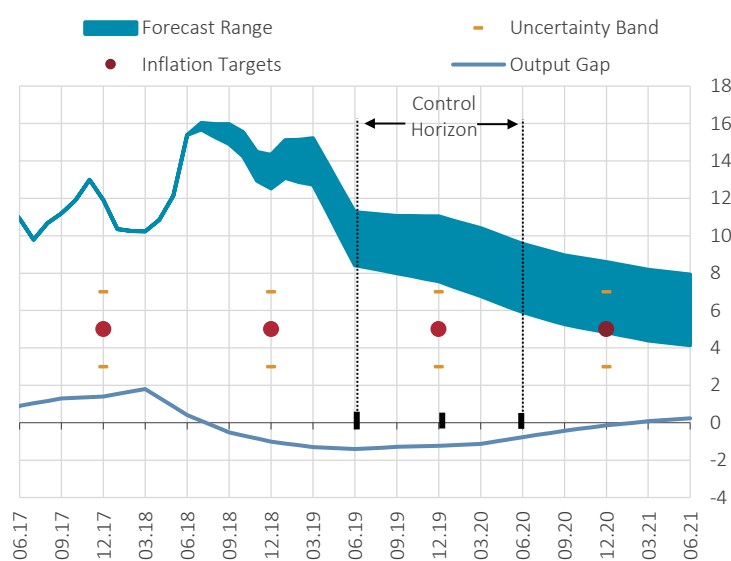
	2018	2019
Export-Weighted Global Production Index (Annual Average % Change)	2.6 (2.9)	2.7 (2.7)
Oil Prices (Average, USD)	73 (68)	73 (65)
Import Prices (USD, Annual Average % Change)	6.3 (4.8)	0.5 (-1.0)
3-Month US Bond Rates (Year-end, %)	2.3 (2.2)	2.9 (2.8)
Food Price Inflation (Year-end % change)	13.0 (7.0)	10.0 (7.0)

\* Numbers in parentheses denote the values from the April Inflation Report.

## 7.2 Medium-Term Forecasts

With a tight policy stance that focuses on bringing inflation down through enhanced policy coordination, inflation is projected to converge gradually to the target. Accordingly, inflation is projected to be 13.4 percent at the end of 2018 and then fall to 9.3 percent at the end of 2019 and to 6.7 percent at the end of 2020 before stabilizing around 5 percent over the medium term. With a 70 percent probability, inflation is expected to be between 12.5 percent and 14.3 percent (with a mid-point of 13.4 percent) at end-2018, between 7.6 percent and 11.0 percent (with a mid-point of 9.3 percent) at end-2019 and between 4.8 percent and 8.6 percent at the end of 2020 (with a mid-point of 6.7 percent) (Chart 7.2.1). Forecasts are based on an outlook that the tight monetary policy stance will be maintained for an extended period.

Chart 7.2.1: Inflation and Output Gap Forecasts\*



Sources: CBRT, TURKSTAT.

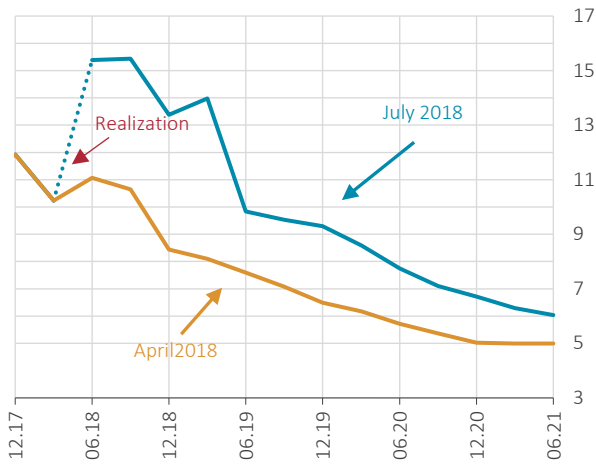
\*70 percent confidence interval.

