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

Inflation: Consumer inflation slowed to 15.7% in the second quarter of 2019, a rate that was lower than the April Inflation Report forecast. Meanwhile, core inflation amounted to 16.3%, slightly below the April projections (Table 7.1.1). In this period, domestic demand and monetary tightening supported the fall in inflation. The lower-than-expected consumer inflation was mostly driven by the plunging unprocessed food inflation and the energy inflation slowing amid falling prices of oil and administered energy items such as municipal water.

Economic Activity: Economic activity posted some recovery in the first quarter of 2019 as projected in the April Inflation Report. The moderate recovery in economic activity continued into the second quarter thanks to an increased contribution from net exports. Accordingly, output gap forecasts have been revised upwards for the second quarter (Table 7.1.1). Our output gap forecasts for the upcoming period are based on the assumption that net exports will continue to stimulate growth, financial conditions will get gradually less tight owing to an improved inflation outlook and a reduced country risk premium, and fiscal policy will be largely set in line with the process of macroeconomic rebalancing.

Table 7.1.1: Changes in Key Forecast Variables*

	2019-I	2019-II
Output Gap	-4.0 (-4.2)	-4.5 (-4.7)
Consumer Inflation (Quarter-end, Annual % Change)	19.7 (19.7)	15.7 (18.6)
B** Index Inflation (Quarter-end, Annual % Change)	17.7 (17.7)	16.3 (17.2)

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

** B index is the CPI excluding unprocessed food, alcohol, tobacco, energy and gold.

Financial Conditions: In the first quarter, many expected that it would take longer for advanced economies to end monetary policy normalization. However, these expectations were replaced by prospects of a monetary easing in the second quarter, leading to an uptick in the global risk appetite. As a result, the risk premia of emerging economies dropped whereas the risk premium for Turkey remained high until mid-June amid uncertainties and geopolitical tensions and saw a marked decline later, diverging positively from those of other emerging economies. Despite the partial recovery in the global risk appetite, loan growth slowed in the second quarter due to supply and demand-driven effects of uncertainties fueled by the economic outlook and geopolitical factors (Chart 5.2.5). In this period, the spread between commercial loans and deposit rates was flat (Chart 5.2.3).

Monetary Policy: At its MPC meetings in April and June, the CBRT maintained its tight monetary policy stance against the risks to the inflation outlook and kept the one-week repo auction rate constant at 24%. In addition, taking into account the developments in financial markets in May, the Bank temporarily suspended repo auctions and provided funds at the overnight lending rate of 25.5% for a short time. Meanwhile, on the basis that it would contribute to a deeper financial market and a more effective monetary policy, in June, primary dealer banks were provided with an overnight repo rate set at 100 basis

points below the policy interest rate. At the July MPC meeting, in view of an improving inflation outlook amid upbeat indicators for underlying inflation, supply-side factors and import prices, the Bank decided to move to a less tight monetary stance and lowered the one-week repo auction rate to 19.75%.

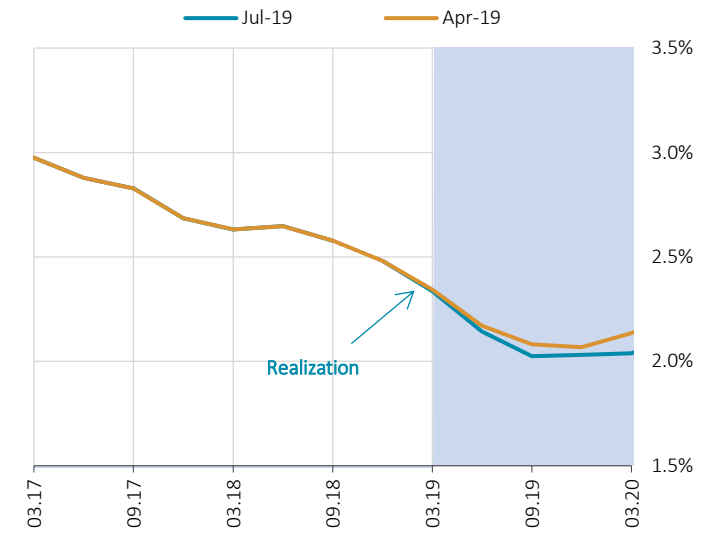
Inflation expectations falling on account of a tight monetary policy stance, the decrease in the country risk premium, and promising macroeconomic developments helped bring currency swap rates down from the previous reporting period across all maturities.

Assumptions for External Variables

Global Growth

Figures of the first quarter of 2019 reveal that the euro area saw a more pronounced economic slowdown and emerging economies grew at a much slower pace. Leading indicators for the second quarter of 2019 suggest that advanced and emerging economies continue to feed into the slowdown in the global economy amid re-escalating trade tensions and geopolitical risks. Over the upcoming period, the global economic outlook will be dominated by both these factors and the prospects for monetary policies of advanced economies. Thus, our medium-term forecasts have been built on a slight downward revision from April's forecast for the growth path implied by the export-weighted global production index, which is used as a measure for external demand (Chart 7.1.1).

