INFLATION REPORT

2023-IV

November 2, 2023

TÜRKİYE CUMHURİYET MERKEZ BANKASI

Contents

1. Overview 1

1.1 Monetary Policy Decisions 3

2. Economic Outlook 5

2.1 Global Economic Developments 5

2.2 Financial Conditions 10

2.3 Economic Activity 14

2.4 Inflation 22

3. Medium-Term Projections 40

3.1 Current State, Short-Term Outlook and Assumptions 40

3.2 Medium-Term Projections 42

3.3 Key Risks to Inflation Forecasts and Possible Impact Channels 45

Boxes

Box 2.1 Findings from Interviews with Firms 31

Box 2.2 Macro Components of Consumer Inflation 35

Box 2.3 Drivers of Inflation Expectations 37

Box 3.1 Risks and Uncertainty Band 49

Box 3.2 Balancing in Domestic Demand and Monetary Transmission Mechanism 52

1.Overview

Annual consumer inflation increased by 23.3 points to 61.5% in the third quarter of 2023. The current reporting period saw significant price increases widespread across sectors. This was driven by the significant depreciation of the Turkish lira (TL), wage adjustments, hikes in taxes and administered prices as well as upward movements in global energy prices, particularly in crude oil prices. In this period, inflation expectations increased significantly as well. Led by the depreciation of the TL, the combination of developments that are highly influential on price-setting behavior caused shocks to rapidly pass through to prices. Additionally, price increases in fresh fruits and vegetables, which exceeded their seasonal averages considerably in the past quarter, were another factor that added to inflationary pressures. Aggregate demand conditions decelerated in the third quarter, but remained inflationary.

Core indicators increased above expectations in the third quarter, yet the underlying trend of inflation has started to slow down as of September. As a result of the combination of multiple shocks that have a high impact on price-setting behavior in a short period of time, the seasonally adjusted monthly increases of core indicators rose above projections in July and August. Meanwhile, wage and exchange-rate-driven cost-side pressures as well as the effects of tax adjustments were largely passed through to inflation. Thus, the monthly rates of increase in core indicators started to weaken in September. Leading indicators suggest that the deceleration in underlying inflation became more pronounced in October.

Inflation is projected to be 65% at the end of 2023, fall to 36% at the end of 2024 and to 14% at the end of 2025. As a result of the increase in inflation above forecasts due to exchange rates, supply-side effects in some unprocessed food products and fuel prices, coupled with additional impacts of this development on expectations, the year-end forecast has been revised upwards by 7 points to 65%. On the other hand, the end-2024 forecast has been raised to 36% stemming from revisions in the assumptions for administered prices and energy import prices. Moreover, volatilities in commodity prices, particularly petroleum, driven by geopolitical developments, the effects of tight monetary policy on global financial conditions, and uncertainties regarding administered prices and wages have been factored into the uncertainty band of inflation forecasts (Box 3.1).

It is projected that inflation will rise throughout the first half of 2024, and headline inflation will assume a steady decline as of the second half of 2024. The policy rate hikes as well as actions taken to strengthen the monetary transmission mechanism, such as quantitative tightening, selective credit policy and steps to simplify the macroprudential framework, started to be mirrored in financial conditions. Leading indicators give signs of a gradual balancing in domestic demand amid slower consumer loan growth and increased demand for TL savings instruments (Box 3.2). Medium-term projections are based on an outlook in which the monetary policy stance will be determined in a way that ensures a significant decline in inflation. This tight monetary policy stance is assessed to reinforce the balancing in domestic demand and the gradual improvement in the current account balance. Additionally, it is anticipated that with firm and steady adherence to monetary tightening, monthly inflation will decelerate in the short run, and inflation expectations, which are highly sensitive to inflation realizations, will improve (Box 2.3).

Economic activity remained robust in the second quarter, due in particular to domestic demand. In the second quarter, Gross Domestic Product (GDP) increased by 3.8% on an annual basis, while quarterly growth accelerated and stood at 3.5%. The largest contribution to annual growth came from final domestic demand with 12.7 points. Most of this contribution stemmed from the strong increase in private consumption. Despite the decline in exports due to ongoing weak external demand, imports increased drastically amid buoyant domestic demand, as a result of which net exports dampened growth by 6.3 points. On the production side, industrial sector value added remained weak consistent with the external demand outlook, while the services sector value added made a prominent contribution to growth.

Indicators for the third quarter point to a slowdown in growth momentum on a quarterly basis. The retail sales volume index and card expenditures indicate that although consumption demand continued to rise in the third quarter, its rate of increase slowed amid tightening financial conditions. Weak external demand continues to restrain production indicators. As of August, seasonally and calendar-adjusted industrial production increased by a limited 0.5% quarter-on-quarter in the third quarter. Similarly, employment growth was also limited in the third quarter. As of August, seasonally adjusted employment increased by 0.3% (111,000 people) on a quarterly basis. Meanwhile, the seasonally adjusted labor force participation

rate fell by 0.1 points to 53.4%. Thus, in the third quarter, the unemployment rate decreased by 0.4 points quarter-on-quarter to 9.3%. High-frequency data suggest that demand in the labor market remains strong.

The annualized current account deficit decreased amid the strong course of services balance and the recent decline in the foreign trade deficit. Exports, which fell in July due to deliveries brought forward because of the religious holiday, recovered gradually in August and September as the calendar effects were eliminated and followed an almost flat course in quarterly terms. Meanwhile, seasonally adjusted imports decreased on a quarterly basis as a partial reflection of the dampening impact of the tighter monetary policy stance. Although September data points to a slowdown in gold imports due also to the quota measure introduced in the previous month, gold imports are still above their historical average. Energy imports, on the other hand, rose in September as the recently increasing global energy prices started to be directly reflected in the monthly energy imports bill, but they continued to decline on an annual basis. In this period, while seasonally adjusted imports of intermediate goods dropped by 5.2% compared to the previous quarter, imports of consumption and investment goods rose by 5.7% and 2.4%, respectively. The quarterly uptrend in these items lost pace as of the third quarter. Services revenues, which remained robust on the back of travel and transportation revenues, maintained their strong contribution to the current account balance throughout the year. In the first eight months of the year, travel and transportation revenues increased year-on-year by USD 4.1 billion and USD 0.3 billion to USD 30.5 billion and USD 22.8 billion, respectively.

While the downtrend in global headline inflation lost pace due to the rise in energy prices, central banks maintained their communication that they would continue to keep policy rates at levels that would help sustain the fall in inflation. In advanced economies, headline consumer inflation dropped by approximately 0.5 points to 3.7%, and core inflation decreased by 0.6 points to 4.2% compared to the previous reporting period. On the other hand, headline inflation in emerging economies (excluding China and Türkiye) rose by 0.1 points to 5.4%, while core inflation dropped by 0.3 points to 5.4%. Thus, inflation continues to hover significantly above the target level of 2% in advanced economies and the average target level of 3.5% in emerging economies.

Recently, monetary policies of advanced and emerging economies have started to diverge due to the country-based differences in inflation dynamics. The impact of monetary policy on inflation has become more evident amid tighter financial conditions. Between July and September, the Fed and the European Central Bank (ECB) raised their policy rates by a total of 25 and 50 basis points, respectively. The ECB also assessed that the current level of interest rates was consistent with the inflation target, signaling an end to the rate-hike cycle. Accordingly, the ECB kept the policy rate unchanged at its October meeting. On the other hand, some emerging economies, whose policy rates have remained quite high, started to cut rates amid the improvement in their inflation outlook. However, central banks of some other emerging economies pointed to heightened global uncertainty and raised their interest rates. Despite this divergence in policy implementation, the monetary tightness is expected to be maintained globally given that inflation remains above the targets.

The global risk appetite deteriorated due to the expectation that the monetary policies of major central banks will remain tight for a protracted period. In line with the deterioration in risk appetite, risk premium indicators in emerging economies increased, while Türkiye's CDS premium, which declined sharply after June, stood at 413 basis points as of 27 October. The one-month implied volatility of the Turkish lira declined significantly in the same period to around 10%, while the 12-month implied volatility decreased to 27% as of 27 October. The CBRT's gross international reserves maintained the strong upward trend that started in June, and rose to USD 126.1 billion as of 20 October. Despite the significant deterioration in risk perception for emerging economies and escalating geopolitical risks in the nearby region in the current reporting period, the weakening in Türkiye's CDS premium and the Turkish lira remained relatively limited, and international reserves continued to increase as a result of the disinflation-oriented monetary policy framework.

The monetary policy has produced its first visible effects on financial conditions. While loan growth and composition have normalized, demand for Turkish lira deposits has increased. Commercial loan flow, which weakened due to the fall in credit-deposit interest spread in May, has been restored thanks to the steps taken towards simplification of the macroprudential framework. Following a more balanced course due to these steps, the 13-week annualized growth rate of commercial loans stood at 16.4% as of 20 October. Meanwhile, the 13-week annualized growth rate of retail loans, which pose a risk to inflation by

boosting domestic demand and reached 140% in May, declined to 41.8% as of 20 October. In the third quarter of the year, deposit rates started to increase on the back of the ongoing policy rate hikes, regulations to increase the share of Turkish lira deposits and quantitative tightening steps. Accordingly, the share of Turkish lira deposits has grown, whereas FX-protected and FX-denominated deposits have decreased.

1.1 Monetary Policy Decisions

Pointing to the higher-than-anticipated deterioration in inflation expectations and the pricing behavior, the CBRT raised the policy rate from 17.5% to 35% during August-October period. In August, the CBRT stated that the rise in the underlying trend of inflation continued, and there was an additional pressure on inflation through the expectations channel stemming also from the increase in fuel prices. Subsequently, the CBRT informed the public in a timely manner that inflation would climb in the short term, and at the end of the year, it would hover close to the upper bound of the forecast range provided in the previous Inflation Report. In the current reporting period, the CBRT continued with monetary tightening to anchor inflation expectations, control the deterioration in the pricing behavior and achieve disinflation in 2024 as envisaged. Accordingly, the policy rate was raised from 17.5% to 25% in August, to 30% in September and to 35% in October.

The CBRT continued to reinforce the monetary tightening process with a holistic approach. In addition to policy rate hikes, the CBRT continued to make selective credit and quantitative tightening decisions to support the monetary tightening process. In this context, reserve requirement ratios for FX-protected deposit accounts were raised, and excess Turkish lira liquidity in the market was withdrawn from the financial system. Moreover, the monetary transmission mechanism was strengthened with arrangements to increase the share of Turkish lira deposits. As a supportive step for the monetary tightening process, in the scope of the securities maintenance practice based on credit growth, the monthly growth limit for TL commercial loans (excluding export, investment, agricultural and tradesmen loans) was decreased from 3% to 2.5%, and the monthly growth limit for vehicle loans was decreased from 3% to 2%. The maximum monthly interest rate applied to credit card cash utilization and overdraft accounts was raised.

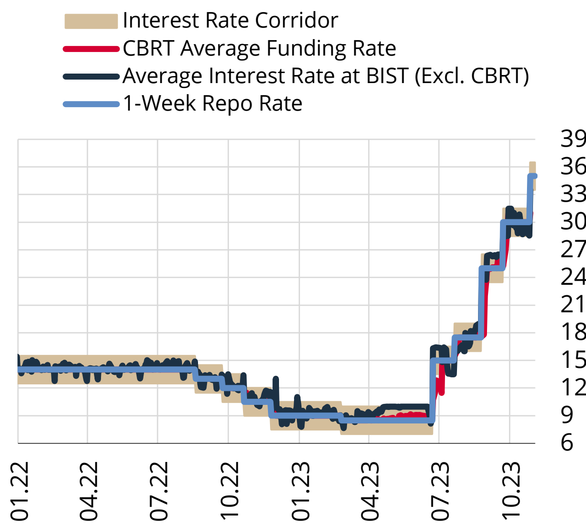
The CBRT is gradually implementing the simplification policy while safeguarding macro financial stability. As part of the simplification process, it has been decided to terminate the conversion target from FX accounts to FX-protected deposit accounts and the securities maintenance and reserve requirement practice based on the Turkish lira share of total deposits in which FX-protected accounts are deemed as Turkish lira deposits. Instead, in order to reduce FX-protected deposits gradually and to support Turkish lira deposits, the CBRT decided to adopt the targets of conversion from FX-protected deposits to Turkish lira deposits, renewal of FX-protected deposit accounts at a certain ratio and increasing the share of standard Turkish lira deposit accounts. Finally, in order to increase the effectiveness of the implementation, these targets were removed from the securities maintenance regulation and the practice was simplified and strengthened within the framework of the reserve requirement commission regulation. Moreover, the minimum interest rate requirement for Turkish lira originated FX-protected deposit accounts was terminated to support Turkish lira deposits. The securities maintenance practice applied at a rate of 30% on Turkish lira-denominated commercial loans and securities issued by the real sector has been abolished. The securities maintenance practice that banks were subject to for Turkish lira commercial loans based on the interest/profit rate that banks applied above 1.8 times of the reference rate was terminated. Similarly, the securities maintenance practice that factoring companies were subject to for factoring receivables based on the interest rate that these companies applied above 2.7 times of the reference rate was also abolished.