In this regard, after rising to 15.4 percent in June, annual consumer inflation is expected to fall to 13.4 percent by the end of the year. This forecast means an upward revision of 5 points relative to the April Inflation Report (Chart 7.2.2). Of this rise, 2.3 percentage points came from the revision in import price assumption in TL terms because of the developments stemming from oil prices and exchange rates. Oil and exchange rate-driven cost pressures on non-fuel energy prices were also factored into this revision. Meanwhile, the assumption that the sliding-scale pricing implementation will remain in place until the end of the year curbs the fuel price-driven upward effect of these cost factors on the inflation forecast. Food inflation, which was revised upwards from 7 percent to 13 percent, contributes to the revision in end-year consumer inflation forecast by 1.4 percentage points. The high inflation forecast discrepancy in the second quarter coupled with the deterioration in pricing behavior is estimated to add 1.3 percentage points to the inflation forecast. The rise in the prices of alcoholic beverages on the back of the increased special consumption tax constitutes 0.1 percentage points of the total revision. The output gap estimates, which are revised downwards compared to the previous reporting period, are expected to decrease the end-2018 consumer inflation forecast by 0.1 percentage points.

Meanwhile, the inflation forecast for end-2019 has been revised upwards from 6.5 percent to 9.3 percent (Chart 7.2.2). Of this 2.8-point upward revision to the April Inflation Report forecast, 1.5 percentage points stemmed from the upward revision in oil and import price assumptions in TL terms, while 0.7 percentage points came from the food price assumption rising from 7 percent to 10 percent. While

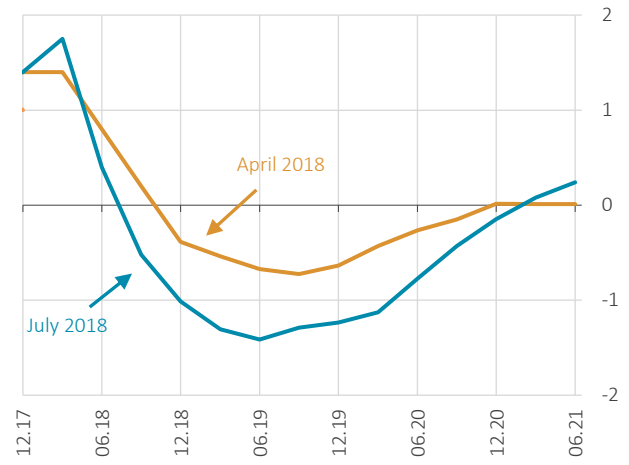
adjustment for the higher inflation outturn and deterioration in the underlying trend drove the forecast 1 percentage point higher, the downward revision to the output gap lowered the forecast by 0.4 points.

Chart 7.2.2: Inflation Forecast



Sources: CBRT, TURKSTAT.

Chart 7.2.3: Output Gap Forecast



Source: CBRT.

In the forecast framework described above, annual consumer inflation is projected to display a modest rise in the third quarter and to fall in the final quarter to 13.4 percent at the end of the year. Under the assumption that there will be no additional rise in Turkey’s risk premium driven by global or domestic developments, the disinflation process throughout 2019 will be supported by the tight monetary policy stance and the determined implementation of inflation-oriented policy coordination, as well as economic activity and loan growth converging to a milder path.