Chart 7.1.1: Export-Weighted Global Production Index* (Y-o-Y % Change)

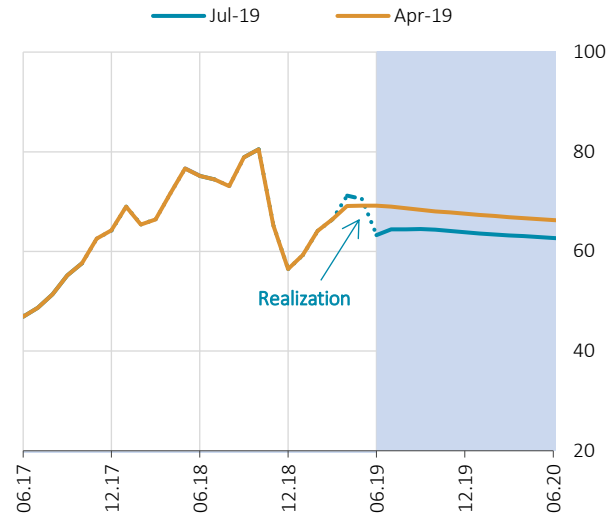


Sources: Bloomberg, Consensus Forecasts, CBRT.
* Shaded area shows the forecast period.

Import prices

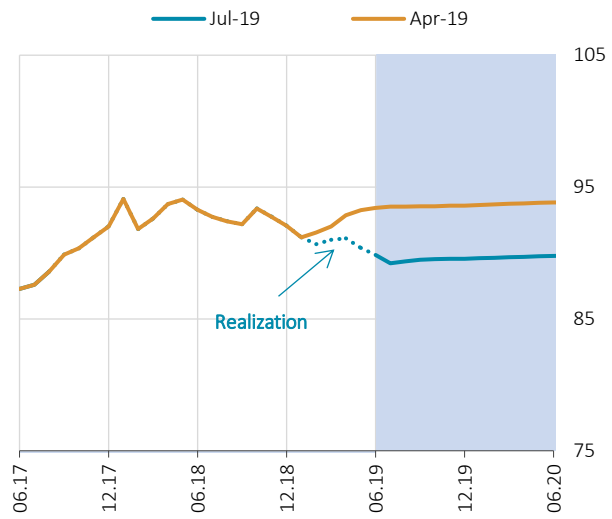
The annual average growth rates of international crude oil prices and USD-denominated import prices were below the assumptions of the April Inflation Report. Despite protracted adverse supply side developments, forecasts for crude oil prices have been revised downward amid muted global trade and economic activity. The average crude oil price assumption has been lowered to 65 USD for 2019 from 67.2 USD in the April Report and to 62.6 USD for 2020 from 66.2 USD (Table 7.1.2, Chart 7.1.2). Likewise, the assumption for the average annual increase in USD-denominated import prices for 2019 has also been revised downwards (Table 7.1.2, Chart 7.1.3).

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



Sources: Bloomberg, CBRT.
* Shaded area shows the forecast period.

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



Sources: TURKSTAT, CBRT.
* Shaded area shows the forecast period.

Monetary Policies of Advanced Economies

The elevated level of uncertainty surrounding global economic policies accompanied by the aggravated concerns over international trade caused major central banks to opt for stronger easing in their monetary policies, and sparked hopes of more monetary easing across advanced economies. At its June meeting, the Fed left its benchmark interest rate intact yet sent a strong signal of forthcoming rate cuts. Similarly, the ECB kept its interest rate constant but hinted at an even looser monetary policy by delaying a possible interest rate hike. In fact, the interest rates implied by end-2019 options were also lower for the UK and Japan than the forecasts reported in April (Table 2.3.1). Thus, the exogenous assumption for the foreign interest rate path underlying our medium-term forecasts has been revised downwards from the April Inflation Report. Our forecasts are based on the assumption that the global risk sentiment will not worsen further over the upcoming period.

Food Prices

Another exogenous variable underlying the medium-term forecasts is the path of unprocessed food prices. Unprocessed food inflation was significantly down from the previous reporting period thanks to vegetables prices falling on ample supply. On the other hand, processed food inflation remained relatively high due to exchange rates and price hikes across major inputs such as meat and dairy. In light of the processed and unprocessed food price developments balancing each other, the year-end food inflation forecast has been lowered to 15% for 2019 from 16% in the April Inflation Report, and left unchanged for 2020 and 2021 (Table 7.1.2).

Fiscal Policy, Administered Prices and Tax Adjustments

As projected in the previous Inflation Report, fiscal policy supported economic activity in the first half of 2019 through fiscal incentives and measures as well as increased public spending. Our estimates for the rest of the year are built on the assumption that the public sector will provide a more moderate contribution to economic activity than in the first half.

The second-quarter SCT hike on administered prices of alcoholic beverages and tobacco products puts an upward pressure on the inflation forecast for end-2019. However, there has been no major change in the year-end rising path of the lower-than-expected energy prices for the second quarter compared to the pervious Report, mainly due to cuts in municipal water tariffs and falling oil prices.

