3. Medium-Term Projections

3.1 Current State, Short-Term Outlook and Assumptions

Changes in Key Forecast Variables

Economic activity remained robust in the second quarter of 2022. Domestic demand conditions continued to support economic activity in this period. Accordingly, employment rose further and unemployment rates dropped. While the industrial and services sectors shaped economic activity in the second quarter, the construction sector had a limiting effect on growth. Output gap forecasts for the first half of 2022 were revised upwards, with the contribution of the strong demand for services thanks to the increase in tourism revenues and the increase in the number of visitors as well as the positive course of foreign demand (Table 3.1.1). In the third quarter of the year, leading indicators point to a loss of momentum in economic activity due to the slowdown in foreign demand.

Having ended the third quarter of 2022 at 83.45% and 74.63%, respectively, CPI and B-index inflation remained within the forecast range presented in the July Inflation Report. The third-quarter downtrend in non-energy commodity prices and international transportation costs helped alleviate supply constraints. The effects of the policy measures taken under the liraization strategy were more evident in this period, and the Turkish lira was one of the currencies that diverged positively by remaining relatively stable whereas many other currencies experienced significant depreciation amid the declining global risk appetite. Moreover, data for the third quarter point to a more moderate course in domestic demand. Thanks to macroprudential measures, credit growth has become more balanced as of the third quarter, and thus, the financing cost channel seems to function more efficiently. Hence, inflation was in line with the July Inflation Report projections (Table 3.1.1).

Table 3.1.1: Development of Main Forecast Variables*

	2022-II	2022-III
Output Gap (Percent)	1.2 (0.5)	0.6 (-0.1)
Consumer Inflation (Quarter-end, Annual Percentage Change)	78.6 (78.6)	83.45 (83.74)
B** Index Inflation (Quarter-end, Annual Percentage Change)	64.4 (64.4)	74.63 (76.1)

* Numbers in parentheses are from the July Inflation Report.
** B index is the CPI excluding unprocessed food, alcohol, tobacco, energy and gold.

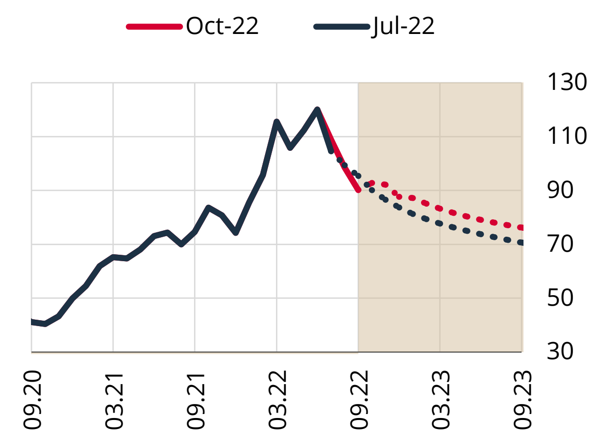
Assumptions of Exogenous Variables

The weakening effect of growing geopolitical risks and the tightening in global financial conditions on economic activity around the world continues. This outlook was shaped by high commodity prices caused by the conflict between Ukraine and Russia, supply chains and supply shocks dampening the trade volume as well as the course of the pandemic in China. On a global scale, despite the uncertainty led by geopolitical risks and financial conditions, global growth expectations for 2022 were slightly revised upwards compared to the previous reporting period with the realizations in year-end growth expectations across countries, mainly the euro area. On the other hand, elevated risks on energy supplies led by the energy crisis occupying the agenda in Europe coupled with tighter national monetary policies are estimated to lead to a sizeable deceleration in the global growth outlook for 2023. Thus, the export weighted global growth index, which reflects the external demand outlook of the Turkish economy, was revised significantly downwards for 2023 compared to the previous reporting period.

Major central banks underline that inflation may remain on the rise for a longer-than-expected period due to higher energy prices and supply-demand mismatch. The volatility accompanying currently high bond yields increased and the course of global financial conditions signal downside risks to portfolio flows to emerging economies. In fact, considering market pricing for the upcoming period, global financial conditions are assumed to be tighter compared to the July Inflation Report.

