

Box 7.1

An Evaluation of End-2018 Inflation Forecasts

Under the inflation targeting regime, the CBRT provides the public with comprehensive reviews of inflation developments through reports. This box gives a summary of the end-2018 inflation forecasts announced in Inflation Reports throughout 2018, along with the changes in the main assumptions underlying these forecasts.

Upward revisions to output gap forecasts and TL-denominated import prices stemming from the increase in oil prices during the first half of 2018 played a major role in revisions to year-end inflation forecasts. In the second half of the year, upward revisions to assumptions for Turkish lira-denominated import prices, food prices and the underlying inflation, due to the sharp depreciation in the Turkish lira, pushed the year-end inflation forecast markedly higher. The increased volatility in financial markets prompted tightening of financial conditions more than anticipated which resulted in downward revisions to the output gap (Table 1).

Table 1: Inflation Report Assumptions for 2018

	January IR	April IR	July IR	October IR	Actual
Food Prices (year-end % change)	7.0	7.0	13.0	29.5	25.1
Export-Weighted Global Production Index (annual average % change)	2.7	2.9	2.6	2.5	2.5*
Import Prices (annual average % change)	7.4	4.8	6.3	6.0	5.3*
Brent Crude Oil Prices (annual average, USD/bbl)	66	68	73	75	71

Source: CBRT.

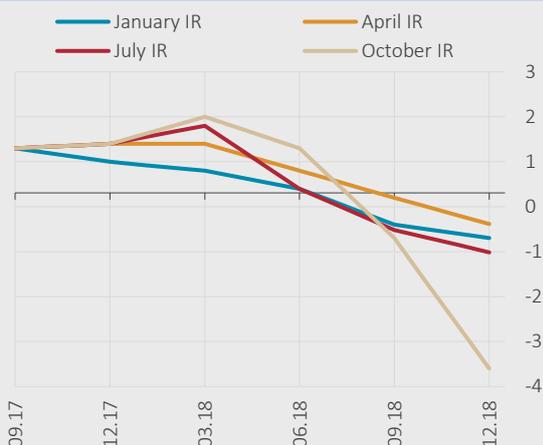
* Forecasts as of January 2019.

Inflation hit 20.3% at the end of 2018. The depreciation of the Turkish lira amid global and geopolitical tensions was one of the key drivers of the increase in inflation throughout the year. These developments pushed inflation significantly upwards after the second half of the year in items sensitive to the exchange rate in particular, whereas increased perceptions of uncertainty deteriorated inflation expectations and pricing behavior. Additionally, the volatility in food prices, especially stemming from the unprocessed food prices, were among factors creating inflationary pressures in 2018.

January Inflation Report (2018-I)

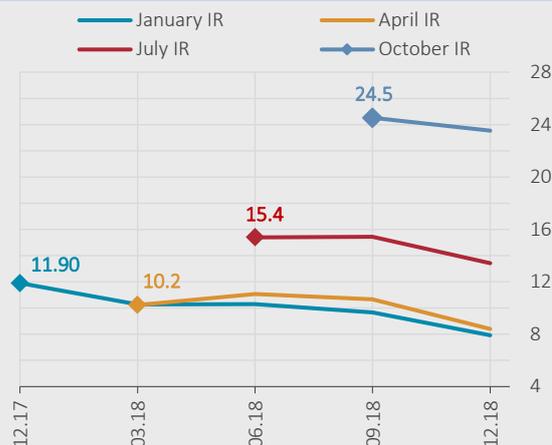
Cost pressures on inflation increased as of the second half of 2017. This upsurge was driven by the depreciation of the Turkish lira against the currency basket, its cumulative effects and also increases in import prices, especially oil. Besides the cost channel, stronger-than-anticipated aggregate demand conditions depending on the robust economic activity contributed to the upward pressure on inflation. In this period, medium-term forecasts were based on the assumption that the CBRT's policy stance would be tight and the cost pressures on inflation would gradually weaken, thereby contributing to the disinflation process in 2018. Furthermore, milder course of economic activity and credit growth in addition to the continued strong coordination between monetary and fiscal policies were indicated among factors supporting the disinflation process in 2018. In this framework, with a tight policy stance that focuses on bringing inflation down, consumer inflation was projected to decline to 7.9% at end-2018 from its level of 11.9% at end-2017.

Chart 1.a: Revisions to Average Output Gap Forecasts (%)



Source: CBRT.

Chart 1.b: Revisions to Inflation Forecasts in 2018* (%)



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.