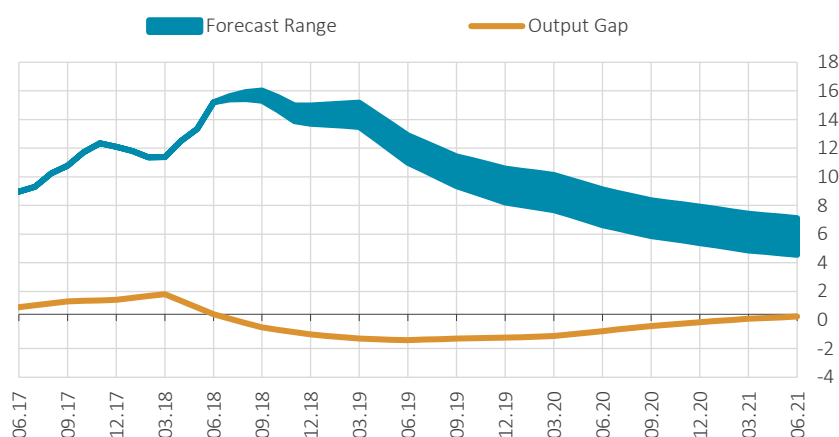
With a view to reduce the tradeoffs regarding disinflation at the current juncture and to enhance the resilience of the Turkish economy, and also considering the high levels of inflation and elevated global risks, the prospective contribution from fiscal and macroprudential policies to the rebalancing process is of critical importance (Box 7.1). The main outlook is based on a framework in which the negative divergence of risk perceptions regarding Turkey would be largely taken back so that depreciation pressures on the Turkish lira would be alleviated as a result of the macro policy mix formulated in a coordinated way prioritizing the disinflation process. Accordingly, a moderate appreciation trend was assumed in the real exchange rate. Moreover, while formulating forecasts, it was envisaged that this policy coordination would stop the extended deterioration in inflation expectations and contribute in particular to the gradual convergence of medium-term inflation expectations to the target.

The enhanced coordination between macroeconomic policies is judged to alleviate the decelerating impact of increased financial volatility and uncertainty perceptions on domestic demand and limit the tightening of financial conditions. Therefore, output gap estimates for the second and third quarters, which were revised downwards significantly compared to the April Inflation Report, are projected to trend down moderately in the fourth quarter. Economic activity is expected to start contributing to disinflation in the second half, as domestic demand decelerates. Output gap forecasts for 2019 are lower compared to the April Inflation Report, and imply an outlook where economic activity gradually recovers and converges to the underlying trend (Chart 7.2.3).

Unpredictable price fluctuations in items beyond the monetary policy domain, such as unprocessed food, alcoholic beverages and tobacco products, are among major factors that cause a deviation in inflation forecasts. Therefore, inflation forecasts excluding unprocessed food, alcoholic beverages and tobacco products are also publicly announced. Thus, Chart 7.2.4 shows inflation forecasts excluding unprocessed food, alcoholic beverages and tobacco products. Similar to headline consumer inflation, the CPI excluding

unprocessed food and tobacco is expected to remain elevated through 2018, trend down in 2019 and decline gradually to about 6 percent in the medium term.

**Chart 7.2.4: Forecast of Inflation Excluding Unprocessed Food, Alcoholic Beverages and Tobacco Products \***



Sources: CBRT, TURKSTAT.

\*70 percent confidence interval.

### Comparison of the CBRT's Forecasts with Inflation Expectations

At present, high level of inflation appears to have been triggered not only by cost increases and demand-side pressures, but deterioration in pricing behavior and inflation expectations also contribute to the economy-wide diffusion of the tendency to raise prices. Currently, 24-month-ahead inflation expectations of the CBRT Survey of Expectations' respondents are significantly above the Bank's forecasts (Table 7.2.1). As medium-term inflation expectations exceed the uncertainty band, it is essential that a monetary policy strategy designed to keep inflation expectations firmly anchored be implemented in coordination with other economic policies and that the joint determination to bring inflation down be strongly communicated. The support of fiscal policy for rebalancing and the adjustment of government-controlled prices and wages in line with inflation targets to reduce backward indexation will also contribute to better expectation management.

**Table 7.2.1: CBRT Inflation Forecasts and Expectations**

	CBRT Forecast	CBRT Survey of Expectations*	Inflation Target
2018 Year-end	13.4	13.9	5.0
12-Month Ahead	10.4	11.1	5.0
24-Month Ahead	7.5	9.5	5.0

Source: CBRT.

\* As of July 2018.

## 7.3 Key Risks to Inflation Forecasts and the Likely Monetary Policy Response

The outlook that the medium-term projections presented in the Inflation Report is based on the Monetary Policy Committee's judgments and assumptions. Nevertheless, various risks to these factors may affect the inflation outlook and necessitate changes in the monetary policy stance envisaged in the baseline scenario.