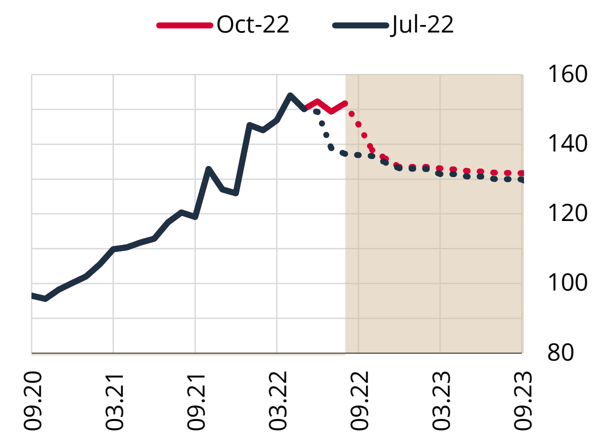
In line with the global demand outlook and global financial conditions, commodity prices decline from their record highs. However, commitments for sanctions against Russia coupled with the supply-limiting decisions taken by OPEC+ countries dominate the course of oil prices (Chart 3.1.1). Accordingly, assumptions for oil prices were revised upwards for 2022 and 2023. On the other hand, import prices increased to a limited extent due to the recent rise in agricultural commodity prices, which have receded upon favorable climatic conditions as well as the implementation of Black Sea Grain Initiative (Chart 3.1.2). Therefore, the assumption for the general import price level for 2022 was revised slightly upwards. On the other hand, in line with the global demand outlook, import prices for 2023 were revised downwards due to non-energy commodity prices (Table 3.1.2).

Chart 3.1.1: Revisions to Oil Price Assumptions* (USD/bbl)



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

Chart 3.1.2: Revisions to Import Price Assumptions * (Index, 2015=100)



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

Food prices assumptions were revised upwards for 2022 and downwards for 2023. Annual inflation in food and non-alcoholic beverages rose to 93.05% in the third quarter of 2022. This rise was caused by high agricultural commodity and energy prices, exchange rate developments, trade restrictions and supply constraints. It is assumed that food price inflation will remain high for a while in the upcoming period and will decline towards the end of the year, ending 2022 at 75.0%. Meanwhile, the assumption for 2023 was revised upwards due to the outlook for global food prices (Table 3.1.2)

Table 3.1.2: Revisions to Assumptions *

	2022	2023
Export-Weighted Global Production Index (Annual Average % Change)	3.0 (2.6)	1.8 (2.5)
Oil Prices (USD, Annual Average % Change)	100.5 (99.6)	79.3 (73.7)
Import Prices (USD, Annual Average % Change)	25.2 (23.3)	-9.2 (-8.4)
Food Prices (Year-End % Change)	75.0 (71.3)	22.0 (25.7)

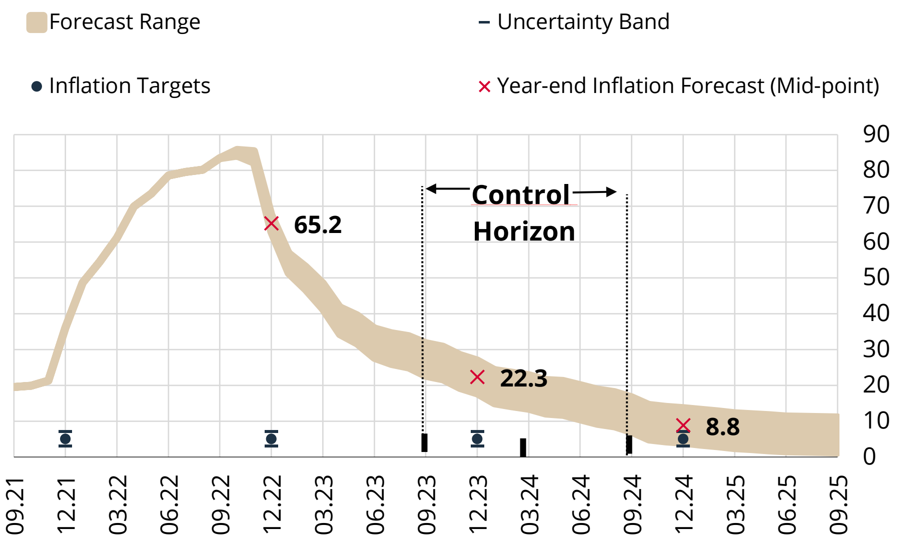
* Numbers in parentheses are from the July Inflation Report.

