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 three-year horizon.

7.1 Current State, Short-Term Outlook and Assumptions

Financial Conditions

Global and geopolitical developments caused Turkey's sovereign risk to rise in September and October 2017; yet thanks to the policy measures taken by the CBRT as well as the stronger global risk appetite, Turkey's risk premium and other financial indicators have improved since the end of November. Even though commercial loans saw some deceleration in the second half of 2017, the buoyant economy supported the supply and demand of loans.

The CBRT adopted a more cautious tone in communicating its monetary policy in September and October. Moreover, the weighted average funding cost was raised to 12.25 percent effective from 22 November 2017. Noting at the December 2017 MPC meeting that the high rate of inflation and cost pressures continue to pose risks to pricing behavior, the CBRT raised the LLW lending rate from 12.25 to 12.75 percent. At the January 2018 MPC meeting, the CBRT emphasized that the tight monetary policy stance will be maintained decisively until the inflation outlook displays a significant improvement, independent of base effects and temporary factors, and becomes consistent with the targets.

Inflation

Consumer inflation increased by 0.72 points from the end of the previous quarter to 11.92 percent in 2017, overshooting the October Inflation Report forecast.[1] Core inflation indicators posted a marked quarter-on-quarter increase in this period. The climb in inflation was driven by the Turkish lira depreciation against the currency basket and its cumulative effects as well as by rising import prices, particularly oil, and upbeat economic activity.

Demand Conditions

According to GDP data released in December, economic activity proved robust in the third quarter of 2017, as projected in the October Inflation Report. The main driver of quarterly growth in this period was domestic demand.

Leading indicators hint at an ongoing growth for the fourth quarter, notwithstanding some moderation compared to the third quarter. In view of benign indicators for the second half of 2017 and the first-half GDP upgrade, output gap forecasts for 2017 are revised upwards from the October Inflation Report (Table 7.1.1, Chart 7.2.3).

Furthermore, the assumption for the annual growth rate of the export-weighted global production index is revised upwards compared to the previous reporting period due to the upward revision in the growth forecasts of Turkey's trading partners (Table 7.1.1).

Oil, Import and Food Prices

In light of recent developments, crude oil price assumptions for the upcoming period are revised upwards significantly from the October Inflation Report forecast. In annual averages, crude oil price assumptions are revised up from 56 USD to 66 USD for 2018. Along with crude oil, prices of other input commodities have also escalated recently. Thus, the assumptions for USD-denominated import prices are also revised upwards for 2018 (Table 7.1.1, Charts 7.1.1 and 7.1.2).

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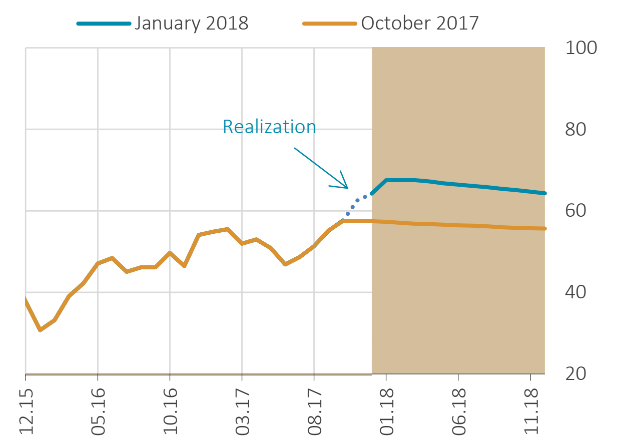
[1] Box 7.1 presents a detailed discussion of forecast revisions and the underlying reasons for the deviation of actual year-end inflation rate from forecasts in 2017.