Medium-term projections are based on an outlook where macroeconomic policies are determined with a medium-term perspective and in a coordinated manner, with a focus on bringing inflation down. In this

context, our current projections are based on the assumption that fiscal policy will continue to contribute to macroeconomic rebalancing and that administered prices will be largely set to support disinflation. The robust policy coordination to lower inflation and ensure macroeconomic stabilization is critical for the continuation of the gradual improvement in risk premium and perceptions of uncertainty.

Table 7.1.2: Revisions to Assumptions*

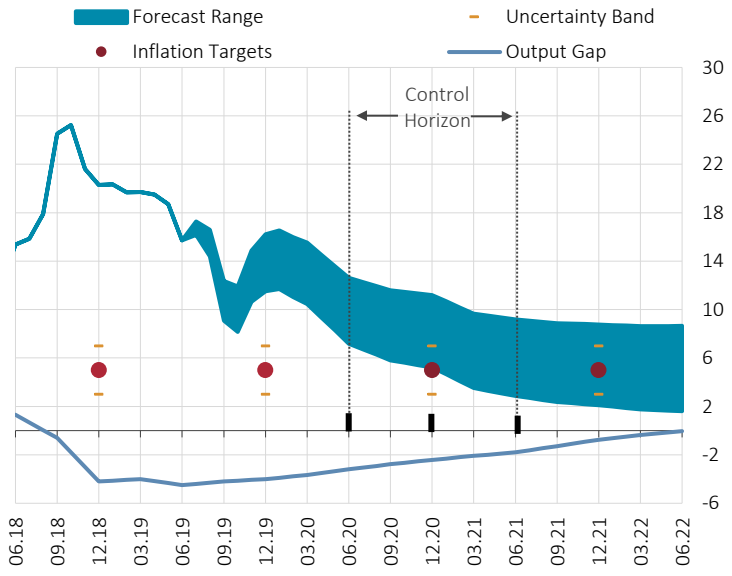
	2019	2020
Export-Weighted Global Production Index (Annual Average % Change)	2.03 (2.07)	2.14 (2.37)
Oil Prices (Average, USD)	65.0 (67.2)	62.6 (66.2)
Import Prices (USD, Annual Average % Change)	-3.06 (0.0)	-0.47 (0.8)
Food Price Inflation (Year-end % change)	15.0 (16.0)	11.0 (11.0)

* Numbers in parentheses indicate values in April Inflation Report.

7.2 Medium-Term Projections

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 13.9% at the end of 2019, 8.2% at the end of 2020 and 5.4% at the end of 2021, and to stabilize around 5% over the medium term. With a 70% probability, inflation is expected to be between 11.5% and 16.3% (with a mid-point of 13.9%) at end-2019, and between 5.2% and 11.2% (with a mid-point of 8.2%) at end-2020 (Chart 7.2.1).

Chart 7.2.1: Inflation and Output Gap Forecasts*



Sources: CBRT, TURKSTAT.
*70% confidence interval.

During the period after the April Inflation Report, inflation declined markedly, falling below the forecast band. Improved inflation expectations owing to the disinflation and a tight monetary policy stance as well as the downward revisions to import prices and food prices have a positive impact on the year-end inflation forecast compared to the previous reporting period. However, the mild recovery in the output gap outlook and the tax adjustments for alcoholic beverages and tobacco products push year-end inflation forecasts higher. As a consequence, the consumer inflation forecast for end-2019 was lowered to 13.9% from the 14.6% projected in April. Meanwhile, as downward and upward effects balanced out, inflation forecasts for 2020 were left unchanged. Factors underlying our forecasts are given in Table 7.2.1.

Table 7.2.1: Revisions to Year-End Inflation Forecasts for 2019 and 2020 and Underlying Reasons

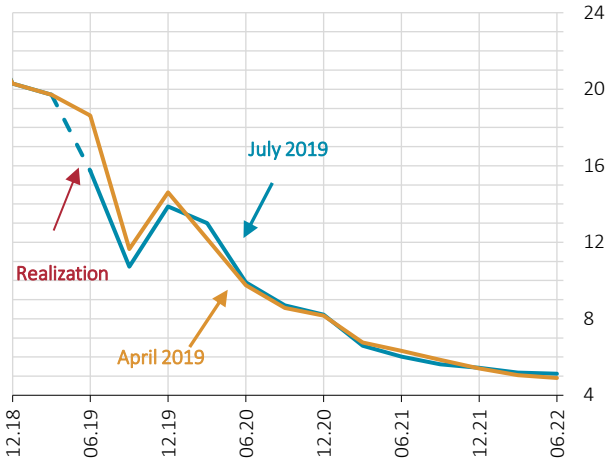
	2019	2020
2019-II (April 2019) Forecast	14.6	8.2
2019-III (July 2019) Forecast	13.9	8.2
Revision to Forecasts Compared to 2019-I	-0.7	0.0
Reasons for Forecast Revisions		
TL-Denominated Import Prices (incl. Exchange Rates, Oil and Import Prices)	-0.3	-0.2
Underlying Trend of Inflation/Revisions to Initial Point	-0.6	-0.1
Output Gap	+0.2	+0.3
Food	-0.2	-
Taxes and administered prices	+0.2	-

Source: CBRT.