3.2 Medium-Term Outlook

The CBRT formulates monetary policy decisions with a medium-term perspective and prudent stance taking into consideration the analysis regarding the sources of risks to inflation, their permanence, and to what extent they can be controlled by monetary policy and mainly focusing on achieving lasting price stability.

Inflation is projected to be 65.2% at the end of 2022, to fall to 22.3% at the end of 2023, and to sustain the downward trend by receding to 8.8% by the end of 2024. The monetary policy stance is determined in line with the primary objective of achieving price stability and by focusing on continued production, the growth rate, composition and usage purposes of loans, components of the current account balance, and healthy pricing in the FX markets. Forecasts suggest that the underlying trend of inflation will decline gradually in 2023 and beyond. While creating the disinflation path implied by forecasts, it was assumed that commodity prices would gradually converge to their historical averages, and therefore, FX-denominated import prices would decline, thanks to the slowdown in global demand owing to the tightening of financial conditions. As for energy prices, a relatively high but moderate course is foreseen. Under these external conditions and underpinned by the stabilizing effects of macroprudential measures taken in the scope of the liraization strategy on loans and as a result of the policy mix implemented, it is expected that the potential supply would be supported via the financing cost channel and inflation expectations will also normalize pricing behaviors on the back of the stable course in the foreign exchange market achieved thanks to macroprudential measures and the improvement in inflation expectations. Accordingly, with a 70% probability, inflation is expected to be between 62.8% and 67.6% (with a mid-point of 65.2%) at end-2022, and between 17.7% and 26.9% (with a mid-point of 22.3%) at end-2023, and between 4.0% and 13.6% (with a mid-point of 8.8%) at end-2024 (Chart 3.2.1).

Chart 3.2.1: Inflation Forecasts* (%)



Source: CBRT, TURKSTAT.

* Shaded area denotes the 70% confidence interval for the forecast.

Year-end inflation forecasts for end-2022 and end-2023 have been revised upwards compared to the previous reporting period (Chart 3.2.2). Persisting geopolitical risks and supply cut decisions taken by OPEC+ countries pose an upside risk for energy commodity prices. These developments led to a lower-than-expected decrease in energy commodity prices. Moreover, heightened inflation expectations continue to pose risks to the inflation outlook. Inflation forecasts were revised upwards due to the impact of these developments.

Table 3.2.1: Revisions to Year-End Inflation Forecasts for 2022 and 2023, and Sources of Revisions

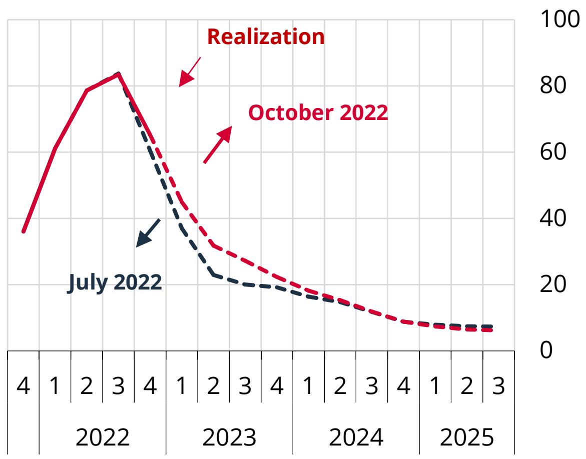
	2022	2023
2022-III (July 2022) Forecast (%)	60.4	19.2
2022-IV (October 2022) Forecast (%)	65.2	22.3
Forecast Revision as Compared to the 2022-III Period	+4.8	+3.1
Sources of Forecast Revisions (% Points)		
Turkish Lira-Denominated Import Prices (Including the Exchange Rate, Oil and Import Prices)	+2.2	+1.1
Food Prices	+0.9	-0.9
Administered Prices	+0.6	-
Output Gap	+0.2	-
Deviation from the Inflation Forecast	+0.9	+2.9

Source: CBRT.