The CBRT has taken steps to support the healthy development of credit flows. The credit mechanism has become functional again thanks to the gradual rate hikes supported by the simplification of the macroprudential framework. As a result, credit growth has been in line with current growth limits set within the scope of the securities maintenance practice. Meanwhile, the CBRT lowered the financing cost of rediscount credits, which promotes exports, and raised limits for SMEs and daily utilization. Thus, the total interest cost of these credits has been limited by the policy rate. The CBRT revised SME rediscount credits and decided to set these limits at 50% of the financial criterion in the SME definition. Moreover, the daily rediscount credit limit for export and FX-earning services, which was raised from TL 300 million to TL 1.5 billion on 25 July 2023, was raised again from TL 1.5 billion to TL 3 billion to support selective credit utilization and exporters' access to finance. It has also been stated that the share of SMEs will be increased further, and export performance will continue to be taken into account while extending rediscount credits.

Further simplification steps have been taken regarding policies affecting access to loans, and thus, the securities maintenance practice applied a rate of 30% based on the Turkish lira-denominated commercial loans was terminated, and it has been decided that SME loans, export loans and investment loans that were excluded from this practice would no longer be subject to the securities maintenance practice even if they were not extended against expenditure. Moreover, access to export loans has been facilitated by exempting import costs of investment goods from the calculation of net exporter criteria.

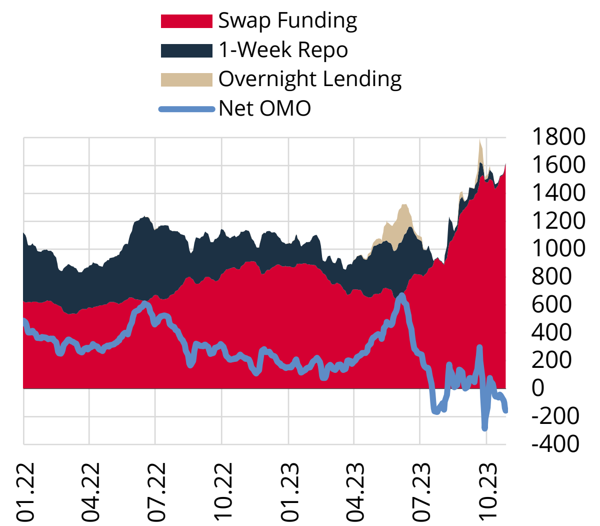
The CBRT provided funding mostly through currency swap transactions and the share of Open Market Operations (OMO) in funding significantly decreased. In the current reporting period, overnight rates moved within the CBRT interest rate corridor depending on liquidity conditions in the market. The amount of currency swap transactions, which was TL 907.1 billion on 26 July 2023, increased to TL 1.59 trillion on 27 October 2023. In the same period, net OMO funding fell into negative territory to TL -148.21 billion as a result of exchange rate difference payments to FX-protected deposits and the CBRT's FX transactions (Charts 1.1.1 and 1.1.2).

Chart 1.1.1: CBRT Rates and Short-Term Interest Rates (%)



Source: BIST, CBRT.

Chart 1.1.2: CBRT OMO and Swap Transactions (One-Week Moving Average, TL Billion)



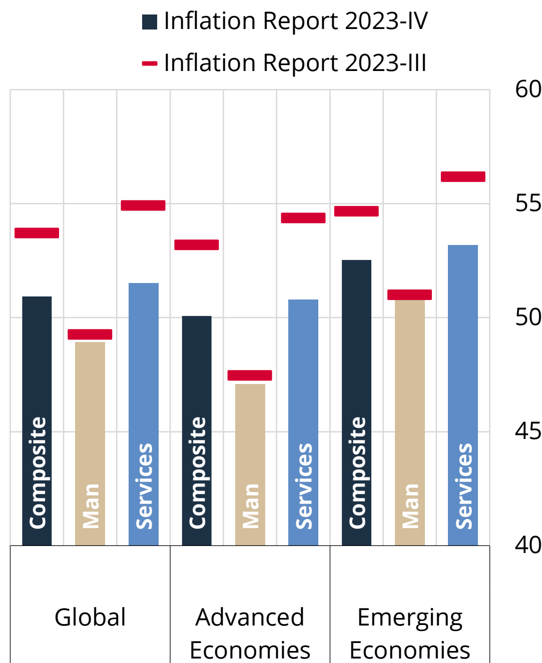
Source: CBRT.

2. Economic Outlook

2.1 Global Economy

Global economic activity, which displayed a relatively favorable course in the first half of the year, lost momentum in the third quarter due to the slowdown in the services sector. The buoyancy in the services sector, which is a reflection of strong demand conditions, weakened, while the divergence between the manufacturing industry sector and the services sector narrowed. An analysis of global PMI indices reveals that the manufacturing industry PMI index, which remained flat in both advanced and emerging economies, posted a limited quarterly decline in each country group. In the services sector, the PMI index fell by 3.6 points in advanced economies and 3.0 points in emerging economies. Compared to the previous reporting period, the global composite PMI index fell by 2.8 points to 50.9 (Chart 2.1.1). Despite the deterioration in leading indicators, the global growth index weighted by export shares of Türkiye's trading partners remained flat compared to the previous reporting period. The index is projected to grow by 1.7% and 2.0% in 2023 and 2024, respectively. The revisions in the growth forecasts of Türkiye 's trading partners for 2024 have been generally downward (Table 2.1.1). In the euro area, the slowdown in growth has become more evident due to weakening domestic and external demand (Zoom-In 2.1). In sum, expectations that global economic growth would continue in 2023, albeit at a slower pace, have been maintained, however, the restrictive effects of monetary policies, particularly on manufacturing industry production, have started to be observed in forecasts for 2024.

Chart 2.1.1: Global PMI Indices
(Level, Quarterly Average)



Source: S&P Global.

Table 2.1.1: Growth Forecasts for Türkiye's Main Trading Partners* (%)

	2022	2023 Forecast		2024 Forecast	
		IR 2023-III	IR 2023-IV	IR 2023-III	IR 2023-IV
Euro Area	3.5	0.5	0.5	0.9	0.6
Germany	1.8	-0.3	-0.4	1.1	0.5
USA	2.1	1.6	2.2	0.5	0.9
UK	4.0	0.1	0.4	0.4	0.3
Italy	3.8	1.1	0.7	0.8	0.6
Iraq	8.8	2.4	1.1	2.0	3.8
Spain	5.5	2.1	2.3	1.5	1.3
France	2.6	0.6	0.8	0.9	0.8
Netherlands	4.5	0.9	0.5	1.0	0.8
Israel	6.4	2.9	3.0	3.4	3.2
Russia	-2.1	0.7	1.7	1.3	1.4
UAE	7.2	3.6	3.0	3.3	4.2
Romania	4.8	2.6	2.3	3.7	3.4
Belgium	3.1	0.9	0.9	1.1	0.9
Poland	4.9	1.0	0.2	2.9	2.7
Egypt	6.6	3.9	4.1	3.9	3.9
Bulgaria	3.4	1.6	1.7	2.3	2.3
China	3.0	5.5	5.0	4.8	4.4

Source: Consensus Economics, S&P Global.
* Countries are ranked according to the size of their share in Türkiye's exports in 2021.

Geopolitical risks, financial conditions and supply-side factors have been affecting commodity prices. Compared to the previous reporting period, commodity prices excluding energy have declined across the board, but the headline commodity index continues to hover above the average of the last decade. The decision by the Organization of the Petroleum Exporting Countries (OPEC+) member countries to cut production in addition to their ongoing production below capacity as well as geopolitical risks continue to affect oil prices, leading to increased volatility in prices. Brent oil prices per barrel went up by 6.4% compared to the previous reporting period. Industrial commodity prices, which have historically been on a path consistent with

the global growth outlook and China's growth, remained almost flat compared to the same period of the last year. Agricultural commodity prices, on the other hand, hovered above their average of the last decade, yet receded by 8.0% compared to the previous reporting period. The moderate recovery in supply, which came on the back of the recent rise in geopolitical risks and China's further announcements on economic incentives, causes a rise in transportation costs (Table 2.1.2).

Table 2.1.2: Commodity Prices (%)

	July	August	September	October	Annual	Compared to the Previous Reporting Period*
Commodity Headline Index	4.0	3.5	4.4	-3.6	-7.7	0.5
Energy	7.4	7.6	7.2	-4.5	-9.7	4.4
Agricultural Commodities	-2.4	-3.8	-0.6	-1.1	-16.4	-8.0
Industrial Metals	0,3	-1,2	0,5	-2,9	-1,8	-3,7
Precious Metals	1.4	-1.6	-0.8	-1.1	14.9	0.0
Non-Energy	-0.3	-2.3	0.1	-2.1	-4.3	-5.1
Brent Oil	7.2	7.6	9.1	-2.9	-2.2	6.4
Natural Gas (USA)	6.4	0.2	2.0	15.5	-48.8	27.0
Natural Gas (Europe)	-9.4	19.0	5.3	27.5	-64.8	78.9
Coal	3.5	8.5	8.8	-11.7	-63.9	0.9
Aluminum	-1.1	-1.1	2.3	0.1	-2.7	1.9
Copper	0.9	-1.6	-1.2	-3.4	4.9	-5.6
Iron	0.0	-4.7	12.9	-1.8	24.6	5.4
Wheat	2.1	-9.2	-6.1	-0.2	-34.0	-19.3
Soy Beans	5.5	-8.1	-4.5	-3.1	-7.0	-15.3
Rice	-4.8	-7.0	1.7	-1.5	-3.9	2.7
Corn	-10.9	-13.3	-0.5	3.4	-28.6	-9.8
Cotton	2.8	2.5	0.3	-1.7	2.4	-2.6
Sugar	-3.0	0.8	9.8	1.3	47.0	11.9

Source: Bloomberg.
* Denotes the percentage change between 27 October 2023 and 27 July 2023.

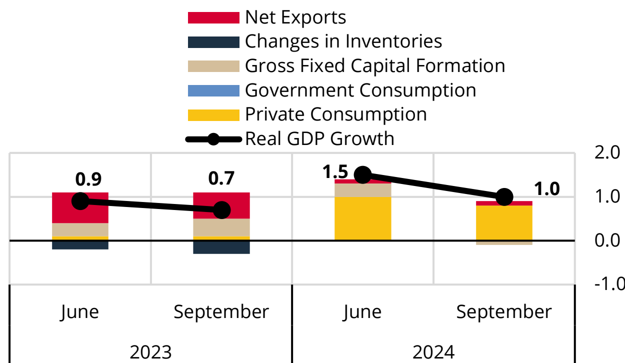
Compared to the previous reporting period, the downtrend in headline inflation decelerated due to energy prices, while the persistence in core inflation started to break down, particularly in advanced economies. Inflation remained significantly above targets. Headline inflation, which has been adversely affected by the recent rise in energy prices, decreased from 4.2% to 3.7% in advanced economies compared to the previous reporting period, while in emerging economies (excluding China and Türkiye), it increased by 0.1 percentage points to 5.4%. However, headline inflation fell in most emerging economies, except for some large economies such as Brazil, Russia and Türkiye (Chart 2.1.3). However, recent geopolitical developments pose a risk of further upward pressure on energy prices, particularly oil prices. As the effects of tight monetary policy started to be observed, the core inflation trend has been declining, particularly in advanced economies. Monthly inflation data suggest that core inflation in advanced economies has lost momentum relatively (Chart 2.1.2). On an annual basis, core inflation receded from 4.8% to 4.2% in advanced economies compared to the previous reporting period. While the improvement in global supply conditions continues, there are signs of a slowdown in demand for the services sector. Meanwhile, labor markets remain tight despite some normalization. As a result, supply-side inflation pressures have been easing, while the effects of monetary policy on demand have started to be felt more clearly. Nevertheless, inflation remains above the targets on a global basis.

Zoom-In 2.1

Euro Area Growth Outlook and Its Components

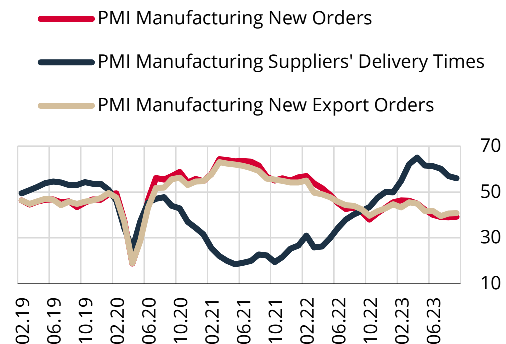
The growth outlook for the euro area diverged negatively compared to advanced economies, and the weakening in domestic and external demand were the most influential factors in the downward revision of growth forecasts. The European Central Bank (ECB) revised its forecasts in September and lowered its forecasts by 0.2 points for 2023 and 0.5 points for 2024 compared to June. This was mainly driven by expectations of a decline in the contribution of domestic and external demand to growth. An analysis of subcomponents of growth forecasts suggests that the contribution of net exports decreased, and the expectation of negative contributions of inventory accumulation has increased for 2023. The revision in forecasts for 2024 stemmed from private consumption and investment expenditures (Chart 1). PMI indicators also suggest that supply conditions have been improving since the second half of 2022, while domestic and external demand have lost momentum (Chart 2).