The inflation forecast for end-2019 was revised down by 0.7 points (Chart 7.2.2). The second quarter's consumer inflation was down by 2.9 points from the April forecast, and the impending fall in the underlying trend of inflation brought the year-end inflation forecast down by 0.6 points. Moreover, TL-denominated import prices are projected to be lower, having a downward impact of 0.3 points on the inflation forecast. In addition, the decline in the food inflation forecast for end-2019 led to a 0.2 point fall in the inflation forecast. On the other hand, the SCT hike on alcohol and tobacco drives the end-2019 inflation forecast up by 0.2 points. Moreover, the slightly wider-than-expected output gap adds 0.2 points to the consumer inflation forecast (Chart 7.2.3).

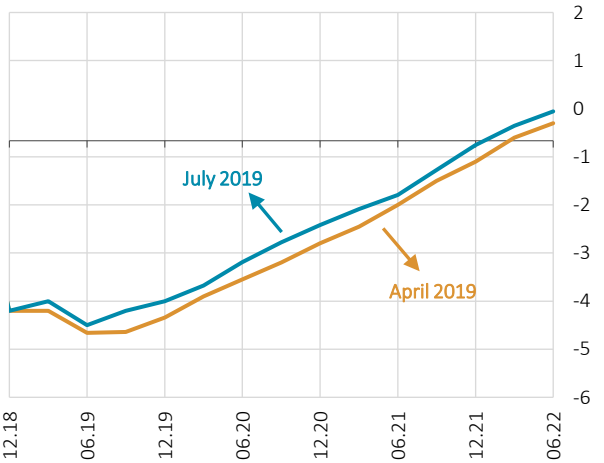
The inflation forecast for end-2020 is kept unchanged at 8.2%. Revisions to assumptions for oil and import prices are expected to bring end-2020 inflation down by 0.2 points. Additionally, the improvement in the underlying inflation trend is projected to pull the end-2020 inflation down by 0.1 point. However, with an upward revision from the previous reporting period, the output gap drives the end-2020 forecast up by 0.3 points.

Chart 7.2.2: Inflation Forecast



Sources: CBRT, TURKSTAT.

Chart 7.2.3: Output Gap Forecast



Source: CBRT.

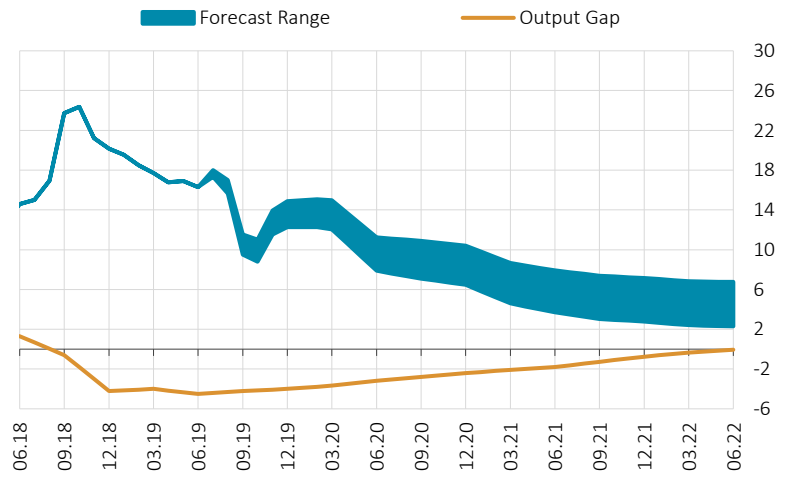
The above-mentioned forecasts are based on a framework in which global financial conditions will follow a moderate course and the recent gradual improvement in the country risk premium will continue in the upcoming period. Our projections rely on an outlook in which the extent of monetary tightness will be determined in a way to ensure the continuation of the disinflation process and its consistency with the target path[1]. In addition, it is assumed that the fiscal policy stance will be determined in coordination with monetary policy with a focus on price stability and macroeconomic rebalancing in the remainder of the year.

In addition to the improvement in the outlook for global financial conditions compared to the April Inflation Report period, the lower-than-expected inflation in the second quarter and the improvement in the country risk premium driven by the recovery in the current account deficit have reduced the volatility in financial markets. Along with the favorable impact of these developments on external financing and liquidity conditions of banks, the estimated increase in credit demand due to a less tight monetary policy is projected to support a gradual recovery in credit growth. Despite sluggish global growth, exports of goods and services are likely to remain on the rise thanks to improved competitiveness. Thus, some upward revisions were made to our output gap forecasts. Accordingly, the disinflationary contribution of demand conditions is projected to continue albeit with a moderate decline compared to the previous reporting period (Chart 7.2.3).