The year-end inflation forecast for 2022 was raised from 60.4% to 65.2%, up by 4.8 percentage points. Compared to the previous reporting period, the update based on Turkish lira import prices increased the inflation forecast by 2.2 points, while the increase in the assumption for food prices contributed by an additional 0.9 points. Furthermore, administered prices pushed the year-end inflation forecast up by 0.6 points, mainly due to the increase in electricity and natural gas prices, while the revision in initial conditions to the underlying inflation trend caused a 0.9-point rise in the deviation from forecast (Table 3.2.1). In addition, the revised output gap drove the inflation forecast up by 0.2 points (Chart 3.2.3).

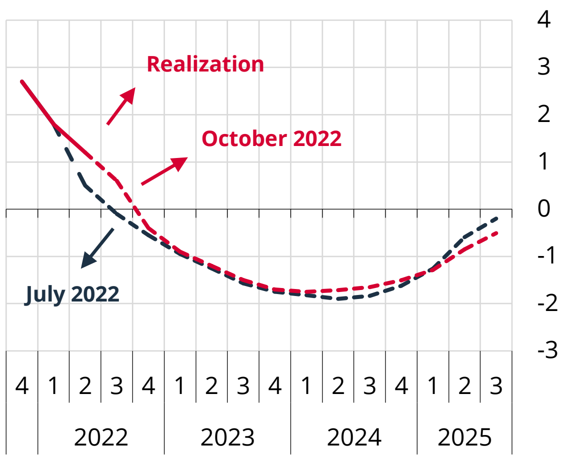
The year-end inflation forecast for 2023 was updated from 19.2% to 22.3%. The revision in TL-denominated import prices added 1.1 points to the forecast, while the deviation stemming from effects of the revision to initial conditions on inflation forecasts pushed the end-2023 inflation forecast up by 2.9 points. The update in the food prices assumption decreased the end-year inflation forecast by 0.9 points (Table 3.2.1).

Chart 3.2.2: Inflation Forecast (Quarter-End, Annual, %)



Source: CBRT, TURKSTAT.

Chart 3.2.3: Output Gap Forecast (%)



Source: CBRT.

Forecasts are based on an outlook in which the weakness in the global economic activity is more evident, the rise in global inflation continues, and global financial conditions are tighter compared to the previous reporting period. Leading indicators show that the outlook for global economy has further weakened. Global growth forecasts for end-2022 were slightly revised upwards compared to the previous report period as actual growth rates, particularly in the euro area, were higher than expected. Whereas the decelerating impact of geopolitical risks and risks concerning energy supply as well as uncertainties about global financial conditions on global economic activity have been growing stronger. For this reason, global growth forecasts for 2023, particularly for the euro area, have been revised downwards, and it is evaluated that global recession has become an important risk factor. In line with this outlook, international commodity prices are expected to decrease in the upcoming period. Moreover, the high course of global inflation is expected to continue, and financial conditions are expected to suppress global demand. Global uncertainties have brought about a significant decline in the global risk appetite in the current Report period.

In the upcoming period, loan growth is expected to be more stable thanks to the macroprudential policy set reinforced by credit, collateral, and liquidity policy steps, whose evaluation processes have been completed. Based on the assumption that public finance developments are in line with the MTP forecasts and fiscal discipline is preserved, the ongoing stabilizing effects of macroprudential measures on credits are expected to support the recent improvement in pricing behavior. This support will be both supply-side and demand-side: supply-side via declining financing costs, and targeted loans, making sure that production continues and export capacity is maintained, and demand-side via ensuring healthy price formation in FX markets and limiting excessive consumption and import demand. In this framework, the growth rate of loans is expected to affect aggregate demand conditions in a way that is compatible with the supply potential of the economy. Once the effects of these factors on the disinflationary process through cost, supply-demand balance, current account balance and exchange rate stability become more evident, inflation expectations are expected to contribute more to the decrease in the underlying inflation trend.