Risks to the medium-term inflation outlook are mostly on the upside. Risks that have the potential to change the outlook that the baseline scenario hinges on are as follows:

- Risks to the effectiveness of the coordination between the monetary and fiscal policies;
- A deterioration in pricing behavior and expectations formation;
- Weaker capital flows towards emerging market economies;
- Persisting volatilities in financial markets stemming from domestic factors;
- Further supply-side tightening in bank loans;
- Likely adverse impacts of global protectionist trade policies on economic activity, trade volume and prices;
- Rise in crude oil import prices;
- Sustained rise in food prices.

Table 7.3.1 summarizes how these risks might affect the inflation forecasts reported in the previous section.

A weaker coordination between monetary and fiscal policy than in the baseline scenario is regarded as a risk with respect to disinflation and macroeconomic rebalancing. This coordination has two pillars. Firstly, it is important that the administered prices, tax adjustments and incomes policies are formulated in a way to help diminish the backward-indexation behavior. The second pillar is to implement countercyclical fiscal policy to ensure the rebalancing of the economy. The demand-side pressures on prices may continue if the supportive impact of expansionary fiscal policy measures on domestic demand and economic activity persists. Amid further tightening in global financial conditions and also taking into account the current high levels of inflation and the current account deficit, this would lead to a climb in Turkey's risk premium, an increased pressure on exchange rates, and hence, a tighter monetary policy stance would be required to decrease inflation.

Another important risk to inflation outlook in the upcoming period would be further deterioration in the pricing behavior. Under a conjuncture of high inflation rates and risk premium level and in case of a failure in implementing the macroeconomic rebalancing process rapidly and effectively, inflation and exchange rate expectations may feed each other and undermine the disinflation process. In such a case, any further deterioration in the pricing behavior may necessitate a tighter monetary policy stance for longer in order to lower inflation.

Moreover, there are also risks stemming from global monetary policies and risk appetite developments that may lead to a decline in capital flows towards emerging economies and feed into exchange rate volatility. If unhealthy price formations and excessive volatility occur in the markets due to fluctuations in global liquidity conditions, the CBRT may continue using liquidity measures intended for providing the FX liquidity needed in the market in a timely, controlled and effective manner, and it may introduce additional tightening in monetary policy to curb the impact of these risks on inflation and inflation expectations.

Although the forecasts in the previous section are based on an outlook of moderately slowing economic activity, in the case of high market volatility and additional depreciation of the Turkish lira, firms' cash flows and balance sheets may be adversely affected and financial conditions may tighten further. Likewise, a significant deceleration in the rate of increase in house and commercial real estate prices may decrease the value of collaterals that the firms put up against loans and firms may be exposed to tighter credit conditions. Should the risks mentioned materialize, they could lead to a more significant slowdown in economic activity than envisaged. The policy mix that would be employed in such a case will be very important for preventing the financial conditions from falling into an unproductive tightening cycle. A strong coordination to be established between the financial sector policies addressing the balance sheet



effects in particular and the monetary policy focusing on inflation will enhance the effectiveness of the policies.

On a global scale, the likely adverse impact of protectionist trade policies on economic activity, trade volume and prices may have a downward impact on inflation in Turkey mainly through the external demand channel. On the other hand, if these trade policies cause a rise in global inflation, countries involved in trade protectionism may tighten their monetary policies and the global risk appetite may deteriorate. In this case, the likely depreciation in Turkish lira will necessitate a policy response proportionate to the impact of this depreciation on inflation.

There are also supply-side risks to food and crude oil prices that may affect inflation adversely. The CBRT's monetary policy response will be determined in such a way to curb a possible deterioration in inflation expectations and pricing behavior, taking into account the direct and secondary effects of respective risks on inflation.