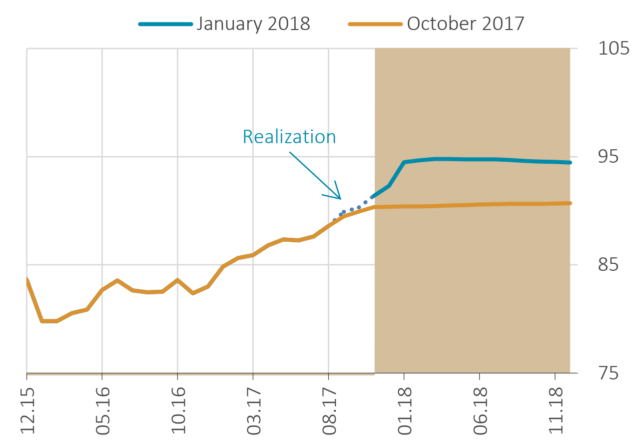
Food inflation amounted to 13.79 percent in the final quarter of 2017, exceeding the October Inflation Report forecast and historical averages. However, in view of the measures in the agenda of the Food Committee, the assumption for food inflation is kept unchanged at 7 percent for both end-2018 and end-2019.

Chart 7.1.1: Revisions in Oil Price Assumptions* (USD/bbl)



Source: Bloomberg, CBRT.
* Shaded area denotes the forecast period.

Chart 7.1.2: Revisions in Import Price Assumptions* (2010=100)



Source: CBRT, TURKSTAT.
* Shaded area denotes the forecast period.

Fiscal Policy and Tax Adjustments

Medium-term projections are based on the assumption that fiscal discipline will be maintained, and administered prices and taxes will not be subject to any unanticipated increase. Forecasts are based on the assumption that adjustments to taxes and administered prices will be consistent with MTP projections and automatic pricing mechanisms. The medium-term fiscal policy stance is based on the MTP projections covering the 2018-2020 period.

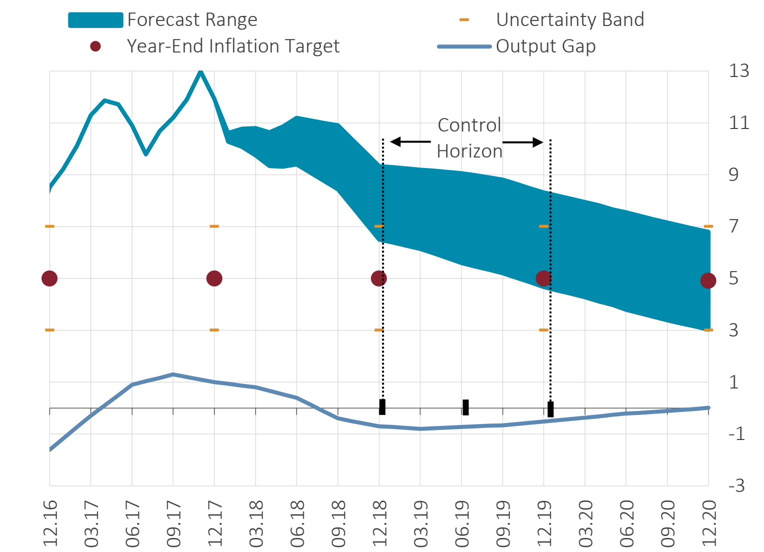
Table 7.1.1: Revisions in Assumptions

		October 2017	January 2018
Output Gap	2017Q3	1.0	1.3
	2017Q4	0.6	1.0
Food Inflation (year-end % change)	2018	7.0	7.0
	2019	7.0	7.0
Import Prices (USD, annual average % change)	2017	7.1	7.5
	2018	3.1	7.4
	2019	-	-0.5
Oil Prices (average, USD)	2017	53	54
	2018	56	66
	2019	-	62
Export-Weighted Global Production Index (annual average % change)	2017	2.3	2.5
	2018	2.3	2.7
	2019	-	2.5

7.2 Medium-Term Forecasts

Given a tight policy stance that focuses on bringing inflation down, inflation is expected to converge gradually to the 5-percent target, reach 7.9 percent at the end of 2018 and stabilize around 5 percent over the medium term after falling to 6.5 percent by the end of 2019. Thus, with a 70 percent probability, inflation is expected to be between 6.5 percent and 9.3 percent (with a mid-point of 7.9 percent) at end-2018 and between 4.7 percent and 8.3 percent (with a mid-point of 6.5 percent) at end-2019 (Chart 7.2.1).