Chart 1: Euro Area Real GDP and its Components (Percentage Points)



Source: ECB.

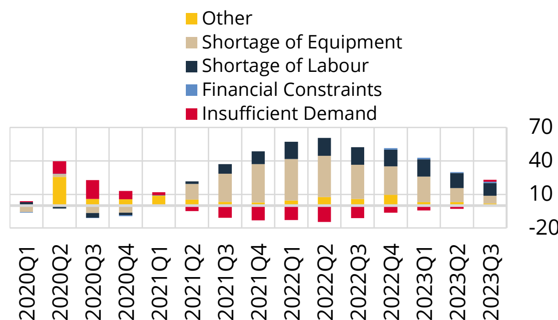
Chart 2: PMI Indices (Level)



Source: S&P Global.

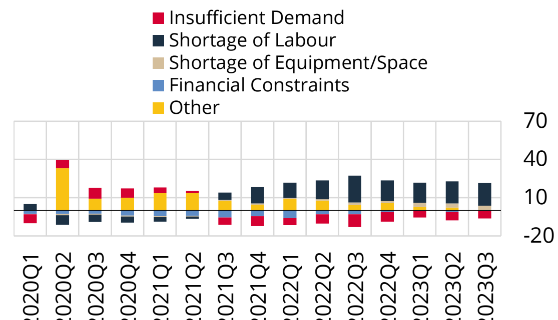
Survey indicators also show that the factors limiting economic activity have changed. While the shortage of machinery and equipment, which indicates supply constraints in factors of production in the Survey, was the main factor restraining manufacturing industry production in the post-pandemic period, the recent responses of the Survey participants suggest that this effect has weakened. Confirming the tightness in the labor market, shortage of labor force in both the manufacturing industry and the services sector continue to affect economic activity. While the positive contribution of demand to the manufacturing sector production has diminished and disappeared, it continues to support activity in the services sector, albeit decreasingly (Chart 3 and Chart 4).

Chart 3: Assessment of Limits to Production in the Euro Area* (%)



Source: European Commission.

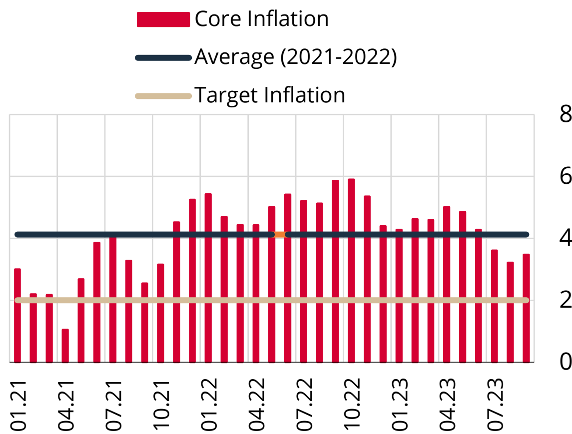
Chart 4: Assessment of Limits to Business Activity in the Euro Area* (%)



Source: European Commission.

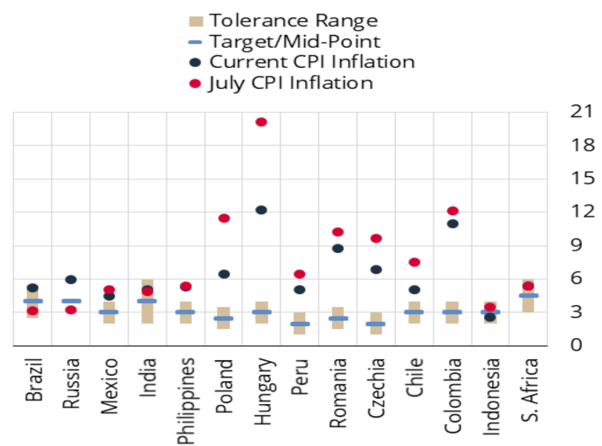
* Euro Area Manufacturing and Services Sector Surveys are conducted monthly by the European Commission. The data shows the difference in the answers given to the Survey from the average for the period 2010-2023.

Chart 2.1.2: Core Inflation in Advanced Economies* (3-Month Moving Average, Annualized, %)



Source: Bloomberg, CBRT.
* Advanced economies include USA, Euro Area, Japan, UK, Canada, South Korea, Switzerland, Sweden, Norway and Israel.

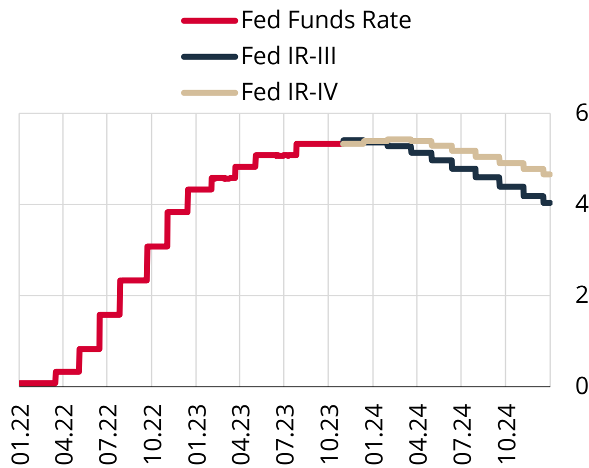
Chart 2.1.3: Consumer Inflation in Emerging Economies (Target, Tolerance Range and Realization, %)



Source: Bloomberg.

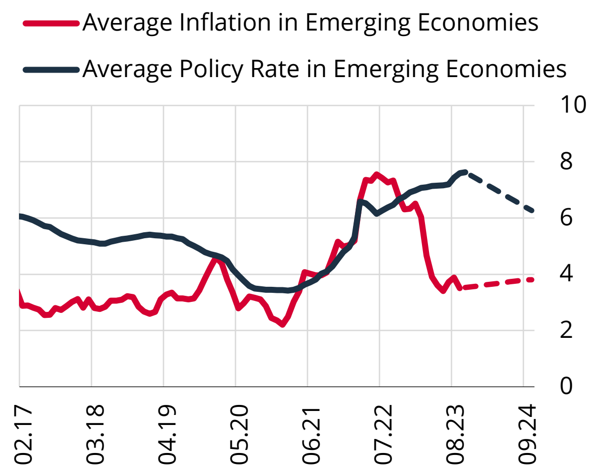
Due to the strong course of labor markets and inflation rates exceeding targets, central banks maintain their tight stance, and in the upcoming period, central banks in advanced economies are generally expected to opt for easing at a later date and more slowly. In the current reporting period, additional monetary tightening steps were taken in advanced economies to fight against inflation. The US Federal Reserve (Fed), which adhered to the slowdown path in the rate hike process, raised interest rates by 25 basis points in July and left them unchanged at 5.5% in September. The Fed stated that it would follow a data-driven monetary policy and shared that the members of the Federal Open Market Committee still expect one more rate hike until the end of the year. However, the Committee members' policy rate expectations for 2024 and 2025 suggest that the Fed will ease monetary policy at a later date and slowly in the coming period. Similarly, the Fed policy rate implied by futures also has priced a later and slower easing in monetary policy compared to the previous Inflation Report (Chart 2.1.4). The ECB raised its policy rate by 25 basis points at its July and September monetary policy meetings. The ECB stated that if interest rates were maintained at these levels for a sufficiently long period, they would make a substantial contribution to the timely return of inflation to the target, signaling the end of the rate hike cycle. Consistent with this statement, the ECB left the policy rate unchanged at its October meeting. Moreover, like the Fed, the ECB reiterated that it would pursue a data-dependent monetary policy stance. In the current reporting period, Bank of England, Norges Bank and Sveriges Riksbank continued to tighten their monetary policies, while other central banks of advanced economies maintained their current tight stances. Meanwhile, on the back of improvement in their inflation outlook, some emerging economies, whose policy rates remained quite high, started to cut interest rates. In the current reporting period, Banco Central do Brasil, Central Reserve Bank of Peru , Central Bank of Chile and National Bank of Poland reduced their policy rates by 100, 50, 175 and 75 basis points, respectively. The People’s Bank of China cut its one-year lending rate by 10 basis points to 3.45% in August in order to support the economy that was affected by exports with declining recovery after the pandemic and weak consumer spending. On the other hand, some central banks of emerging economies raised interest rates in response to climbing global uncertainty. In this period, Bank of Russia, Bank of Thailand, Bank Indonesia and the Central Bank of the Republic of Philippines raised policy rates by 450, 50, 25 and 25 basis points, respectively. In the upcoming period, in line with the decline in inflation, central banks of some emerging economies are likely to continue interest rate cuts, while some will start cutting rates. However, it is expected that central banks will continue to cut rates in a way to maintain monetary tightness and sustain disinflation as inflation is still above target rates in many of these countries. Policy rates implied by forward prices suggest that interest rates in emerging economies will continue to be set above inflation (Chart 2.1.5).

Chart 2.1.4: Futures Implied Fed Funds Rate (Effective, %)



Source: Bloomberg.

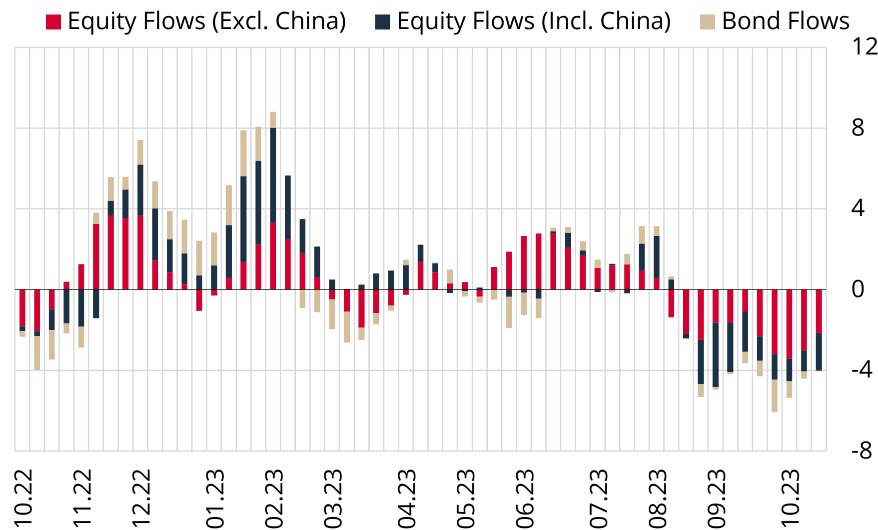
Chart 2.1.5: Futures Implied Policy Rates and Inflation Expectations* (% Points)



Source: Bloomberg.
* Inflation expectations are taken from the Bloomberg Survey. Emerging economies include Brazil, Chile, China, Colombia, Czechia, Hungary, India, Indonesia, Mexico, Peru, Philippines, Poland, Romania, Russia, South Africa and Thailand.

Portfolio flows to emerging economies, which recovered after the banking crisis in March, were replaced by portfolio outflows in the August-October period. Fluctuations in the global risk appetite and uncertainties over the Chinese economy led to outflows from both bond and stock markets of many emerging economies, particularly China. Accordingly, between 31 July- 20 October 2023, USD 5.6 billion and USD 49 billion outflows were recorded from bond and stock markets, respectively (Chart 2.1.6).

Chart 2.1.6: Weekly Portfolio Flows to Emerging Economies
(4-Week Moving Average, Billion USD)

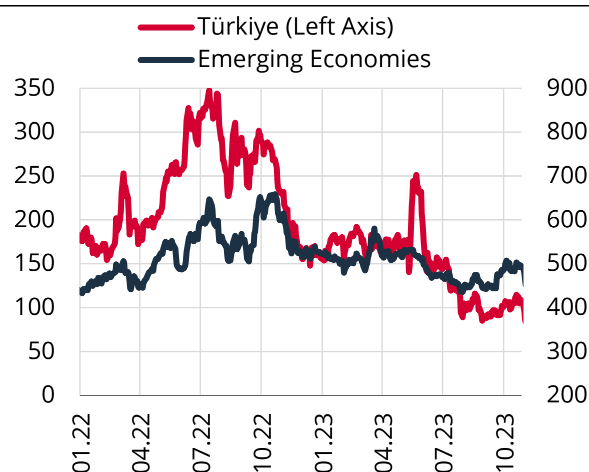


Source: IIF.