**Table 7.3.1: Key Risks to Inflation Forecasts and Possible Impact Channels\***

Risk	Assessment of Risks as against the Baseline Scenario and Possible Impact on Inflation (↑   ↔   ↓)	Indicators Monitored
Risks to effective coordination between monetary and fiscal policies	<p><b>Demand Channel:</b></p> <ul style="list-style-type: none"> <li>The persisting expansionary effect of fiscal policy on domestic demand and economic activity may lead to continued demand pressure on prices. ↑</li> </ul> <p><b>Risk Premium:</b></p> <ul style="list-style-type: none"> <li>Insufficient coordination between fiscal and monetary policies, along with lack of contribution from fiscal policy to macroeconomic rebalancing, particularly the current account balance and inflation, at a desired level, may cause an increase in the country's risk premium. ↑</li> </ul> <p><b>Administered Prices and Tax Adjustments:</b></p> <ul style="list-style-type: none"> <li>Maintaining the practice of backward-indexation in government-set wages, other administered prices and tax adjustments may delay the disinflation process. ↑</li> <li>Terminating the administrative arrangement that alleviates the impact of crude oil prices and exchange rate fluctuations on fuel prices in an inflationary conjuncture may affect inflation adversely. ↑</li> </ul>	<ul style="list-style-type: none"> <li>Fiscal policy measures and MTP preparations</li> <li>Developments regarding the interaction of monetary and fiscal policies</li> <li>Domestic demand indicators</li> <li>Developments in expenditure items sensitive to fiscal policy measures</li> <li>Administered prices and tax adjustments</li> <li>Budget, current account and other balance of payments indicators</li> <li>Output gap forecasts</li> </ul>
Deterioration in pricing behavior and expectation formation	<p><b>Pricing Behavior and Expectation Channel:</b></p> <ul style="list-style-type: none"> <li>High levels of inflation may lead to a deterioration in pricing behavior, thereby strengthening backward-indexation. ↑</li> <li>Inflation and exchange rate expectations may give rise to a cycle of feeding each other, which may lead to weak anchoring of inflation expectations. ↑</li> </ul>	<ul style="list-style-type: none"> <li>Core inflation indicators</li> <li>Diffusion indices</li> <li>Survey of Expectations</li> <li>Stronger backward-indexation tendency in inflation expectations</li> </ul>

<p>Weakening of capital flows towards emerging economies</p>	<p><b>Global Monetary Policies:</b></p> <ul style="list-style-type: none"> <li>With inflation rising faster than anticipations, the Fed and ECB monetary policy tightening processes may evolve faster than expected. Accordingly, capital flows towards emerging economies may slow.</li> </ul> <p><b>Global Risk Appetite:</b></p> <ul style="list-style-type: none"> <li>Protectionist trade policies may trigger concerns over global growth and affect the global risk appetite adversely.</li> <li>Concerns on debt dynamics of some EU countries are likely to constrain the global risk appetite.</li> </ul>	<ul style="list-style-type: none"> <li>Global risk appetite indicators</li> <li>The course and composition of global capital flows, Turkey's share</li> <li>Developments in Turkish banks' borrowing costs</li> <li>Developments in loans received from abroad by firms</li> </ul>
<p>Persistence of financial market volatility caused by domestic factors</p>	<p><b>Risk Premium:</b></p> <ul style="list-style-type: none"> <li>Deterioration in risk perceptions towards Turkey due to the developments in current account and other factors that determine the risk premium or contagion effect that might arise from possible fluctuations in global financial markets may have an adverse impact on Turkey's risk premium.</li> </ul>	<ul style="list-style-type: none"> <li>Implied exchange rate volatilities</li> <li>Risk premium indicators</li> <li>Global risk appetite indicators</li> <li>Exchange rates</li> </ul>
<p>Further supply-side tightening in bank loans</p>	<p><b>Balance Sheet Channel:</b></p> <ul style="list-style-type: none"> <li>Banks may curb loan supply against the likelihood of financial difficulties that may be experienced by firms using FX loans due to fluctuations in financial markets. The increase in the number of insolvent firms may affect the country's risk premium negatively.</li> <li>A significant deceleration in the rate of increase in house and commercial real estate prices may decrease the value of collaterals that the firms put up against loans, and firms may be exposed to tighter credit conditions.</li> </ul> <p><b>Bank Lending Channel:</b></p> <ul style="list-style-type: none"> <li>The decline in banks' CARs might affect credit supply adversely.</li> </ul>	<ul style="list-style-type: none"> <li>Developments in loan growth with a breakdown by public and private banks</li> <li>Developments in loan and deposit rates</li> <li>NPL breakdown by sectors and loan types</li> <li>Yield spread on corporate bond issues</li> <li>Credit conditions (Bank Loans Tendency Survey)</li> <li>Financial and corporate sector balance sheets, financial flows</li> <li>House prices (nominal/real)</li> <li>House sales, construction sector value added</li> </ul>
<p>Adverse effects of global protectionist trade policies on economic activity, trade volume and prices</p>	<p><b>Foreign Demand:</b></p> <ul style="list-style-type: none"> <li>Protectionist trade policies may have a downward effect on the global growth outlook, primarily in the US and China. The fact that the above-mentioned additional customs tariff will also be implemented for European Union countries keeps the downward risks to the euro area economic activity alive. In such a case, a likely weakening in Turkey's foreign demand might reduce capacity pressures on sectors.</li> <li>Sectoral capacity pressures may be experienced if demand heads towards Turkey from countries exposed to protectionist measures in some sectors.</li> </ul> <p><b>Global Inflation and Financial Conditions:</b></p> <ul style="list-style-type: none"> <li>The monetary policy response to protectionism-driven inflation in related countries may tighten global financial conditions and lead to the depreciation of the Turkish lira.</li> </ul>	<ul style="list-style-type: none"> <li>Developments in protectionist trade policies</li> <li>Export-weighted global economic activity index</li> <li>Global trade volume and inflation developments</li> <li>Data on sectoral activity and prices</li> <li>Monetary policy response in advanced and emerging economies</li> </ul>