Chart 7.2.1: Inflation and Output Gap Forecasts* (%)



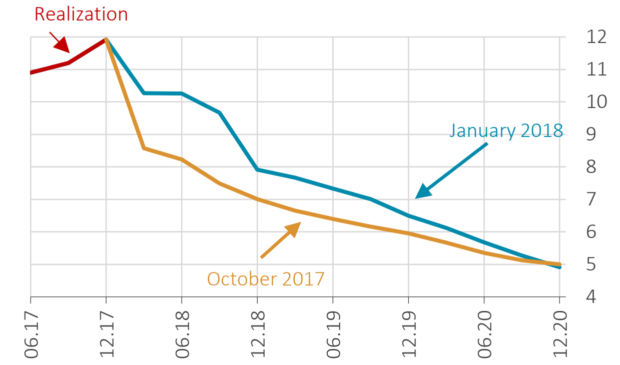
Source: CBRT, TURKSTAT.
* Shaded area denotes the 70 percent confidence interval for the forecast.

The Turkish lira depreciation against the currency basket and soaring international commodity prices have added to cost-side pressures on inflation since the previous reporting period. In addition, aggregate demand conditions have also supported the uptrend in inflation due to robust economic activity. According to December's GDP data, economic activity remained strong in the third quarter of 2017, as envisaged in the October Inflation Report. Leading indicators signal that economic recovery remained solid in the fourth quarter. Therefore, output gap forecasts are revised upwards for 2017 and for the first half of 2018 (Chart 7.2.3). Due to the lagged effects of the tight monetary policy stance, the output gap is expected to provide added support to disinflation by the third quarter of 2018.

Accordingly, the year-end inflation forecast for 2018 is revised upwards by 0.9 points from the October Inflation Report (Chart 7.2.2). The upward revision in the TL-denominated import price assumption will drive the inflation forecast for end-2018 up by 0.7 points. The output gap that has been revised up for both 2017 and 2018 in the inter-reporting period amid an improved economic outlook will push the end-2018 forecast up by 0.1 point. Moreover, the higher fourth-quarter inflation than projected in the October Inflation Report and the rise in underlying inflation added 0.1 point to the end-2018 inflation forecast. Thus, the year-end consumer inflation forecast for 2018, which was announced as 7 percent in the October Inflation Report, is raised to 7.9 percent.

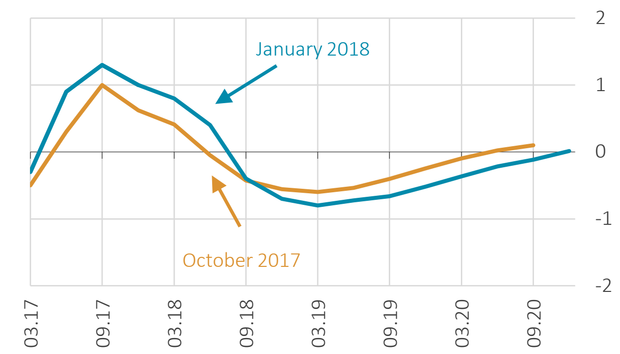
On the other hand, due to the revised assumption for TL-denominated import prices, the consumer inflation forecast for end-2019 is revised up by 0.5 points from the October Inflation Report. The output gap forecasts for the period spanning the second half of 2018 and the overall 2019 were subject to a minor revision, having virtually no effect on the inflation forecast for 2019. Accordingly, the year-end consumer inflation forecast for 2019 is raised to 6.5 percent from October's 6.0 percent.

Chart 7.2.2: Inflation Forecast and Realization (%)



Source: CBRT, TURKSTAT.