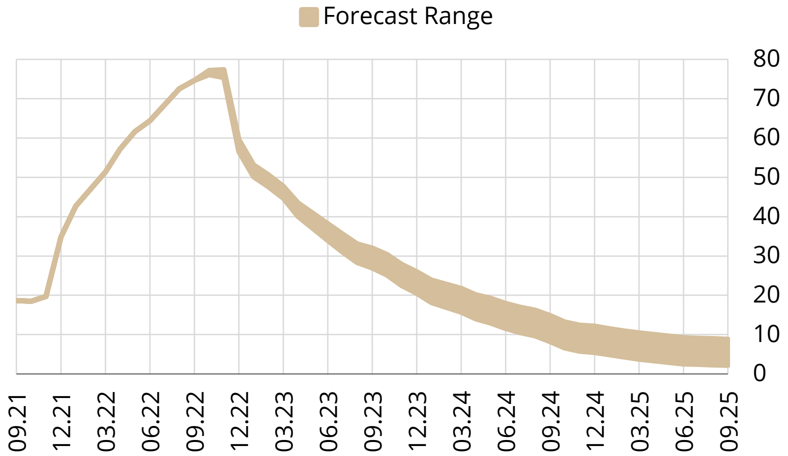
Amid rising global uncertainties, it is important for monetary policy strategy that domestic financial conditions support the supply potential. Therefore, the use of loans extended with favorable conditions in targeted areas to boost investments that will increase production capacity, contributes to the strengthening of the supply potential. However, macroprudential measures were gradually increased to counter consumer and commercial loan growth which showed a sudden acceleration in the second quarter of 2022. In this context, on the back of the measures taken, loan growth started to normalize in the third quarter. Financing costs, which continued to decline owing to macroprudential measures reinforcing monetary transmission, will also contribute to the continuity of supply. The increase in the share of investment and export loans in corporate loans and a broader base achieved via targeted loans also support this channel.

The improvement in the current account balance facilitated by production and investment-oriented policies is expected to contribute to the continuation of the stable course in FX markets and the disinflation process. While the projected slowdown in foreign demand increases the risks to the current account balance, the moderate course of energy and commodity prices during the forecast period is expected to contribute positively to the current account balance, particularly in 2023. Meanwhile, increased export capacity, which was fueled by targeted loans encouraging production and investments in the medium term, supports the structural transformation observed in exports in the post-pandemic period. The stable course in the FX market is projected to continue on the back of the measures taken in the scope of the liraization strategy. Moreover, the projected slowdown in international energy and commodity prices is expected to contribute to the disinflation process through cost and current account balance channels.

The gradual decline in inflation expectations, which remain high, and in the underlying trend of inflation are expected to accelerate. It is observed that cost-based price pressures have tended to weaken as shocks to the economy such as exchange rates, commodity prices and supply constraints lost strength. With the measures taken, it is expected that the stable course in the exchange rates and credit markets and the improvement in the current account balance will contribute to the decrease in inflation through the expectation channel. The clearer the stabilizing effects of the policies on loans, the more positive their impact will become on the pricing behavior.

Recent unpredictable volatilities in items beyond the control of monetary policy such as unprocessed food and energy cause a deviation in inflation forecasts. Core inflation indicators obtained by excluding these items contain more information about the underlying trend of inflation. In this context, inflation (B index) forecasts excluding unprocessed food products, energy, alcoholic beverages, tobacco and gold are also shared with the public. Accordingly, annual B index inflation is expected to start a downward trend by the final quarter of 2022 (Chart 3.2.4).

Chart 3.2.4: Annual Inflation Forecast for the B Index-* (%)



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

3.3. Key Risks to Inflation Forecasts and Possible Impact Channels

Macroeconomic risks may change the outlook on which the inflation forecasts are based, and the monetary stance is shared in detail in Section 1.3. Evaluations of the channels through which these risks may influence inflation forecasts are presented in Section 3.2 and the direction in which they may change the forecasts are summarized in Table 3.3.1.