Maintaining a sustained disinflation process is key for achieving a lower country risk premium, lower long-term interest rates, and stronger economic recovery. For a successful disinflation process, it is critical to stop backward indexation and bring medium-term inflation expectations down in line with forecasts and targets by means of an enhanced disinflation-oriented policy coordination.

Unpredictable price fluctuations in items beyond the monetary policy domain, such as unprocessed food, alcoholic beverages and tobacco products, are a major factor causing deviation from inflation forecasts. For this reason, forecasts about the core inflation indicators are also publicly announced. Chart 7.2.4 shows inflation forecasts excluding unprocessed food, energy, alcoholic beverages, tobacco products and gold (B index). Annual inflation in the B index is projected to trend downwards and converge to the 5-percent target gradually in the medium term.

Chart 7.2.4: Annual B Index Forecast*



Sources: CBRT, TURKSTAT.
*70 percent confidence interval.

[1] A detailed assessment of the Bank's inflation forecasts and monetary stance is presented in Box 7.1.

Comparison of the CBRT's Forecasts with Inflation Expectations

For the disinflation to be ongoing, the pricing behavior and inflation expectations have to improve. Currently, 12 and 24-month ahead expectations of the respondents of the Survey of Expectations hover above those projected by the CBRT (Table 7.2.2). With medium-term expectations lying outside the uncertainty band around the inflation target, all macroeconomic policies should be well-coordinated with monetary policy to bring inflation down. To better manage expectations, it is necessary that monetary policy remain prudent and government-controlled prices and taxes be set in line with inflation targets to reduce backward indexation.

Table 7.2.2: CBRT Inflation Forecasts and Expectations

	CBRT Forecast	CBRT Survey of Expectations*	Inflation Target
End-2019	13.9	15.0	5.0
12-Month Ahead	9.5	13.9	5.0
24-Month Ahead	5.9	11.0	5.0

Source: CBRT.

* Data from the July Survey of Expectations.

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

The outlook underlying the medium-term projections presented in the Inflation Report is based on the Monetary Policy Committee's judgments and assumptions. Major upward and downward macroeconomic risks that may lead to a change in the baseline projections and the associated monetary policy stance are as follows:

- Fluctuations in the country risk premium,
- Elevated levels of inflation expectations,
- Risks to the coordination between monetary and fiscal policies (administered prices and tax adjustments),
- Risks to food prices,
- Delay in the credit market recovery,
- Continued weakening in the global growth outlook,
- Uncertainty over the course of capital flows to emerging market economies,
- Volatility in international crude oil prices.

Evaluations of how and through which channel these risks may affect the inflation forecasts cited in the previous section are summarized in Table 7.3.1.

Although Turkey's risk premium diverged negatively from other emerging market economies in the second quarter of the year due to domestic uncertainties and geopolitical factors, it has declined rapidly since mid-June owing to reduced uncertainties, the tight monetary policy stance, and the improvement in macroeconomic indicators. However, country risk premium and exchange rate volatility hovering at high levels as well as lingering global uncertainties and geopolitical risks keep the upside risks to the medium-term inflation outlook alive. Determining the degree of monetary policy tightness in a way that will keep the disinflation process on track with the target path carries great importance for achieving a sustained improvement in the country risk premium and exchange rate volatility as well as for a stronger recovery in the economy. The Central Bank will continue to use all available instruments in pursuit of price and financial stability objectives, taking into account all macroeconomic indicators including inflation and economic activity in particular. In this regard, in order to support the effectiveness of monetary policy and minimize potential inflation-growth trade-offs, it is deemed crucial that macro-financial policies are

determined with a focus on reducing financial volatility and risk premium, and that the predictability of fiscal policy continues to be reinforced.

Despite the restrictive impact of domestic demand conditions on inflation, elevated levels of inflation continue to pose an upside risk to the inflation outlook in the upcoming period. Anchoring inflation and exchange rate expectations is crucial for the effectiveness of monetary policy in the current period.

Another factor that may affect the short-term inflation outlook is the course of food prices. While accumulated cost pressures keep the upside risks to processed food prices alive, they may also exert an additional pressure on catering services prices through periodic factors. On the other hand, projections for unprocessed food inflation may be revised downwards depending on the future course of the correction in this group's inflation driven by the increased supply of vegetables due to favorable weather conditions. Against this background, the risks that the course of food prices may pose to the short-term inflation outlook are considered to be balanced.

To keep the disinflation process on track with the target path envisaged in the Report, in addition to the support of macroeconomic rebalancing process to disinflation under the monetary and fiscal policy coordination, it is also important that the backward indexation behavior in administered price and tax adjustments is softened with a view to anchoring expectations and decreasing inflation inertia. The medium-term projections in this Report are based on a fiscal policy stance that focuses on disinflation and macroeconomic rebalancing, and supports the monetary policy transmission mechanism. Accordingly, the projections rely on an outlook where the budget deficit remains under control for the rest of the year. Moreover, it has been assumed that the administered price and tax adjustments will be determined in a way to support the disinflation process and that they will be broadly consistent with the inflation expectations and targets. In case the fiscal policy significantly deviates from this framework, the envisaged improvement in the risk premium and inflation expectations may be delayed, and the monetary policy stance may be revised if the medium-term inflation outlook is also adversely affected.