2.2 Financial Conditions

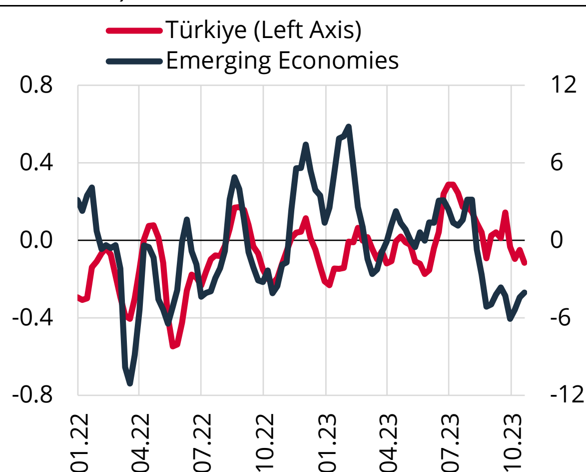
The global risk appetite deteriorated due to the expectation that the monetary policies of major central banks will remain tight for a protracted period. In view of the Fed's keeping the rate unchanged at its September meeting, expectations for a later and slower rate cut, uncertainties over the inflation and growth outlook as well as the recently heightened geopolitical risks weighed on the global risk appetite. In line with the deterioration in risk appetite, risk premium indicators in emerging economies increased, while Türkiye's CDS premium declined slightly. The CDS premium, which assumed a rapid downtrend since June, declined by around 300 basis points due to the disinflationary rhetoric and comprehensive steps taken, maintained its downtrend in August and September, but increased in October due to heightened geopolitical risks in the immediate region and reached 413 basis points as of 27 October (Chart 2.2.1). Following the high returns seen in the Turkish equity market in the second half, the current reporting period saw net foreign outflows totaling USD 0.71 billion against a total net inflow of USD 1.1 billion since the beginning of June. Meanwhile, the government domestic debt securities (GDDS) market, which recorded outflows of USD 2.96 billion over the past two years, recorded a net inflow of USD 0.45 billion in the current reporting period. Foreign investors' recent interest in the GDDS market, which has received a fund inflow of USD 0.51 billion since early June, is expected to gain pace once the disinflationary process begins (Chart 2.2.2).

Chart 2.2.1: CDS Premium in Türkiye and Emerging Economies* (5-Year, Basis Points)



Source: Bloomberg.
* Emerging economies include Brazil, Colombia, Chile, Indonesia, Malaysia, Mexico, Philippines and South Africa.

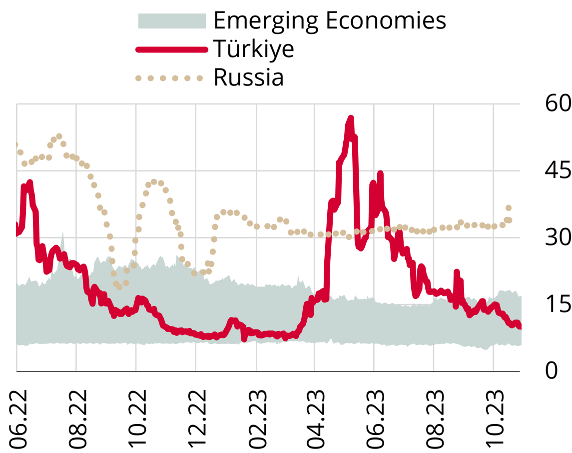
Chart 2.2.2: Portfolio Flows to Türkiye and Emerging Economies * (4-Week Cumulative, USD Billion)



Source: CBRT, IIF.
* Turkish data includes portfolio flows to equity and GDDS markets. Repo is excluded from the GDDS data.

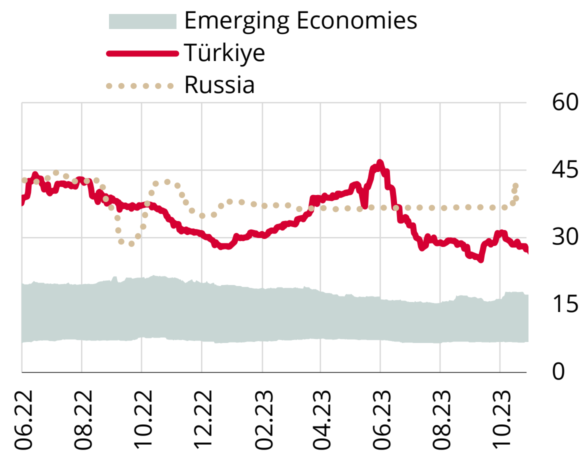
The decline in the exchange rate volatility of the Turkish lira implied by options continued in the third quarter. In the current reporting period, emerging market currencies depreciated against the US dollar amid the deterioration in the global risk appetite, while the depreciation of the Turkish lira remained relatively limited. Consistent with this situation, the exchange rate volatility of the Turkish lira continued to diverge favorably from that of peer currencies. In the current reporting period, the one-month implied volatility of the Turkish lira declined by 777 basis points to around 10%, while the 12-month implied volatility decreased by 158 basis points to 27% (Chart 2.2.3 and Chart 2.2.4).

Chart 2.2.3: Implied FX Volatility by Options*
(Against USD, 1-Month Maturity, %)



Source: Bloomberg.
* Emerging economies include Brazil, Chile, Colombia, Hungary, Indonesia, Malaysia, Mexico, Philippines, Poland, Romania and South Africa.

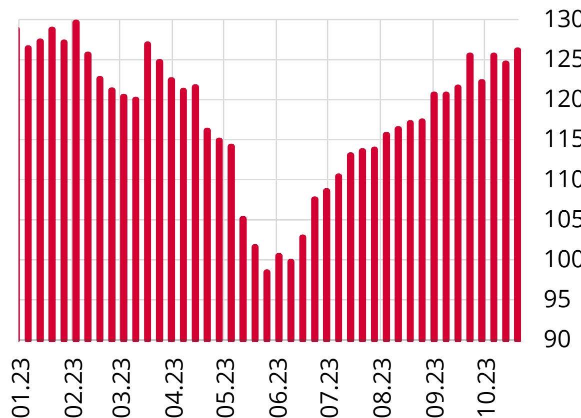
Chart 2.2.4: Implied FX Volatility by Options*
(Against USD, 12-Month Maturity, %)



Source: Bloomberg.
* Emerging economies include Brazil, Chile, Colombia, Hungary, Indonesia, Malaysia, Mexico, Philippines, Poland, Romania and South Africa.

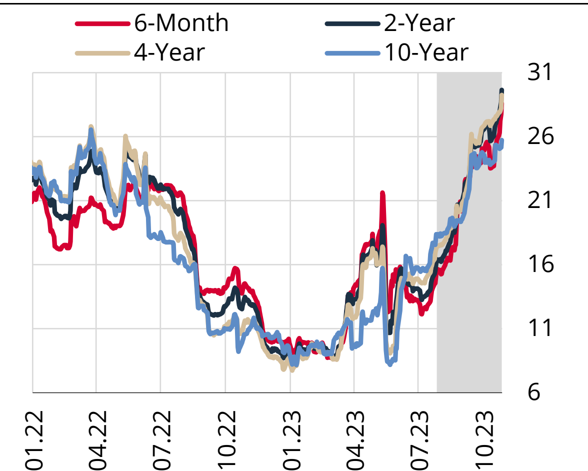
The CBRT's reserves, which declined rapidly in May, have been on a strong uptrend since June. The CBRT's gross international reserves continued the strong uptrend that began in June thanks to the effects of monetary tightening and the simplification steps taken in the micro and macroprudential framework and reached USD 126.1 billion as of 20 October 2023 (Chart 2.2.5). In the period covered by the current Inflation Report, GDDS yields were up across all maturities, more markedly in shorter maturities. The expected improvement in the inflation outlook and the tight monetary policy stance led to a lower increase in long-term GDDS yields. In the upcoming period, the rise in policy rates and the ongoing simplification in the macroprudential policy framework may have an upward impact on GDDS yields. On the other hand, the lagged effects of monetary tightening as well as the disinflation process that is expected to start in the upcoming period and the improvement in inflation expectations stand out as factors limiting the possible increase in GDDS yields, particularly in longer maturities (Chart 2.2.6).

Chart 2.2.5: CBRT's Gross International Reserves (Weekly, USD Billion)



Source: CBRT.

Chart 2.2.6: GDDS Yields (%)

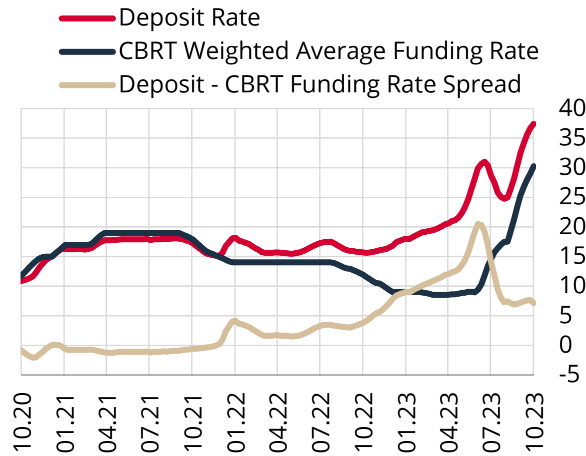


Source: Bloomberg.

The rise in funding costs and loan rates continued. Deposit rates have been increasing on the back of policy rate hikes since June, regulations introduced to increase the share of Turkish lira deposits and quantitative tightening steps (Chart 2.2.7). As a result of the rise in Turkish lira deposit rates, the preference for Turkish lira deposits has been increasing, while FX-protected and FX deposits have been decreasing (Zoom-In 2.2).

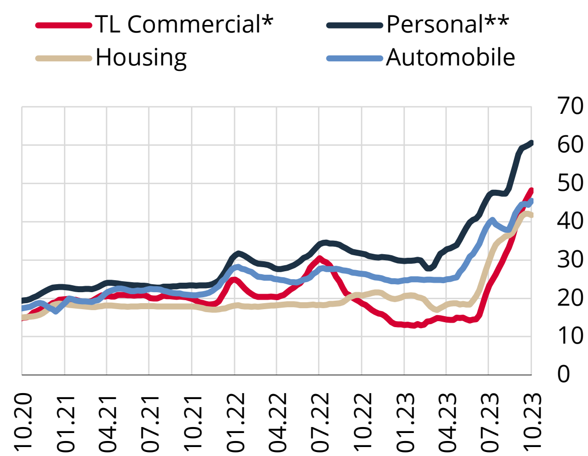
Increasing demand for TL-denominated savings instruments is likely to continue to support CBRT reserves. In line with the developments in funding costs, personal loan rates rose by 17.4 percentage points from end-June to 61.3% on 20 October 2023, while TL commercial loan rates increased by 29.8 percentage points to 48.2% (Chart 2.2.8). In the same period, vehicle loan rates rose from 36.2% to 47.2% and housing loan rates rose from 24.5% to 41.5%.

Chart 2.2.7: Turkish lira Funding Rates
(4-Week Moving Average, %)



Source: CBRT.

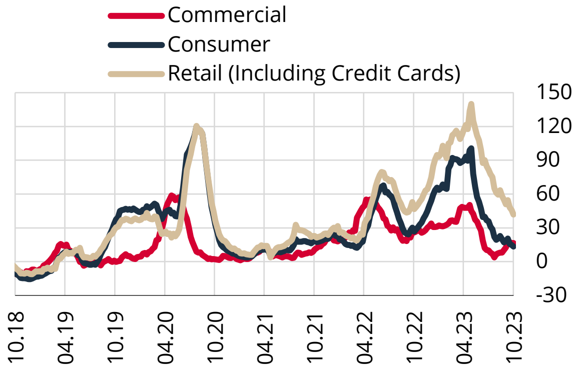
Chart 2.2.8: Loan Rates
(Flow, 4-week moving Average, %)



Source: CBRT.
* Excluding overdraft accounts and credit cards.
** Excluding overdraft accounts.

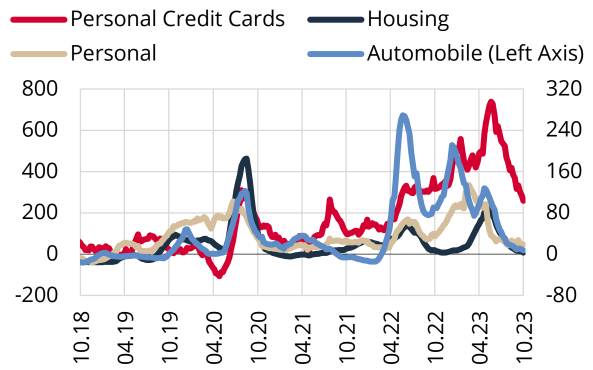
The normalization process has started in credit growth and loan composition. Commercial loan flow, which almost stopped in May due to the TL loan-deposit rate spread falling into negative territory, have been restored thanks to the simplification steps taken in the macroprudential framework. These steps have led to a more balanced development in commercial loans. Meanwhile, retail loan growth, which posed risk to inflation and the current account deficit by boosting domestic demand in the first half of 2023, further slowed. As of 20 October 2023, the 13-week annualized growth rate of commercial loans was 16.4%, while that of retail loans, which had reached 140% back in May, declined to 41.8% (Chart 2.2.9). The 13-week annualized growth rates of vehicle, housing and personal loans slowed to 17.8%, 3.2% and 18.3%, respectively, as of 20 October 2023 (Chart 2.2.10). In the same period, the 13-week annualized growth rate of personal card balances declined to 103.5%, remaining higher than other loan types (Chart 2.2.10). The growth rates of Turkish lira commercial loans and consumer loans were in line with the credit growth limits imposed in the framework of the selective credit policy. An analysis of deflated loan changes reveals that in the third quarter of 2023, commercial and consumer loans, except for personal credit cards, converged to their long-term averages (Chart 2.2.11). Meanwhile, according to the Bank Loans Tendency Survey, in the fourth quarter, the demand for commercial loans is expected to remain flat, while demand for housing and consumer loans is expected to decline (Char 2.2.12).