April Inflation Report (2018-II)

Although consumer inflation was in line with January Inflation Report projections as of the first quarter of 2018, developments in exchange rates and oil prices increased upside risks to the near-term inflation outlook, especially after mid-March. Besides cost pressures, aggregate demand conditions also drove inflation higher due to the robust course of the economic activity. In fact, upward revision in the national income data and the solid economic activity in the first quarter of 2018 prompted an upward revision to output gap forecasts over the inter-reporting period (Chart 1.a). Thus, based on the revisions to the output gap and to TL-denominated import prices because of the developments in oil prices and exchange rates, the year-end inflation forecast for 2018 was revised up to 8.4%.

July Inflation Report (2018-III)

In the second quarter of 2018, consumer inflation overshoot the April forecast significantly. The main drivers of the deviation in inflation forecasts were the markedly higher-than-expected import prices in Turkish-lira terms and food prices, particularly for unprocessed food.

In the first quarter of 2018, economic activity was slightly stronger than the April forecast. However, due to the sharp depreciation of the Turkish lira and heightened uncertainty perceptions, financial conditions became tighter than expected. Thus, having estimated that demand conditions would slow in the second quarter at a faster rate than envisaged in its April Inflation Report, the Bank revised its 2018 output gap forecasts downwards for the last three quarters relative to the previous report (Chart 1.a).

Oil and commodity prices continued to rise in the second quarter of 2018, and unprocessed food inflation significantly exceeded the April Inflation Report assumptions. Considering these developments, assumptions for oil, import and food prices were revised upwards. In this regard, the year-end annual consumer inflation forecast was revised upwards by 5 points to 13.4%. This rise was mainly driven by the upward revision made to the TL-denominated import price assumption in the July Inflation Report because of the developments stemming from oil prices and exchange rates.

October Inflation Report (2018-IV)

Consumer inflation, which surged in the third quarter, remained significantly above the forecasts of the July Inflation Report. The deviation of inflation forecasts was mainly driven by the cumulative impact of the depreciation of the Turkish lira and the deterioration in pricing behavior impaired by expectations and backward indexation.

Data releases and the backward revisions indicated that the economic activity in the second quarter was slightly stronger than the forecasts of the July Inflation Report. Accordingly, the output gap forecasts for the second quarter were revised slightly upwards. As a result of the tighter-than-anticipated financial conditions, the slowdown in demand conditions was expected to gain pace, and the output gap was projected to widen significantly in the last quarter (Chart 1.a).

After the July Inflation Report, import prices denominated in Turkish lira exerted upside pressure on inflation. The bulk of this pressure stemmed from the rapid depreciation of the Turkish lira along with the increase in the pass-through from exchange rates to inflation. Furthermore, energy prices excluding fuel remained above the assumptions of the previous report. Moreover, the outlook for food inflation deteriorated in the third quarter. Accordingly, the inflation forecast for end-2018 was revised up to 23.5%, implying a 10.1- point rise compared to the July Inflation Report.

Actual Inflation at the end of 2018

Remaining 3.2 points below the October Inflation Report forecast, the year-end consumer inflation realized as 20.3%. The main drivers of the deviation in inflation forecasts were the lower-than-expected import prices denominated in Turkish lira caused by the appreciation of Turkish lira and the decline in oil prices in the last quarter. Additionally, waning of the elevated volatility in financial markets affected pricing behavior positively in this period. Weaker domestic demand conditions owing to slowdown of economic activity drove the underlying inflation down during the last two months of the year in particular. Following the October Inflation Period, special consumption tax (SCT) on automobiles, white goods and furniture was lowered temporarily, causing core goods inflation and consequently the consumer inflation to decline. The last column of Table 2 displays how each of these factors contributed to the deviation of 3.2 points between expected and actual year-end inflation rates.

Table 2: Revisions to end-2018 Inflation Forecasts

	January IR	April IR	July IR	October IR
Inflation Forecasts (%)	7.9	8.4	13.4	23.5
Sources of Revisions*				
	Apr-Jan	Jul-Apr	Oct-Jul	Dec-Oct
Food	0.0	1.4	3.8	-1.0
Import Prices (TL)	0.4	2.3	4.1	-0.6
Underlying Inflation	0.0	1.3	2.5	-0.5
Output Gap	0.1	-0.1	-0.3	-0.1
Adjustments to Alcoholic Beverages, Tobacco Products and Other Taxes	0.0	0.1	0.0	-1.0

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 2018 at 20.3%.

In conclusion, end-2018 inflation forecasts were increased gradually throughout the year due to the rise in TL-denominated import prices, the developments in food prices, and deterioration in pricing behavior (Chart 1.b). The deviation between the actual inflation rate in December and the year-end forecast in October was caused by the rapid fall in TL-denominated import prices driven by the mild course of the Turkish lira coupled with the decline in oil prices and the correction in food prices as well as the underlying inflation due to the effects of tax adjustments. The CBRT has explained revisions to forecasts and their reasons transparently to the public through Inflation Reports, fulfilling the commitment of accountability on a regular basis.