Table 3.3.1: Key Risks

Cost Pressures

- Supply chain disruptions have waned recently, while the global demand outlook causes international commodity prices to follow a milder course. On the other hand, the possible supply shocks caused by the Russia-Ukraine war put upside pressures on inflation.

  Tracked Indicators: Geopolitical developments and the course of the Russia-Ukraine war, the course of global growth expectations, crude oil prices and supply-demand balance, OPEC+ decisions, industrial metal prices, agricultural commodity prices, supply-demand balance in agricultural products, indicators pertaining to the divergence between producer and consumer prices, global supply indicators, transport and freight costs, climate change, drought indicators, indicators for international food prices, indicators for the domestic energy market, administered prices.

Uncertainties Regarding the Global Financial Markets and the Global Macroeconomic Outlook

- Global inflation remains high due to soaring energy prices, the supply-demand mismatch accompanied by rigidities in the labor market. The likelihood of a slower-than-expected decline in the core inflation trend in advanced economies puts pressure on financial conditions.
- In the current reporting period, the adverse course of the global risk appetite aggravates the volatility in financial markets. Moreover, in the upcoming period, the increased possibility of divergence in economic conditions and problems among advanced economies brings additional risks to global economic activity and financial conditions.

  Tracked Indicators: Financing of the balance of payments, portfolio flows to stock and bond markets, bond yields and monetary policy stances of advanced economies, risk premium indicators, foreign exchange markets, dollarization indicators, global inflation indicators and expectations, the course of global monetary policies, demand and supply indicators for FX-protected deposits.

Geopolitical Risks and Economic Activity

- While concerns over energy commodity prices linked to the global demand outlook keep the downside risks brisk, persisting geopolitical risks as well as the supply-limiting measures taken by OPEC+ countries pose upside pressures. This leads to upside risks to inflation forecasts to remain in place.
- The pressure on commodity prices due to global recession expectations is expected to have a positive impact on inflation and the current account balance. However, the increase in the probability of a global recession makes the downside risks for foreign demand more pronounced compared to the previous Report period, posing a risk to the current account balance outlook.
- There are three factors that potentially balance the risks on the current account balance. The first one is the role that our country can play in regional energy distribution, as is the case in grain supply, and the rise in the share of domestic energy resources. The second is Türkiye's ability to substitute for probable energy-based production losses in Europe, as has been the case for a while, due to the supportive nature of the policy mix regarding the continuity of supply. The third factor is that in case of a deeper slowdown in global demand than anticipated, supportive effects on the current account balance emerge through domestic demand and global commodity prices.

Tracked Indicators: Geopolitical developments, exports, imports and the current account balance, developments in tourism and transport, demand and inflation indicators by sectors and subsectors, wage and labor cost indices.

Pricing Behavior and Inflation Expectations

- Inflation expectations and the underlying trend of inflation remain high, despite a recent decline. It is seen that shocks to the economy such as the exchange rate, commodity prices and supply constraints have recently lost strength. The effectiveness of the holistic policy mix against inflation, the frequency and magnitude of supply shocks as well as the extent of their spillover into the economy will shape this outlook. Despite the increasing disinflationary nature and coordination of policies in use, the ongoing effects of supply shocks on the economy creates upside risk to the forecasts.
- It is important for sustainable price stability that the growth rate of loans and the achieved financing resources meet with economic activity in accordance with their purpose. Sudden acceleration in loans poses an upside risk to inflation forecasts.

Tracked Indicators: Survey and market-based expectations for inflation and exchange rates, indicators for backward indexation, indicators for inflation uncertainty, financial volatility indicators, course of demand and growth components, loan and deposit developments, loan conditions.

Monetary, Fiscal and Financial Coordination

- The disinflation process may be delayed or accelerated depending on whether administered price and tax adjustments exceed or fall below the path envisaged in this Report.

Tracked Indicators: Adjustments to administered prices and taxes, developments in tax revenues and public spending, government wage policies, indicators for government budget and public debt stock, fiscal stance (structural budget balance).