Chart 7.2.3: Output Gap Forecast (%)

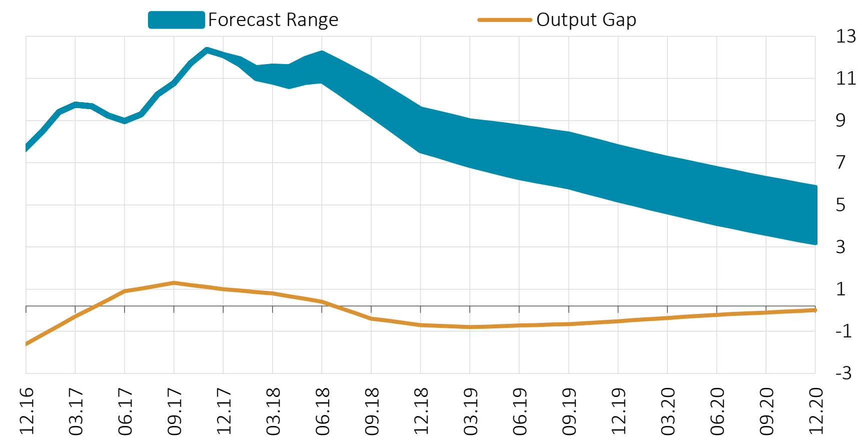


Source: CBRT.

Recent indicators suggest that inflation will fall in January and remain flat through the first half of the year before declining significantly in the fourth quarter of 2018 (Chart 7.2.1). Apart from a tight monetary policy stance, the key drivers of disinflation in 2018 will be the fading cumulative effects from both the exchange rate depreciation and the inflationary impact arising from rapid rises in import prices in 2017. Furthermore, economic activity and credit growth are expected to follow a milder course in 2018. A macro policy framework in which taxes and administered prices are set consistently with the MTP as part of the continued strong coordination between monetary and fiscal policies will support the disinflation process.

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. Accordingly, 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, alcoholic beverages and tobacco products is expected to remain elevated across the first half of 2018, decelerate by mid-year and decline gradually to 4.6 percent in the medium term.

Chart 7.2.4: Inflation Forecast Excluding Unprocessed Food, Alcoholic Beverages and Tobacco Products* (%)



Source: CBRT, TURKSTAT.
* Shaded area denotes the 70 percent confidence interval for the forecast.

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 on 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. Currently, the year-end, 12-month-ahead and 24-month-ahead inflation expectations of the CBRT Survey of Expectations’ respondents are above the baseline scenario forecasts (Table 7.2.1). The hovering of inflation expectations above the target and the exceeding of 24-month-ahead inflation expectations beyond the uncertainty band necessitate the tight monetary policy stance to be sustained.

Table 7.2.1: CBRT Inflation Forecasts and Expectations (%)

	CBRT Forecast	CBRT Survey of Expectations*	Inflation Target
2018 Year-end	7.9	9.6	5.0
12-month-ahead	7.8	9.2	5.0
24-month-ahead	6.4	8.2	5.0

Source: CBRT.

* As of January 2018.

Box 7.1

An Evaluation of End-2017 Inflation Forecasts

Under the inflation targeting regime, the CBRT provides the public with comprehensive reviews on inflation developments through reports. This box gives a summary of the end-2017 inflation forecasts announced in Inflation Reports throughout 2017, along with the changes in the main assumptions underlying these forecasts.

Among major reasons causing upward revisions to year-end inflation forecasts throughout 2017 were changes in TL-denominated import prices, rising food prices and revised output gap forecasts. Accordingly, output gap forecasts were revised upwards in all quarters, while food inflation was updated in the second quarter, and TL-denominated import prices were adjusted for the second half of 2017, which prompted upward revisions to year-end inflation forecasts (Table 1, Chart 1).