Chart 2.2.9: Loan Growth
(13-Week Annualized Growth, Adjusted for Exchange Rates, %)



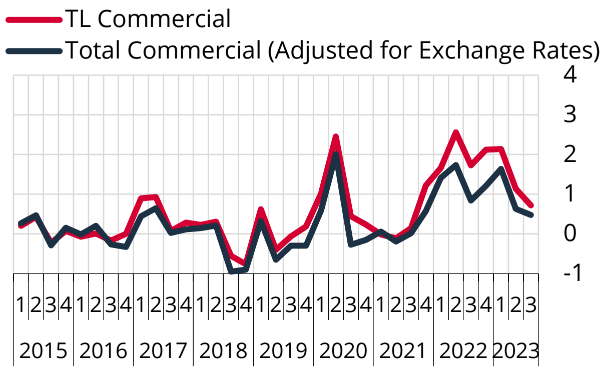
Source: CBRT.

Chart 2.2.10: Retail Loan Growth
(13-Week Annualized Growth, %)

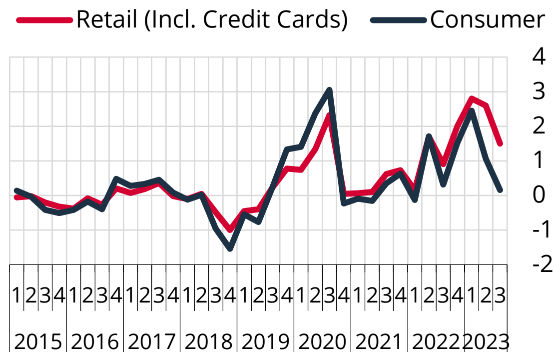


Source: CBRT.

Chart 2.2.11: Credit Change* (Quarterly, Real, Standardized Value)



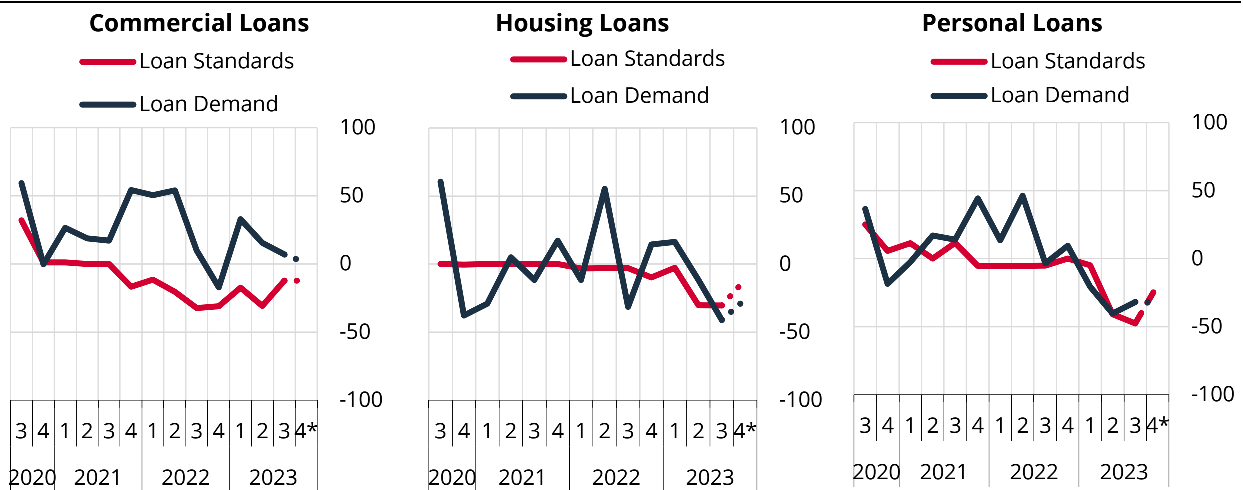
Source: CBRT.



Source: CBRT.

* Series are deflated by Consumer Price Index (CPI). The mean and standard deviations of the series are calculated based on the 2006-2019 period. The quarterly average is taken after weekly real changes are standardized.

Chart 2.2.12: Loan Standards and Loan Demand*



Source: CBRT.

* Denotes banks' expectations. Loan standards and loan demand are calculated as follows: Banks are asked how their loan standards (loan demand) have changed in the past three months. Net trends, which are calculated using percentages, show the direction of change in loan standards (loan demand). An index above zero indicates easing in loan standards (increase in loan demand).

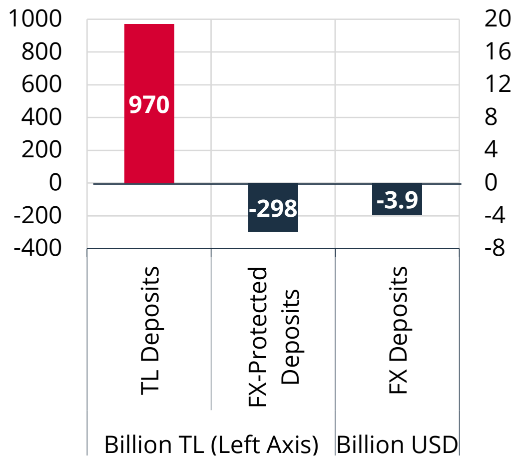
Zoom-In 2.2

Developments in Turkish Lira Deposits, FX Deposits and FX-Protected Deposits

Deposit rates started to increase owing to the monetary tightening and the simplification steps in the macroprudential framework that started in June as well as the regulations towards increasing the share of Turkish lira deposits. Meanwhile, approximately TL 700 billion of liquidity was sterilized on the back of regulations that took effect on 21 July 2023 and 1 September 2023 stipulating a rise in the reserve requirement ratios applied to the CBRT deposit accounts.

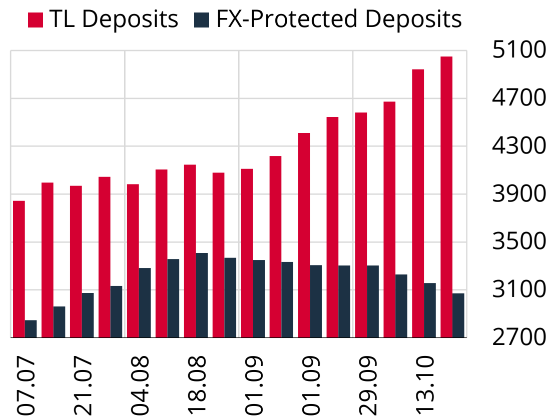
In line with these developments, the total amount of deposits increased, led by Turkish lira deposit accounts. Between 25 August and 20 October, Turkish lira deposit accounts increased by TL 970 billion, while outflows from FX deposit accounts and FX-protected deposits accounts reached USD 3.9 billion and TL 298 billion, respectively (Chart 1). Accordingly, it is observed that in the third quarter, interest rate hikes and regulations supported the shift from FX-protected accounts to Turkish lira deposits (Chart 2).

Chart 1: Developments in Deposits
(Between 25 August – 20 October)



Source: CBRT.

Chart 2: Deposit Accounts by Type
(Billion TL)



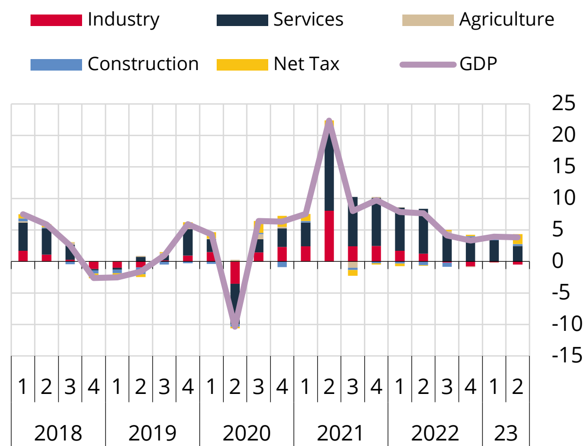
Source: CBRT.

2.3 Economic Activity

Supply and Demand Developments

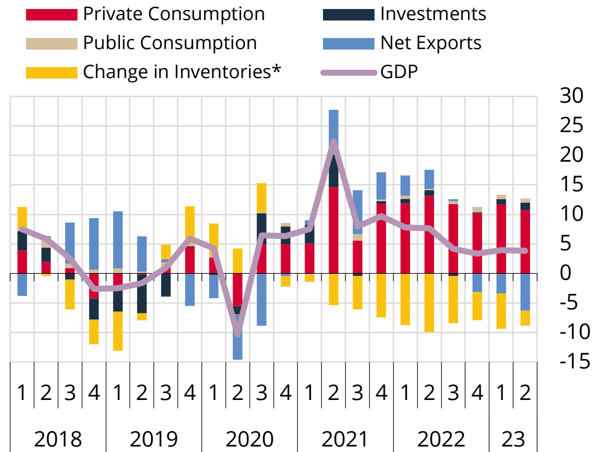
GDP data for the second quarter of 2023 suggest that economic activity remained strong on the back of domestic demand in particular. In the second quarter, GDP increased by 3.8% on an annual basis, while its quarterly growth accelerated to 3.5%. In this period, the services sector remained the main driver of annual growth on the production side. The industrial sector continued to contribute negatively to growth, while the construction sector made a limited positive contribution as in the previous quarter (Chart 2.3.1). On the expenditures side, the largest contribution to annual growth came from final domestic demand with 12.7 points, the majority (10.7 points) of which was driven by the strong increase in private consumption. As a result of the substantial increase in imports driven by brisk domestic demand as opposed to the decline in exports due to the ongoing weak external demand, net exports had a dampening effect of 6.3 points on growth (Chart 2.3.2). In this period, investments contributed 1.3 points to annual growth, with the largest contribution coming from machinery-equipment investments that carried their annual upward trend over into the fifteenth quarter.

Chart 2.3.1: Annual GDP Growth and Contributions from Production Side
(% Points)



Source: CBRT, TURKSTAT.

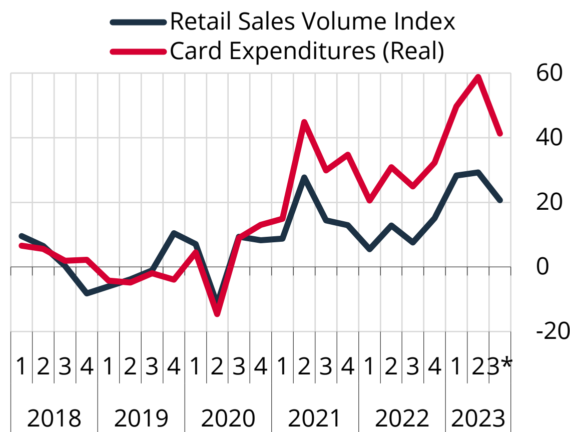
Chart 2.3.2: Annual GDP Growth and Contributions from Expenditures Side
(% Points)



Source: CBRT, TURKSTAT.
* Includes change in inventories and statistical discrepancy due to chain-linking.

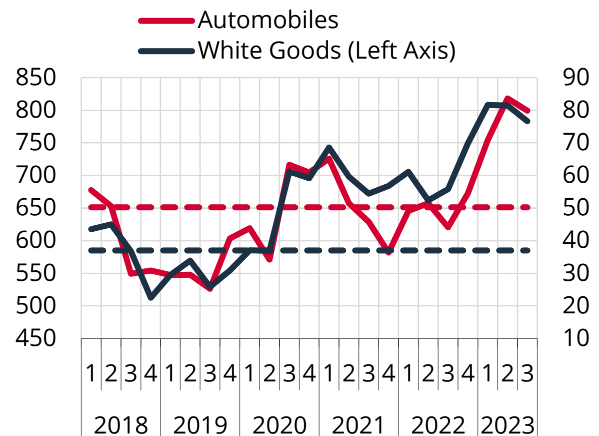
Recent indicators and high-frequency data suggest that economic activity remained strong led by domestic demand in the third quarter while the growth momentum slowed on a quarterly basis. The retail sales volume index and card expenditures indicate that although the growth in consumption demand continued in the third quarter, its rate of increase decelerated (Chart 2.3.3). In this period, sales of automobiles and white goods hovered above their historical averages. However, sales of both items started to lose pace on a quarterly basis (Chart 2.3.4). Likewise, Business Tendency Survey data for the third quarter and information obtained from field interviews point to a quarter-on-quarter loss of momentum in the domestic market orders of firms despite their course above historical averages (Box 2.1). Meanwhile, Business Tendency Survey data for October reveal that the decline in the registered domestic market orders of manufacturing industry firms continued, most visibly in durable consumption goods in particular.