<p>Rise in crude oil prices</p>	<p><b>Import Prices:</b></p> <ul style="list-style-type: none"> <li>• Crude oil prices may rise if OPEC’s decision to increase oil production fails to remedy a possible drop in oil production due to the resumed US embargo on Iran. ↑</li> <li>• Heightened uncertainty due to geopolitical developments may spark upward speculative movements in crude oil prices in the short term. ↑</li> <li>• Risks regarding the weakening global growth are likely to cause a downward effect on crude oil prices in the medium term. ↓</li> </ul>	<ul style="list-style-type: none"> <li>• Crude oil prices</li> <li>• OPEC decisions</li> <li>• Arrangements on domestic fuel oil prices</li> <li>• Imports and current account balance</li> </ul>
<p>Ongoing rise in food prices</p>	<p><b>Unprocessed Food Prices:</b></p> <ul style="list-style-type: none"> <li>• Inflation expectations may be affected negatively due to a later-than-anticipated correction in unprocessed food prices that have recently soared relative to long-term trends. ↑</li> </ul>	<ul style="list-style-type: none"> <li>• Developments in food prices by categories and sub-categories</li> <li>• Deviation of unprocessed food prices from historical trend</li> <li>• Food Committee measures and their implications</li> </ul>

\* Each risk row of the table presents evaluations on the channel through which inflation forecasts may change, along with the direction of that change, if the respective risk materializes. The signs ↑, ↓ indicate the direction in which the risks influence the inflation forecast (upside and downside, respectively). The sign ↔ denotes circumstances where the net effect on the inflation forecast is not clear. Indicators used in monitoring the risks are listed in the right column.

## Box 7.1

### Interaction of Monetary and Fiscal Policies

This box presents a number of interaction channels and improvement areas to enhance the coordination between monetary and fiscal policies. While fiscal policy has recently provided a short-term contribution to disinflation through administered prices and tax adjustments (Box 3.1), additional accommodative fiscal measures introduced since the end of 2017, when economic activity was robust, put upward pressure on inflation through other channels. The introduction of additional accommodative fiscal measures since the end of 2017 when economic activity was robust has affected inflation through various channels even though administered prices have been set by the government in an attempt to control inflation. The first channel is where expansionary fiscal policies boost aggregate demand through the government expenditure multiplier. With the output gap remaining in positive territory recently, the increase in aggregate demand seems to have pushed inflation higher. The risk premium is another channel through which expansionary fiscal policy influences inflation. Maintaining an expansionary fiscal policy stance when monetary policy tightens causes the country's risk premium to rise and creates more pressure on exchange rates in an environment of tight global financial conditions along with elevated inflation and widened current account deficit (Box 5.1). To contain these risks and bring inflation back on a downward path, it is critical to strengthen the ongoing coordination between monetary and fiscal policies with a view to macro balancing and to openly communicate the relevant steps to be taken.