Table 1: Inflation Report Assumptions for 2017

	January 2017	April 2017	July 2017	October 2017	Actual
Food Prices (annual % change)	9.0	9.0	10.0	10.0	13.8
Export-Weighted Global Production Index (annual average % change)	1.9	1.8	2.1	2.3	2.5*
Import Prices (annual average % change)	3.0	4.4	6.2	7.1	7.5*
Brent Crude Oil Prices (USD/bbl)	57	55	50	53	54

Source: CBRT.

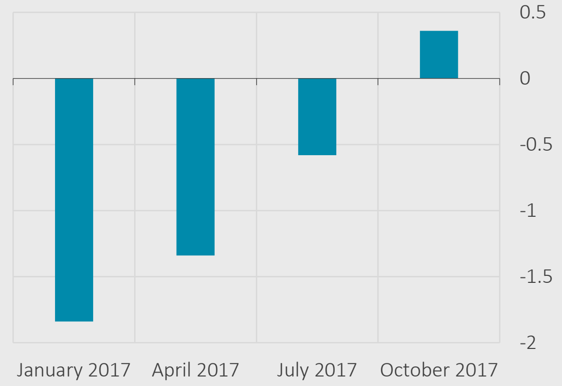
* As of December 2017.

Amid waning monetary policy uncertainty across advanced economies and strong capital flows to emerging economies, including Turkey, the developments in exchange rates during the first half of 2017, except for January, created no additional inflationary pressure. However, with mounting global and geopolitical tensions as of mid-2017, the Turkish lira depreciation pushed inflation higher for items particularly sensitive to the exchange rate and affected inflation expectations and pricing behavior negatively. In addition, the volatility of food prices, especially unprocessed food, was one of the key drivers of the faster-than-expected increase in inflation through 2017. Stronger-than-anticipated demand conditions were also among factors causing inflation to rise. Thus, inflation amounted to 11.9 percent at the end of 2017, exceeding the October Inflation Report forecast of 9.8 percent.

2017 January Inflation Report

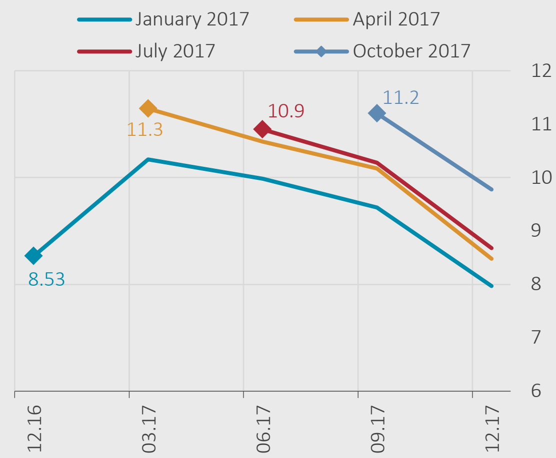
TL-denominated import prices were expected to put upward pressure on inflation in 2017 due to rising oil prices at the end of 2016 and the Turkish lira depreciation in January 2017. Moreover, with the increased likelihood of a delay in the long-awaited decline in food inflation, the forecast for food inflation was revised up to 9 percent for 2017. Despite these inflationary pressures, consumer inflation was estimated to fall from the end-2016 rate of 8.53 percent to a projected 8 percent at the end of 2017 thanks to the tight monetary policy stance that focuses on bringing inflation down.

Chart 1: Revisions in Average Output Gap Forecasts (%)



Source: CBRT.

Chart 2: Revisions in Inflation Forecasts in 2017* (%)



Source: CBRT, TURKSTAT.

* The series show the projected inflation path from the start of the corresponding period to the end of year. The initial points in series show the actual inflation values.

2017 April Inflation Report

Economic activity turned out to be more buoyant in the fourth quarter of 2016 than envisaged in the January Inflation Report. Therefore, output gap forecasts for 2017 were revised upward from the previous reporting period (Chart 1).

Furthermore, TL import prices were estimated to post a slight increase compared to the previous reporting period. In addition, the actual inflation rate of the first quarter of 2017 surpassed the January Inflation Report forecast, suggesting a small increase in underlying inflation. Following these revisions to underlying inflation, output gap and TL import prices, the year-end consumer inflation forecast was raised to 8.5 percent.