Chart 2.3.3: Consumption Indicators*
(Calendar Adjusted, Annual % Change, 2015=100)



Source: CBRT, TURKSTAT.
* The retail sales volume index shows the average of July and August.

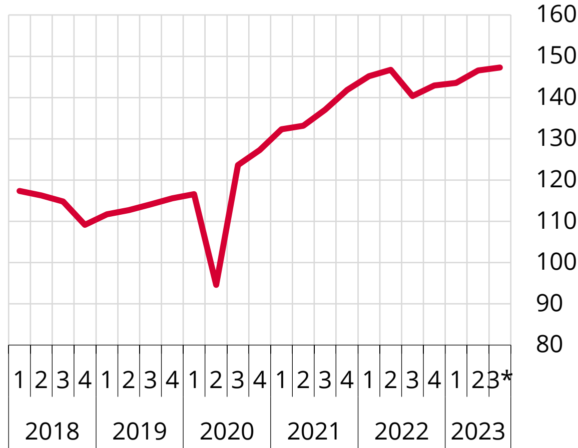
Chart 2.3.4: Sales of White Goods and Automobiles*
(Thousand, Seasonally and Calendar Adjusted)



Source: CBRT, ODMD, TURKBESD.
* Dashed lines show the average for the 2011-2019 period.

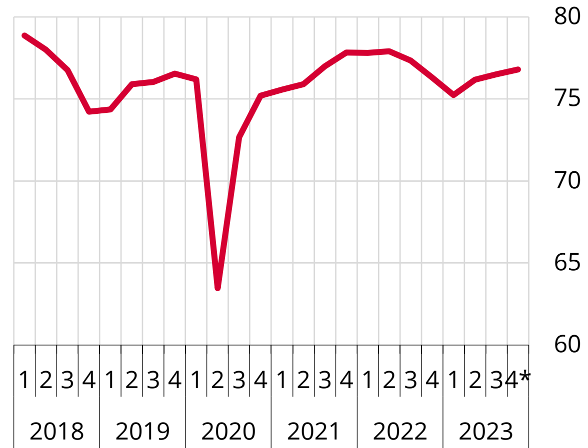
The weak external demand continues to have a restraining impact on production indicators. As of August, in seasonally and calendar adjusted terms, industrial production edged up by 0.5% in the third quarter compared to the previous quarter (Chart 2.3.5). Similarly, the capacity utilization rate, which had increased to 76.2% in the second quarter on the back of the post-earthquake recovery in the production capacity, inched up to 76.5% in the third quarter and reached 76.8% as of October (Chart 2.3.6).

Chart 2.3.5: Industrial Production Index
(Seasonally and Calendar Adjusted, 2015=100)



Source: TURKSTAT.
* Average of July and August.

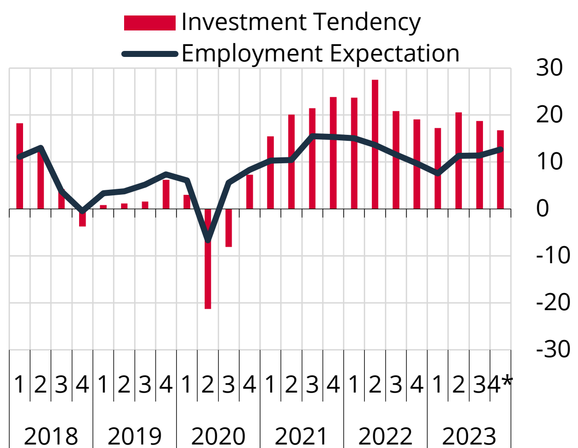
Chart 2.3.6: Capacity Utilization Rate
(Seasonally and Calendar Adjusted, %)



Source: TURKSTAT.
* As of October.

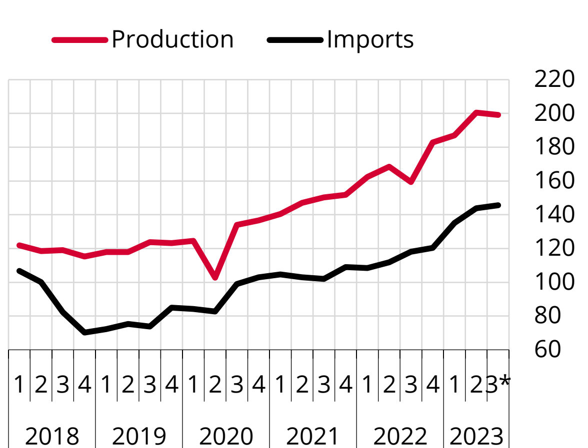
Investment tendencies of manufacturing industry firms remained at high levels but decreased slightly in the third quarter compared to the previous quarter (Chart 2.3.7). Indicators for the production of capital goods and foreign trade confirm the mild outlook in investments. As of August, production of capital goods excluding vehicles decreased by 1.8% on a quarterly basis, while the quarterly increase in the sector's imports decelerated to 3.2% over the previous quarter (Chart 2.3.8).

Chart 2.3.7: BTS Expectations for Fixed Capital Investment Spending and Employment
(Up-Down, Seasonally Adjusted, %)



Source: CBRT.
* As of October.

Chart 2.3.8: Production and Import Quantity Indices of Capital Goods Excluding Vehicles
(Seasonally Adjusted, 2015=100)

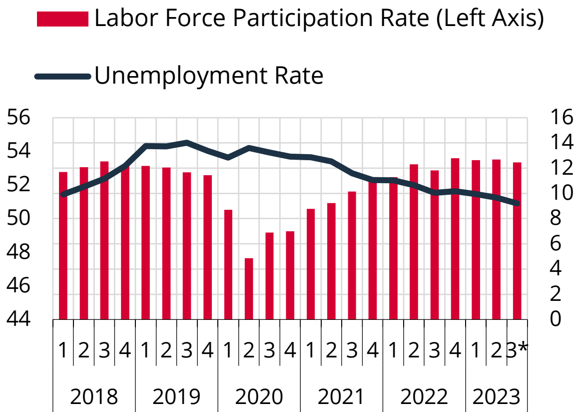


Source: CBRT, TURKSTAT.
* Average of July and August.

Labor Market Developments

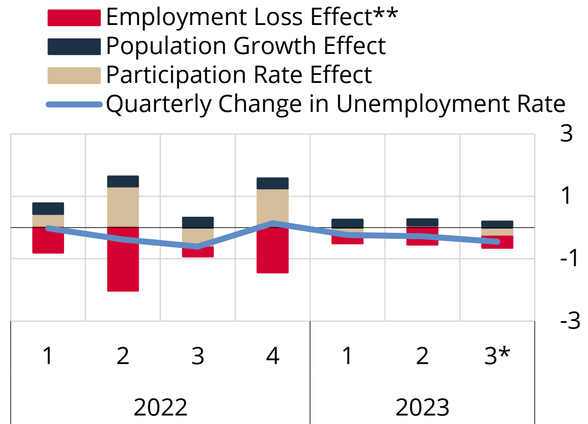
Employment increased moderately in the third quarter. As of August, the seasonally adjusted employment grew by 0.3% (111,000 people) on a quarterly basis. Meanwhile, the seasonally adjusted labor force participation rate inched down by 0.1 points to 53.4% (Chart 2.3.9). Thus, the unemployment rate decreased by 0.4 points to 9.3% in the third quarter of the year compared to the previous quarter. In this period, population growth had an upward effect of 0.16 points on the unemployment rate, whereas the increase in employment and the fall in the participation rate had a downward effect of 0.32 points and 0.22 points, respectively. Accordingly, the unemployment rate posted a decline on a quarterly basis (Charts 2.3.10 and 2.3.11).

Chart 2.3.9: Total Unemployment Rate and Labor Force Participation Rate
(Seasonally Adjusted, %)



Source: TURKSTAT.
* Average of July and August.

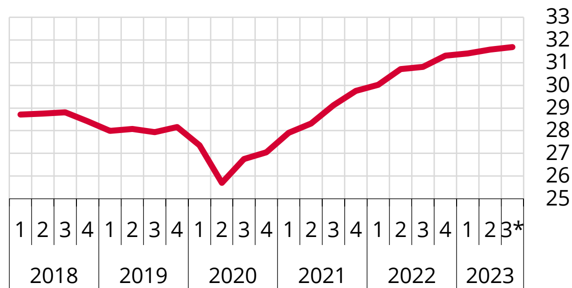
Chart 2.3.10: Contributions to Change in Total Unemployment Rate
(Seasonally Adjusted, % Points)



Source: CBRT, TURKSTAT.
* Average of July and August.
** Negative value of the employment loss effect indicates an increase in employment.

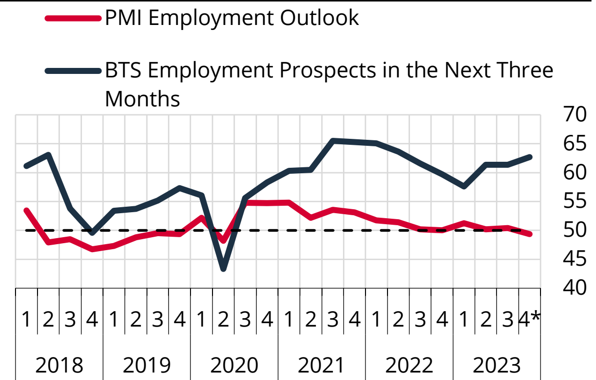
High-frequency data suggest that demand remains robust in the labor market. As of the third week of October, new job postings and total job applications were above previous year's readings. Moreover, survey data concerning the manufacturing industry firms indicate that employment expectations of firms largely remain strong in quarterly terms (Chart 2.3.12).

Chart 2.3.11: Total Employment
(Seasonally Adjusted, Million People)



Source: TURKSTAT.
* Average of July and August.

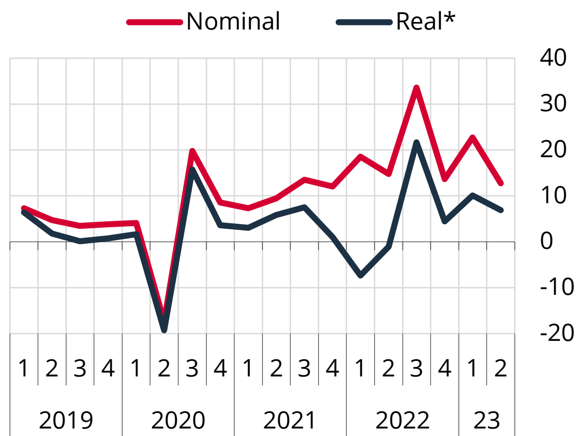
Chart 2.3.12: Employment Outlook and Expectation in the Industrial Sector**
(Seasonally Adjusted, Up-Down)



Source: S&P Global, CBRT.
* BTS and PMI data are as of October.
** BTS indicator is adjusted so that its neutral level will be 50 in line with the PMI.

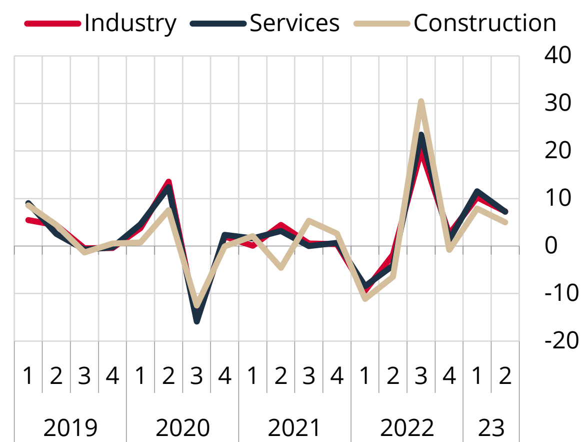
The upward trend in the non-farm gross wage and payroll index lost pace in the second quarter of the year (Chart 2.3.13). Likewise, the quarterly increase trend in the seasonally adjusted real earnings index observed across the sectors decreased in the second quarter (Chart 2.3.14). However, the revision in the minimum wage in July 2023 accompanied by the rise in wages of civil servants and public sector workers, and the broad-based increase in wages were among the factors that kept domestic demand buoyant in July and August. When the elevated level of inflation, one of the determinants of total wages other than the minimum wage, is evaluated together with the positive, albeit decreased, output gap implied by the cyclical state of economic activity, it is estimated that the nominal wage hikes across the economy will remain above the average of past years in the second half of 2023. Against this background, sustainability of productivity increases is essential to limit the unit labor cost pressures.

Chart 2.3.13: Non-Farm Gross Wage and Payroll Index
(Seasonally Adjusted, Quarterly % Change)



Source: CBRT, TURKSTAT.
* Deflated by the CPI.