On the whole, the coordination between public policies seems to play a determining role in the country's internal and external imbalances through economic activity and inflation. In Turkey, the challenges of high inflation and a wide current account deficit call for attention to the effects of any domestic demand-boosting fiscal measures on inflation and the external balance. Regarding disinflation, the coordination between monetary and fiscal policies does not just mean aligning the inflationary impact of administered prices with the inflation target. The size of the fiscal policy effect on aggregate demand and the stage of the economic cycle also play an important role in this context.

Some of the government's economic policies are more structural in nature, aimed at increasing the country's long-term potential growth rate, whereas others are more conjunctural, aimed at minimizing cyclical fluctuations in the economy. Fiscal policy can serve both purposes while monetary policy only helps reduce fluctuations around the long-term trend. Thus, to minimize macroeconomic fluctuations, monetary policy and fiscal policy have to be coordinated.

Cyclical fiscal policies and monetary policy aim to maximize household welfare by affecting macroeconomic fluctuations.<sup>1</sup> Among observed variables, both the levels of inflation and output gap and their volatility (fluctuations) are influenced by these policies. The economic literature has studied how the objectives for which fiscal policy operates can also affect economic performance. For example, Büyükbaşaran, Çebi and Küçük Yeşil (2017) have found that incorporating inflation and output gap volatility into the design of fiscal policy delivers more successful results for the reduction of inflation and output gap volatility, relative to when only debt stability or output gap volatility is factored in. If both monetary and fiscal policies address the volatility in inflation and economic activity, two of the most fundamental indicators of macroeconomic stability, the costs associated with tradeoffs can be smaller and the policies in

<sup>1</sup> Examples of studies that have explored the optimal monetary and fiscal policy combination to maximize social welfare include Chari and Kehoe (1999), Schmitt-Grohe and Uribe (2004) and Benigno and Woodford (2003).

place can be more effective.

The first and most direct channel by which fiscal policy affects inflation is where expansionary fiscal policies boost aggregate demand through the government expenditure multiplier. Studies in the academic literature indicate that there are many determinants of an effective fiscal policy, and the state of the business cycle, the exchange rate regime, trade openness, the type of fiscal shocks, the size of automatic stabilizers, public fiscal stance, monetary policy actions, the soundness of the financial system and uncertainty can play a major role in determining the sign and size of the fiscal multiplier (Batini et al., 2014). There are also studies showing that the fiscal multiplier might be higher in countries with a lower debt level (Huidrom et al., 2016).

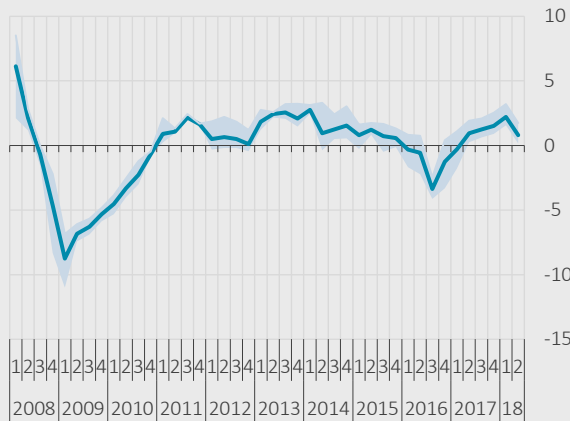
Thus, a conjunctural fiscal policy should be designed bearing in mind that fiscal multipliers may change in high or low growth episodes. Some studies in the academic literature have concluded that increased public spending might have a more substantial effect on GDP, particularly during periods of low growth/recession (Auerbach and Gorodnichenko, 2012, 2013; Baum and Koester, 2011; Çebi and Özdemir, 2016). Accordingly, in high growth episodes with a positive output gap and an economy showing signs of heating up, increased public spending will have smaller effects on growth but the resulting incurred cost (tax hike or debt increase) will rise. Therefore, it is important to use the existing fiscal space to revive economic activity and reduce unemployment rates in low growth episodes, and to curb government spending and restore budgetary discipline in high growth episodes. The fiscal discipline to be secured by cutting back on government spending is also believed to contribute to increasing domestic savings in countries with wide current account deficits.