In the second quarter of 2019, banks' domestic funding conditions tightened, leading them to reflect the increased Turkish lira funding costs to loan rates. Due to these developments and the expectations for the overall economic outlook, loan growth rates lost pace in this period. A decrease in the degree of monetary policy tightness and the introduction of accommodative credit packages are deemed to be the factors that will support the normalization in credit conditions and credit demand in the upcoming period. On the other hand, if downside risks to economic activity materialize, the recovery in the credit market might be delayed by both supply and demand. The speed, scope and sustainability of the normalization in credit conditions will be important for the economic activity outlook.

Besides geopolitical developments, ongoing uncertainties over the global economic activity pose a downside risk to domestic growth via capital flows and foreign trade channels. The persistent trade tension between the US and China, political uncertainties regarding Brexit, and Middle East-based geopolitical developments cause the uncertainty over global economic policies to remain elevated and the vulnerabilities in global financial markets to continue. All these factors keep the downside risks to global economic activity alive.

If major central banks opt for stronger easing in their monetary policies, portfolio flows to emerging economies might be higher in the upcoming period. On the other hand, the high level of global uncertainties, lingering geopolitical problems, rising protectionism, and vulnerabilities peculiar to emerging economies stand out as major downside risk factors for portfolio flows to these economies.

In case of excessive volatility in markets due to global liquidity conditions and fluctuations in risk perceptions, measures might be taken to provide liquidity to the market in a timely, controlled and effective manner. Moreover, the impact of these risks on inflation as well as on inflation expectations will be monitored, and a monetary policy response will be given when necessary.

It is assessed that the downside risks to the long-term course of crude oil prices have become apparent, whereas risks to other commodity prices are balanced. Despite OPEC's decision in July to extend the production cuts, the continuation of geopolitical problems on a global scale, and the ongoing deceleration in US shale oil production, the downside risks to crude oil prices have strengthened due to the high level of uncertainty over global trade and the unfavorable outlook in economic activity. Industrial metal prices displayed an uptrend towards the end of the second quarter due to China's introduction of an additional program to support economic growth and continued supply cuts in industrial metal markets. However, downside risks to industrial metal prices also remain strong due to concerns over the course of global economic activity. On the other hand, vulnerabilities in emerging markets, the easing in monetary policies of advanced economies, and increased economic and geopolitical uncertainties on a global scale make upside risks to precious metal prices evident. Against this background, the monetary policy response will be determined in a way to keep the likely impact of energy and producer prices-driven risks on inflation expectations and pricing behavior under control.

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
Fluctuations in the country risk premium	**Pricing Behavior and Expectations Channel:** • In case of upward movements in risk premium and exchange rate volatility, expectations for inflation and the exchange rate may feed each other and make the disinflation process more difficult. ↑ **Financial Conditions and Demand Channel:** • In case of upward movements in risk premium and exchange rate volatility, an additional tightening in financial conditions may lead to a more evident slowdown in economic activity. ↓	• Risk premium indicators • Global risk appetite indicators • Expectations of inflation and exchange rates • Implied volatility of exchange rate • Domestic macroeconomic indicators that may affect country risk premium • Financial conditions • Credit market indicators • Various output gap indicators • Leading indicators of demand and economic activity • Financial and real sector balance sheets • Capital flows
Elevated levels of inflation expectations	**Pricing Behavior and Expectations Channel:** • Elevated levels of medium-term inflation expectations, as well as high degree of inflation uncertainty, imply that upward risks on pricing behavior prevail. ↑ • Uncertainties over the speed and extent of the pass-through of accumulated costs to prices in different sectors will be decisive on the inflation path, although these risks have decreased compared to the previous report period. ↑	• Key inflation indicators • Diffusion indices • Indicators pertaining to backward indexation behavior in inflation expectations • Distribution of inflation expectations • Inflation uncertainty measures • Inflation indicators by sectors and sub-sectors • Various output gap indicators • Survey and market-based expectations of inflation and exchange rate