Chart 2.3.14: Non-Farm Hourly Earnings Index*
(Seasonally Adjusted, Quarterly % Change, Real)

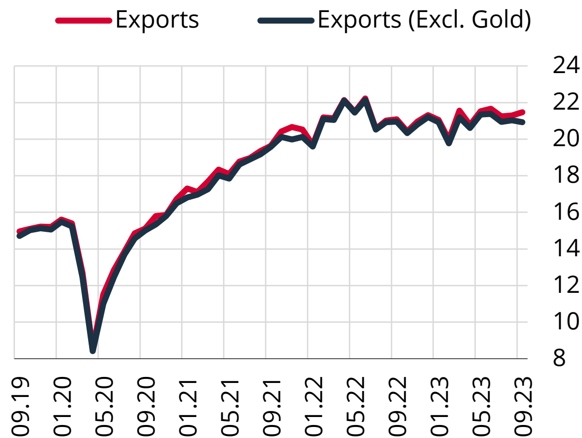


Source: CBRT, TURKSTAT.
* Deflated by the CPI.

Foreign Trade and Balance of Payments Outlook

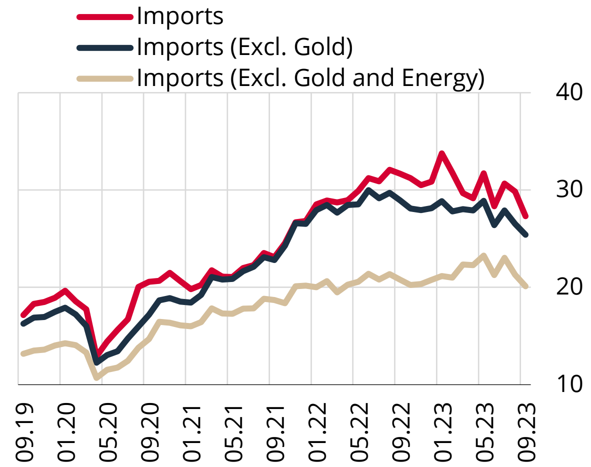
Exports maintained their previous quarter's level in the third quarter of the year. Having increased in the second quarter from the previous quarter, exports decreased in July as a result of deliveries brought forward due to the religious holiday. In August and September, exports posted a gradual recovery due also to the elimination of calendar effects (Chart 2.3.15). Thus, exports followed an almost flat quarterly course in the third quarter of the year. In this period, the largest contribution to the recovery in exports came from the Middle East and African countries, whereas the fall in exports to European and the Commonwealth of Independent States countries limited this recovery. On the other hand, persistence of the weak course in economic activity in Türkiye's main export markets due to the policies pursued by major central banks continued to weigh on external demand. In fact, the PMI in the euro area, an important trade partner for Türkiye, remained weak at 43.4 in September, while the export climate index derived from the PMI indices of Türkiye's export partners also dropped by 2.7 points compared to the previous quarter to 49.5 in the third quarter.

Chart 2.3.15: Exports
(Seasonally and Calendar Adjusted, USD Billion)



Source: CBRT, TURKSTAT.

Chart 2.3.16: Imports
(Seasonally and Calendar Adjusted, USD Billion)

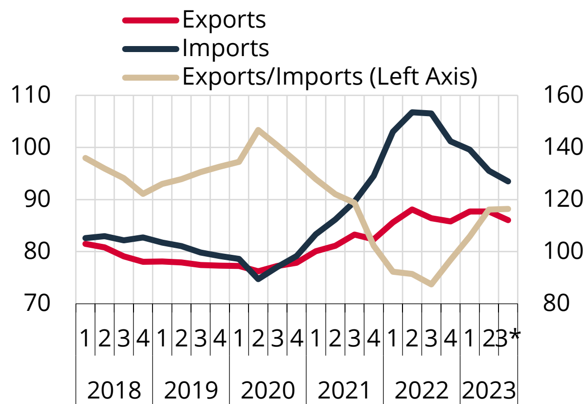


Source: CBRT, TURKSTAT.

In the third quarter of the year, the tightening policy stance started to have its dampening effect on imports. Seasonally and calendar adjusted imports excluding gold and energy decreased in August and September (Chart 2.3.16). In this period, imports of intermediate goods declined by 5.2% compared to the previous quarter, whereas imports of consumption and investment goods rose by 5.7% and 2.4%, respectively. The quarterly uptrend in these items lost pace as of the third quarter. Although provisional foreign trade data for September point to a slowdown in gold imports due in part to the quota measure introduced in the previous month to reduce gold imports, gold imports are still above their historical average. Energy imports, on the other hand, rose in September as the recently increasing global energy prices started to be directly reflected in the monthly energy imports bill, but they continued to decline on an annual basis. Against this background, the foreign trade deficit decreased in the third quarter over the previous quarter. In seasonally and calendar adjusted terms, the export/import coverage ratio remained almost flat at 72% compared to the previous quarter.

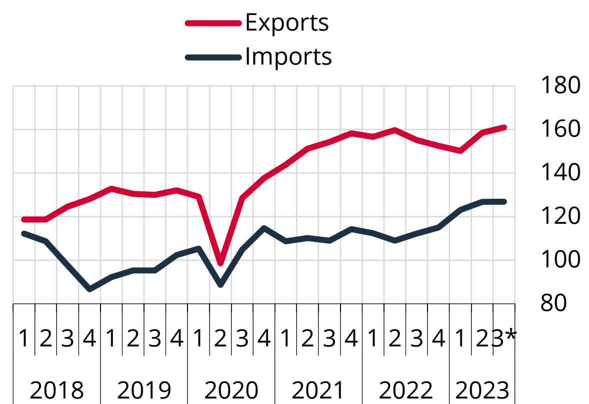
In the third quarter of the year, export prices decreased over the previous quarter while the decline in import prices that started in the second half of 2022 continued. In this period, as the fall in export prices was close to that in import prices, the terms of trade remained flat (Chart 2.3.17). On the other hand, the seasonally adjusted quantity of exports rose in the July-August period compared to the previous quarter despite the weak external demand. As for the quantity of imports, the upward trend of the last four quarters was replaced by a flat course, and thus, the quantity of imports maintained its high levels (Chart 2.3.18).

Chart 2.3.17: Foreign Trade Unit Value Indices
(2015=100)



Source: TURKSTAT.
* Average of July and August.

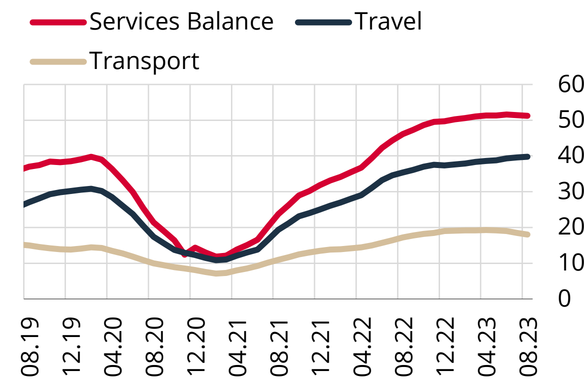
Chart 2.3.18: Foreign Trade Quantity Indices
(Excluding Gold, Seasonally Adjusted, 2015=100)



Source: CBRT, TURKSTAT.
* Average of July and August.

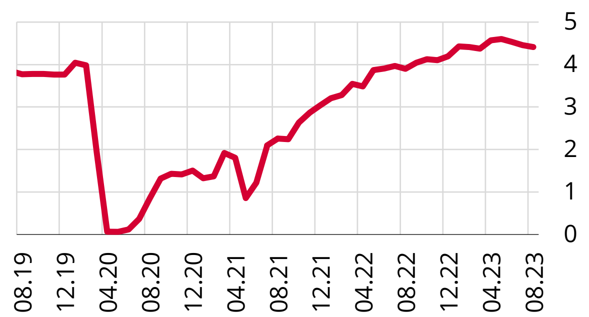
The year-long strong contribution of the services balance to the current account balance continues. Backed by the ongoing uptrend in net travel revenues and high level of net transport revenues, the annualized services balance remained strong in this period (Chart 2.3.19). In the first eight months of the year, travel and transport revenues increased year-on-year by USD 4.1 billion and USD 0.3 billion to USD 30.5 billion and USD 22.8 billion, respectively. The seasonally and calendar adjusted number of foreign visitors, which was approximately 18% above its pre-pandemic level of the last quarter of 2019, continued to be the driver of the rise in travel revenues in the third quarter (Chart 2.3.20). Preliminary data suggest that the number of visitors will maintain its relatively high level in the rest of the year, thereby continuing to contribute positively to travel revenues and accordingly to the current account balance.

Chart 2.3.19: Services Balance
(12-Month Cumulative, USD Billion)



Source: CBRT.

Chart 2.3.20: Number of Foreign Visitors
(Seasonally and Calendar Adjusted, Million People)



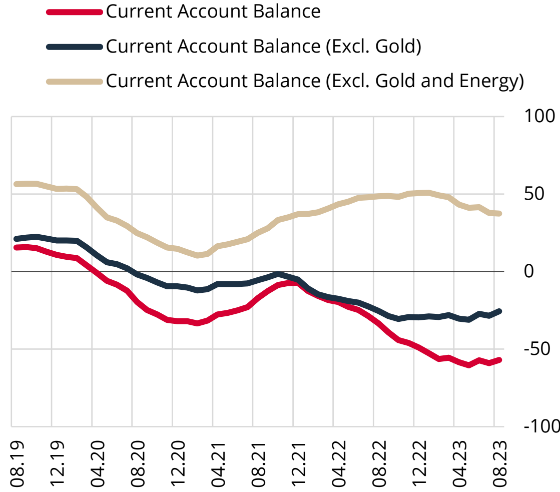
Source: CBRT.

The annualized current account deficit decreased amid the strong course of the services balance and the recent decline in the foreign trade deficit. In August, the annualized current account deficit declined to USD 57 billion. This decline was driven by the strong course of the services balance coupled with the improvement in the foreign trade deficit in August. The annualized current account deficit excluding gold dropped to USD 25.5 billion while the current account surplus excluding gold and energy stood at USD 37.5 billion (Chart 2.3.21). The ongoing downtrend in annual energy imports also continued in this period while the impact of the quota measure for gold imports introduced in August remained limited. In the upcoming period, despite the effect of the recent rise in energy prices on energy imports, the downtrend in the annualized current account deficit is expected to continue on the back of the dampening impact of the rebalancing in domestic demand on imports due to the tightening policy stance and the continuation of the quota measure for gold imports.

The fact that the current account deficit remained high despite some narrowing kept the financing need alive. As of August, financing of the annualized current account deficit was provided mainly through short-term

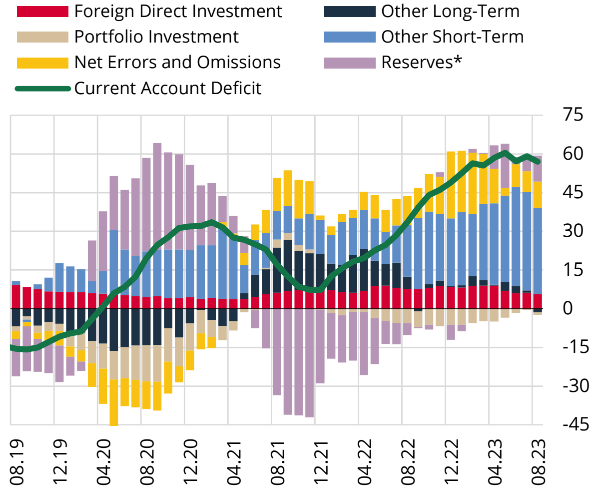
channels such as non-residents' deposits in Türkiye and commercial loans (Chart 2.3.22). On the other hand, net inflows continued steadily in foreign direct investments, while portfolio investments started to register net inflows in June after a long interval. In 12-month cumulative terms, the banking sector continued to deleverage with a long-term debt rollover ratio of 88%, while the long-term debt rollover ratio of companies stood at 100%. Large inflows have seen in the net errors and omissions item since June, and inflows through the annualized net errors and omissions item rose to USD 10.1 billion as of August. In the meantime, official reserves have posted an increase in recent months, and annualized CBRT reserves and total reserves declined by USD 9.2 billion and USD 10 billion, respectively.

Chart 2.3.21: Current Account Balance (12-Month Cumulative, USD Billion)



Source: CBRT.

Chart 2.3.22: Financing of the Current Account Deficit (12-Month Cumulative, USD Billion)



Source: CBRT.

* Denotes the CBRT reserves plus the cash and deposits at banks abroad. A negative value indicates an increase in reserves.

Public Finance Developments

In the first nine months of the year, budget expenditures significantly rose because of the earthquake-driven costs as well as regulations increasing budget expenditures, while regulations to boost budget revenues produced the desired effect. In the January-September period of 2023, the budget deficit amounted to TL 512.6 billion.

In the first nine months of the year, total expenditures and primary expenditures surged year-on-year by 95.6% and 92%, respectively. These substantial increases were driven by factors such as earthquake-related expenditures, adjustments in civil servants’ salaries in January and July, and the rise in religious feast bonus payments to pensioners from TL 1,100 to TL 2,000.