The risk premium is another channel through which expansionary fiscal policy has a more indirect but a bigger potential impact on inflation. Charts 1 and 2 illustrate that despite the strong momentum achieved in the economy, the primary balance adjusted for the economic cycle that represents the discretionary component of the fiscal policy has been on the decline since 2016. In other words, in 2017, when the output gap was in positive territory (when the economic growth outperformed its potential), the fiscal policy remained accommodative. This situation pushed the country's risk premium to high levels by causing investors to question the coordination between public institutions in charge of achieving macroeconomic stability as it hampered the fight against inflation. In addition to such concerns, the onset of the deterioration in the current account deficit, budget deficits that started to present an unfavorable outlook despite being at manageable levels compared to peer economies, and exchange rate depreciation led by increasing risk premium have also been instrumental in pushing inflation up. As a matter of fact, Box 5.1 reveals that in times of tight financial conditions, deteriorations in components such as the current account balance, international reserves and budget balance cause Turkey's risk premium to diverge negatively from those of peer economies. Therefore, in addition to improving these components, communicating these developments in a more transparent and comparable fashion is considered important for management of expectations and control of risk perceptions.

There remain significant to-be-improved aspects in tax and spending policies to achieve fiscal policy implementation overseeing macroeconomic imbalances as well as debt stabilization, and to strengthen the coordination between monetary and fiscal policies. Regarding tax policies, a simpler and more efficient tax system, a more effective fight against unregistered economy and expansion of the tax base will substantially increase the income generation capacity of the government and will help increase the share of direct taxes in total tax revenues. Furthermore, consideration of predictability in the design of tax policies will affect spending and saving decisions of both public and private sectors positively.

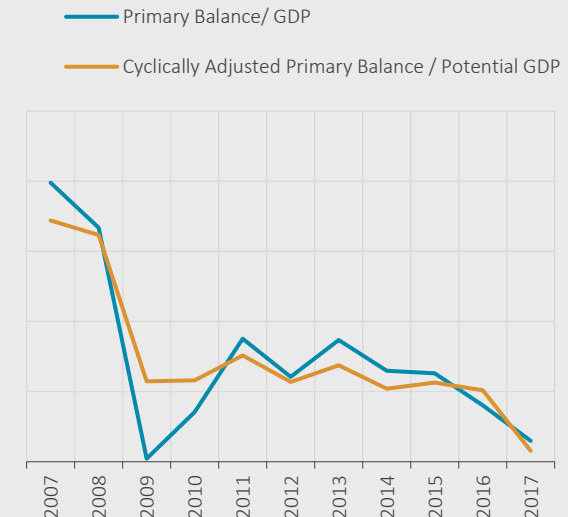
Given that tax revenues play an important role in funding government spending, it is essential to draw up an effective spending policy in addition to an effective tax policy. Besides, as the composition of government spending is also one of the determinants of macroeconomic equilibrium, increasing the efficiency in government spending and channeling public investments towards sectors that will boost the potential production capacity in the long run will contribute to social welfare. Finally, communication of the fiscal policy implementation to the public is important due to its effects on expectations management and the country's risk premium.

**Chart 1: Output Gap (Average and Minimum/Maximum Band)**



Source: CBRT calculations.

**Chart 2: Cyclically-Adjusted Primary Budget Balance (Percentage of Potential GDP, %)**



Sources: Ministry of Finance, CBRT calculations.

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