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

Uncertainties pertaining to backward indexation behavior	**Pricing Behavior and Expectations:** • The strong backward-indexation mechanism in pricing and wages may limit sensitivity of inflation to business cycles and lead to slower disinflation. • In case labor cost pressure cannot be offset by productivity increases, the impact on consumer prices may be stronger.	↑ ↑	• Real unit labor costs • Real wage and earning indices • Partial labor productivity and total factor productivity • Private sector wage formation • Consumer spending
Risks to effectiveness of monetary and fiscal policy coordination	**Administered Price and Tax Adjustments:** • The disinflation process may be delayed, should the path of administered prices and tax adjustments significantly exceed the path envisaged in this Report. **Risk Premium:** • A more apparent deterioration in the budget balance might increase Turkey's risk premium. **Demand and Expectations Channel:** • The disinflationary effect from demand conditions may be reduced, should direct or indirect supportive impact of fiscal policy on domestic demand and economic activity be stronger than envisaged in the current Inflation Report.	↑ ↑ ↑	• Administered Price and Tax Adjustments • Envisaged fiscal policy measures as part of the New Economy Program and the 2019 budget • Developments in spending items sensitive to fiscal policy measures • Quasi-fiscal policy measures supporting economic activity • Credit growth in public and private banks • Government budget and public debt stock indicators • Estimates of the structural budget balance • Domestic demand indicators • Output gap indicators
Risks regarding food prices	**Food Prices:** • The correction in unprocessed food inflation due to favorable weather conditions that increase vegetable supply pose a downside risk. • Accumulated cost pressures increase upside risks to processed food prices in particular. • An additional pressure may be observed in food and catering services due to periodic factors.	↓ ↑ ↑	• Developments in food prices by categories and sub-categories • Supply-side developments in agricultural production • Deviation of unprocessed food prices from historical trend • Food Committee measures and their implications
Sustained weakness in credit market	**Balance Sheet Channel:** • Risks regarding real sector's balance sheets and uncertainties in cash flows might have a restraining effect on the credit supply. • Deceleration in the rate of increase in residential 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. **Credit Demand:** • Despite reduced monetary tightness, the weakness in the credit market might continue if the expected recovery in credit demand is delayed. **Bank Lending Channel:** • Decline in banks' profitability and CARs may affect credit supply adversely.	↓ ↓ ↓ ↑	• Credit use by firms • Interest rates of deposits and loans • NPL breakdown by sectors and loan types, NPLs, bad cheques and protested bills • Credit Conditions (Bank Loan Tendency Survey) • Indicators regarding credit demand • Financial sector and real sector balance sheets, cash flows • Residential and commercial real estate prices (nominal/real) • House sales, construction sector value added

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

	Expectations and Risk Premium Channel: • The interaction between firms' balance sheets and bank asset quality may affect inflation adversely via risk premium and capital flows.	↑	• Borrowing costs of Turkish banks • Firms' external borrowing
Global growth outlook and uncertainties over capital flows to EMEs	**Foreign Demand and Global Financial Conditions:** • Increasing uncertainties over global economic activity outlook keep downside risks on domestic economic activity alive via capital flows and foreign trade channels. **Global Risk Appetite:** • If major central banks opt for stronger easing in their monetary policies, portfolio flows to emerging economies in the upcoming period might be higher in the upcoming period. • However if the monetary easing in developed economies is more limited than expected, downside risks on portfolio flows to emerging economies might increase. • Global risk appetite may be curbed by the US-China trade dispute, political uncertainties regarding Brexit and geopolitical problems concerning the Middle East.	↓ ↓ ↑ ↑	• Global inflation and growth indicators and forecasts • Export-weighted global economic activity index • Global economic policies and trade policies • Global risk appetite indicators • Trends and composition of global capital flows, Turkey's share
Fluctuations in crude oil and import prices	**Import Prices:** • Despite adverse supply side developments, downside risks to crude oil prices have increased due to the high level of uncertainty over global trade and the unfavorable outlook in economic activity. • Industrial metal prices displayed an uptrend towards the end of the second quarter. However, downside risks to industrial metal prices also remain strong due to concerns over the course of global economic activity.	↓ ↔	• Crude oil and other commodity prices and supply-demand balance • Global trade policies • OPEC's decisions • Adjustments in domestic fuel oil prices • Imports and current account balance

* 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

Central Bank's Inflation Forecasts and Monetary Policy Stance

Since 2006, the Central Bank of the Republic of Turkey (CBRT) has published its inflation forecasts and the basic assumptions underlying these estimates through inflation reports in the framework of the inflation-targeting regime. In this box, we discuss role of the central bank's inflation forecasts within the inflation-targeting regime and their relationship with the monetary policy stance in terms of the CBRT's experience.

Inflation Forecasts in the Inflation Targeting Regime

The main features of inflation targeting regime are: the public announcement of numerical inflation targets, monetary policy guidance by the inflation forecasts, and increased transparency and accountability (Svensson, 2010). Inflation-targeting central banks determine the monetary policy strategy to hit the inflation target while monitoring the fluctuations in economic activity. Therefore, inflation targeting provides a "flexible" monetary policy framework.

As monetary policy decisions affect inflation with a time lag, central banks implementing the inflation-targeting regime formulate their monetary policy based on inflation forecasts. In other words, forecasts play an important role in the inflation-targeting regime, and consistency between forecasts and inflation targets is considered for policy decisions. That is why the inflation-targeting regime is also frequently called "inflation forecast targeting" (Svensson, 1997). Inflation forecast targeting means determining a policy interest path that keeps the inflation forecasts (future inflation) in line with the targets. In this context, it is important for the public to understand how inflation forecasts are formed and what monetary policy stance underlies these forecasts.