2017 July Inflation Report

After the release of the first-quarter GDP data, economic activity was seen to have a stronger outlook than presented in the April Inflation Report. Moreover, output gap forecasts for 2017 were revised up as leading indicators signaled a strengthening economic recovery for the second quarter thanks to new accommodative incentives and measures. Meanwhile, with tighter monetary policy, the output gap was estimated to provide further support to disinflation in 2017, albeit to a lesser degree than in previous periods.

Another factor driving the year-end inflation forecast higher in the July Inflation Report was food prices. The actual rate of food inflation was slightly above the April Inflation Report forecast in the second quarter, and the food inflation assumption for end-2017 was raised from 9 to 10 percent in view of past realizations in second-half food inflation rates.

On the other hand, the stable Turkish lira, the significant fall in oil prices and the withdrawal of the automatic tax hike on tobacco products pulled inflation forecasts down. Accordingly, the year-end inflation forecast for 2017 was raised to 8.7 percent from 8.5 percent in the previous Report.

2017 October Inflation Report

In the period following the July Inflation Report, the Turkish lira depreciation against the currency basket and the rise in international commodity prices added to cost pressures on inflation. In addition to cost pressures, the disinflationary support from demand conditions also disappeared as of the second quarter due to robust economic activity. The second quarter's GDP data revealed a much stronger economic activity for the second quarter of 2017, compared to the July Inflation Report. Additionally, leading indicators signaled that economic recovery gained momentum in the third quarter. Therefore, output gap forecasts were revised upwards for 2017. After peaking in the third quarter, the support from CGF-backed loans and macroprudential incentives to growth were estimated to subside gradually in the following period, and economic activity was anticipated to revert back to its trend. Thus, aggregate demand conditions were estimated to resume their disinflationary support by the second quarter of 2018.

In addition, both the actual third-quarter inflation that was higher than the July forecast and the rise in underlying inflation added 0.2 points to the end-2017 inflation forecast. Accordingly, the year-end inflation forecast for 2017 was raised to 9.8 percent from the July Inflation Report forecast of 8.7 percent.

Actual Inflation at the end of 2017

The revisions to inflation forecasts were induced by the higher-than-projected increase in TL import prices and underlying inflation amid the TL depreciation as well as rising food prices in the fourth quarter. The rise in commodity prices, especially oil and industrial metals, and volatile exchange rates were the key drivers of inflation via the cost channel. The solid growth in economic activity was another factor adding to the cost pressures on inflation. The final column of Table 2 shows how each of these factors contributed to the deviation of 2.1 points between actual and expected inflation rates.

Table 2: Revisions to end-2017 Inflation Forecasts*

	January 2017	April 2017	July 2017	October 2017
Inflation Forecasts (%)	8.0	8.5	8.7	9.8
Sources of Revisions				
	April-January	July-April	October-July	December-October
Food	0.0	0.2	0.0	0.8
Import Prices (TL)	0.1	-0.1	0.5	0.8
Underlying Inflation	0.2	0.0	0.2	0.4
Output Gap	0.2	0.2	0.4	0.2
Adjustments to Alcoholic Beverages, Tobacco Products and Other Taxes	0.0	-0.1	0.0	-0.1

Source: CBRT.

* The first three columns show the sources of revisions in the inter-reporting period, while the last column shows the sources of the deviation between actual inflation and the October Inflation Report forecast. Inflation ended 2017 at 11.9 percent.

In conclusion, end-2017 inflation forecasts were raised gradually throughout 2017 due to the increase in TL import prices, the developments in food prices and the stronger-than-expected course of the economic activity (Chart 2). Similarly, the deviation between the actual inflation rate in December and the year-end forecast in October was due to TL import prices, food prices and the revised output gap. The forecast revisions and their sources were clearly explained to the public by the CBRT through Inflation Reports, fulfilling the commitment of accountability on a regular basis.