The monetary policy instruments used to ensure price stability have limited control over current inflation due to the lagged effects of pricing decisions, contracts and unpredictable shocks in previous periods. Moreover, monetary policy instruments may affect inflation with a certain lag within the monetary transmission mechanism. In addition, as the term over which the forecasts will converge to the targets (policy horizon) may vary depending on the conjuncture, how far inflation and output are from equilibrium values, and the magnitude and type of shocks to the economy, "medium-term" forecasts are taken into consideration when formulating and interpreting the policy stance.

In order to understand and interpret the medium-term projections correctly, one has to understand the two-way dynamic interaction between monetary policy decisions and inflation forecasts: on the one hand, all current and future monetary policy stance has to be attuned to alter inflation towards the inflation target over the monetary policy horizon and keeping it there; on the other hand, inflation is affected by monetary decisions via the monetary transmission mechanism. Therefore, monetary policy decisions have to be endogenous in medium-term inflation projections. In other words, macroeconomic aggregates and monetary policy affect each other in dynamic and multifaceted ways that medium-term projections require a general equilibrium approach. Hence, in our framework every medium-term projection includes an endogenous monetary policy path in the background. When inflation significantly deviates from the target, a smooth medium-term inflation projection path is generated with an endogenous interest rate path in which inflation takes a while to converge to its targeted level as it takes time for the monetary transmission mechanism to affect inflation. From this perspective, the medium-term projection path can be interpreted as an interim target path towards the final inflation target level (Svensson, 2010).

The CBRT Experience

Since the official declaration of the inflation targeting regime in 2006, the CBRT has announced its medium-term inflation projections in quarterly Inflation Reports. These projections involve an endogenous monetary policy decision stance in the background. In Inflation Reports, inflation forecasts as well as output gap projections are published directly through fan charts and numerical figures, whereas the underlying endogenous monetary policy stance is described by indirect verbal statements. Moreover, some of the risk factors that may affect the future path of both baseline inflation forecasts and monetary policy rates are discussed, and some possible monetary policy responses are outlined.

When medium-term projections are generated, all shocks and external factors, all macroeconomic policies and all dynamic interrelations of monetary aggregates are analyzed thoroughly using the Forecasting and Policy Analysis System. Although future shocks and external factors cannot be estimated perfectly, basic assumptions about those can be established with the help of available data and expert judgements. Between two Inflation Reports, these basic assumptions are constantly corrected as new data is released and a new analysis is conducted by the CBRT experts using the new information set. The new endogenous monetary policy path and new medium-term inflation forecasts are constructed based on all interim updates to basic assumptions and all current and future economic policies. The updates to the monetary policy path and/or medium-term projections depend on the type, magnitude and persistency of new shocks. Two concrete examples will be presented below to illustrate what this means.

For instance, in case of a temporary positive supply shock to unprocessed food such as an unexpected increase in crops due to favorable weather conditions or productivity growth, which are the factors outside the domain of monetary policy, unprocessed food prices decreases. That might drive consumer inflation below the projections of the former reporting period in the short run. When revising the projections, considering the fluctuation is temporary and monetary policy decisions have limited impact on unprocessed food prices, the monetary stance is set to react to only secondary effects in inflation expectations or the pricing behavior rather than to primary effects of the aforementioned shock on consumer inflation. Accordingly, while the projection path is revised downwards in the short term owing to primary effects, medium-term forecasts are kept intact under a looser monetary stance due to the secondary effects of unprocessed food prices, which is inside the monetary policy domain and would have kept the inflation trend downward without a looser monetary policy. Changes in international crude oil prices, taxes and administered/ regulated price adjustments, and temporary fluctuations in exchange rates arising from global developments might be evaluated likewise.

On the other hand, since a positive country risk premium shock leads to a trade-off between inflation and economic growth, the monetary policy reaction is determined by taking into account the magnitude and persistence of the shock, the distance of inflation to target, the existing levels of the output gap, and the potential effects of the shock on the financial sector and real economy. The reaction of monetary policy might differ substantially with respect to these factors. When hit by a non-temporary risk premium shock, inflation rises due to the exchange rate pass-through and expectations, while the additional tightness in financial conditions might slow economic activity. In this case, all upward and downward impacts on the inflation outlook should be assessed, and the monetary stance should be adjusted to keep actual inflation on a par with the targeted path, or inflation forecasts should be revised upwards.

Amidst high levels of inflation and inflation expectations, the duration of reaching the target (policy horizon) has been extended because of the high cost of achieving the inflation target within the control horizon. Thus, it is important that the Bank's published projections function as interim targets in order to anchor inflation expectations and to hinder the trade-off between inflation and economic growth within the disinflation process. Communicating the revisions to the forecast path and/or monetary policy stance and their underlying reasons in a transparent way, enhancing the predictability of monetary policy, strengthening the role of forecasts in shaping inflation expectations, and anchoring expectations are of vital importance to attaining the inflation target at lower cost.

References

Svensson, L. (1997), "Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets", European Economic Review, vol. 41, pp. 1111-1146.

Svensson, L. (2010) "Inflation Targeting," in Friedman, Benjamin M., and Michael Woodford, eds., Handbook of Monetary Economics, Volume 3B, chapter 22, Elsevier 2010.