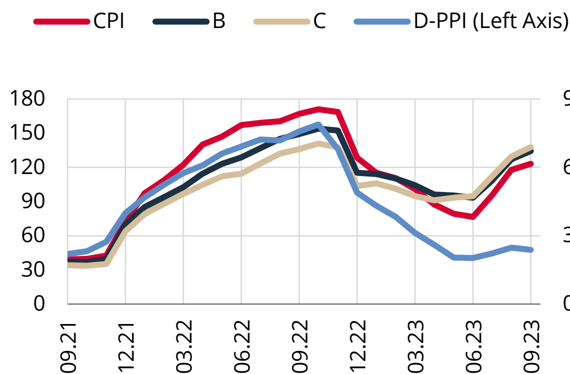
Central government budget revenues rose by 74.2% in the January-September period. Tax revenues were up by 81% and non-tax revenues by 34.7%. The increase in non-tax revenues was low because the CBRT’s profit and reserve fund transfer, which was TL 49.3 billion in 2022, materialized at TL 40 billion this year. Meanwhile, collections made within the scope of restructuring as per Law No. 7440 put into effect on 12 March 2023 totaled TL 125 billion as of September. The revenue-boosting regulations and the strong course of domestic demand also contributed to the large annual increase in tax revenues.

The final quarter of 2023 will be important for the public sector’s fiscal stance. Central budget realizations in the first nine months of the year have been more favorable than the MTP forecasts announced in September. In the MTP, it was stated that TL 762 billion would be spent in 2023 to revive and reconstruct the zones devastated by the earthquake as well as to remove its effects. House construction expenditures make up the majority of earthquake-related expenditures. In fact, the MTP forecast for the capital transfer item, which also includes costs related to the construction of post-earthquake houses, was TL 685.1 billion. The realization of this item stood at approximately TL 134 billion in the first nine months of the year. Thus, the course of earthquake-related expenditures for the rest of the year is expected to play an important role in shaping the budget deficit.

2.4 Inflation

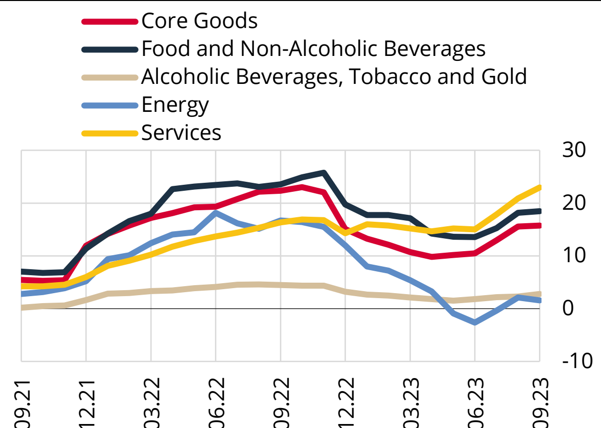
Annual consumer inflation increased by 23.32 points to 61.53% in the third quarter of the year and stood above the upper band of the forecast range presented in the previous Inflation Report. Combination of multiple shocks such as exchange rates, wages, taxes and energy price hikes in quick succession caused a significant deterioration in price-setting behavior in the third quarter (Box 2.2). As a result of this deterioration, price hikes were brought forward and concentrated in July and August, while the underlying trend of inflation started to step down from high levels as of September. Leading indicators suggest that the deceleration in the underlying trend became more evident in October as cost shocks were largely reflected in prices. On a quarterly basis, consumer prices posted a significant acceleration across all main groups, particularly in energy and services, compared to the previous quarter (Table 2.4.1). Thus, the decline in annual consumer inflation since November 2022 reversed in the third quarter (Chart 2.4.1). In this period, the USD-denominated price hikes in global energy prices gave way to intensified inflationary pressures. In the energy subgroup, in addition to crude oil prices, propane, butane, coal and natural gas prices also increased. Meanwhile, international non-energy commodity prices fell quarterly and remained on a favorable path. The effects of the rise in exchange rates, which persisted in July following the increase in June, were closely felt on consumer inflation, particularly on durable consumption goods. In August and September, the Turkish lira stabilized on the back of the monetary tightening process and the strong trend in reserve build-up. Higher fuel prices arising from exchange-rate and international price developments contributed to the deterioration in price-setting behavior, hence had an additional impact on the rise in inflation through direct and indirect channels and added to more broad-based price increases. The spread of wage increases following the adjustment to the minimum wage for the second half of the year was another factor that exerted pressure on consumer prices through the demand and cost channels. Against this background, pressures on producer prices became more pronounced. Having remained strong in the second quarter of the year, demand conditions started to weaken in the third quarter, yet aggregate demand conditions remained inflationary. Another factor that played an important role in the increasing inflation in this quarter was the adjustments made in taxes and fees. The impact of these factors on annual consumer inflation exceeded 6 points, mainly due to the increase in Value Added Tax (VAT) and lump-sum Special Consumption Tax (SCT) on fuel. Stickiness of services inflation persisted, led by items with time-dependent price-setting behavior and a strong inclination to backward indexation as well as administered prices. Against this backdrop, the seasonally adjusted quarterly increase in consumer prices was quite high at 26.31% in the third quarter. Contributions of main groups, particularly the services sector, to annual inflation were higher compared to the previous quarter (Table 2.4.1 and Chart 2.4.2).

Chart 2.4.1: CPI, D-PPI, B Index and C Index*
(Annual % Change)



Source: TURKSTAT.
* B index: CPI excluding unprocessed food, energy, alcoholic beverages-tobacco and gold. C index: CPI excluding food and non-alcoholic beverages, energy, alcohol-tobacco and gold. D-PPI: Domestic Producer Prices Index.

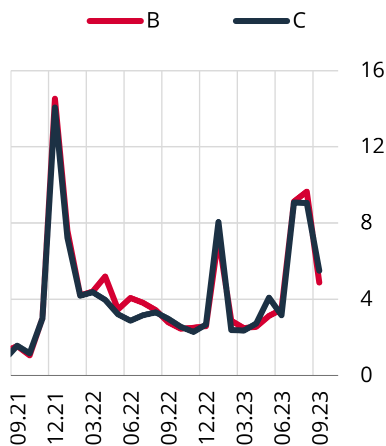
Chart 2.4.2: Contributions to Annual CPI
(% Points)



Source: CBRT, TURKSTAT.

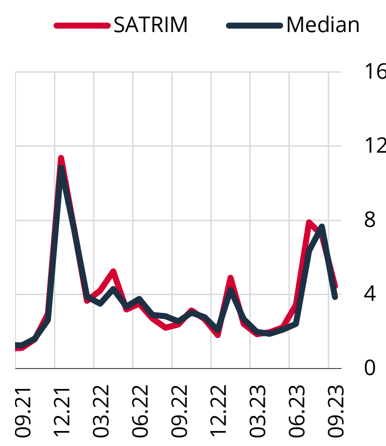
Annual inflation rates and underlying trends of core indicators rose. The seasonally adjusted monthly increases in the B and C indices were significantly up in July and August, and despite a loss of momentum in September, they remained elevated compared to the end of the previous quarter (Chart 2.4.3). As of September, the seasonally adjusted rates of increase in the B and C indices were 4.9% and 5.5%, respectively (3.5% and 3.2% in June). Alternative indicators such as median inflation and SATRIM followed a similar trend, confirming this outlook (Chart 2.4.4). Across the subgroups that make up the B index, monthly price increases were considerably stronger in July and August, followed by a slowdown in September. The deceleration in core goods was apparent, while prices hikes in services remained robust (Chart 2.4.5). Quarterly services inflation was considerably elevated at 30.04% amid developments regarding tax hikes, exchange rates, the minimum wage, fuel and food prices as well as indexation to past inflation and time-dependent price-setting behavior in items such as education. Price increases were widespread across subgroups, but transport services posted the highest quarterly increase with 58.55% (Table 2.4.1). The significant increase in fuel prices affected overall transport services adversely. School bus fares soared with the start of the school year, while passenger transport by air and inter-city passenger transport by road also stood out with elevated prices. In the other services subgroup including labor-intensive and highly exchange-rate-sensitive items, seasonal effects arising from the opening of schools and universities pushed the quarterly increase up to 26.25%, while university tuition, maintenance and repair of personal transport vehicles, health, recreation and sports and household services all stood out with price hikes. Quarterly rents inflation surged to 25.53%, driving annual inflation in this subgroup up to 95.03%. Seasonally adjusted monthly price hikes pointed to a strong momentum in rents. The outlook in the restaurants and hotels subgroup was affected by catering services, which are highly sensitive to food prices and minimum wage developments as well as the outlook for tourism and accommodation services due to student residences fees linked to the opening of universities. All in all, the contribution of the services group to annual consumer inflation increased by 7.95 points quarter-on-quarter to 22.95 points (Chart 2.4.2). In core goods, price increases across subgroups became obvious (Table 2.4.1). The increase in exchange rates and automobile prices at 27.56%, driven by buoyant domestic sales, continued to drive price hikes in the durable goods group. In this period, price increases in the furniture and white goods items also accelerated considerably.

Chart 2.4.3: B and C Indices
(Seasonally Adjusted, Monthly % Change)



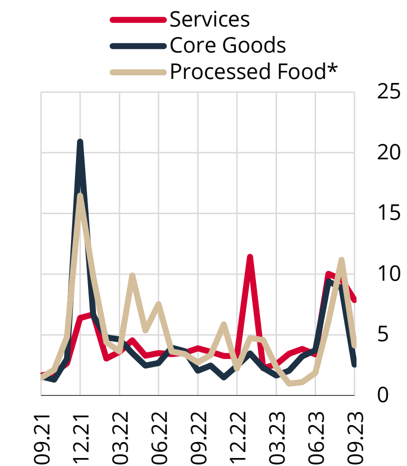
Source: CBRT, TURKSTAT.

Chart 2.4.4: Main Inflation Indicators SATRIM and Median*
(Monthly % Change)



Source: CBRT, TURKSTAT.
* SATRIM: Seasonally adjusted trimmed mean inflation. Median: Median monthly inflation of seasonally adjusted 5-digit sub-price indices.

Chart 2.4.5: Subgroups of B Index
(Seasonally Adjusted, Monthly % Change)

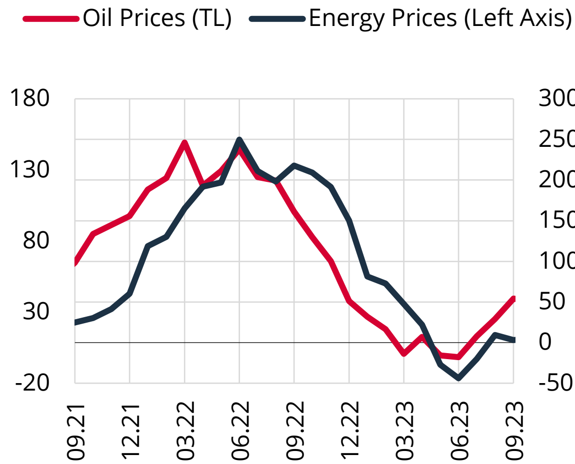


Source: CBRT, TURKSTAT.
* No seasonality detected for processed food.

Energy prices increased substantially in the third quarter on account of tax adjustments as well as exchange rates and developments in international energy commodity prices, especially crude oil (Chart 2.4.6 and Table 2.4.1). After a slump in the previous quarter, domestic energy prices rose by 33.71% in the third quarter of the year, posting the largest increase among main subgroups (Table 2.4.1). Having averaged around USD 75 in June, Brent crude oil prices ended September at USD 94 on average. The USD/TL exchange rate increased significantly in June-July but settled on a steady course in the following period. As of 16 July, lump-sum SCT on

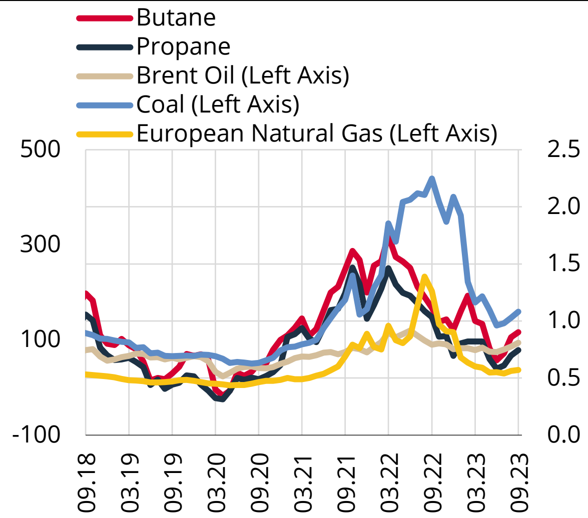
fuel were revised. Following these developments, noticeable increases were seen in domestic fuel prices in July and August. However, in September, despite the ongoing rise in international oil prices, the increase in fuel prices decelerated in tandem with the weakening of lagged effects of the exchange rate. The rise in international energy prices in USD terms was not limited to crude oil, but was widespread across subgroups (Chart 2.4.7). Accordingly, domestic bottled gas and coal prices rose. In this period, the effect of the rise in energy prices was closely felt on producer prices as well as on consumer prices. The third quarter saw stronger hikes in municipal water prices. Against this background, annual energy inflation stood at 10.25% in September, and the contribution of this group to annual consumer inflation went up by 4.22 points quarter-on-quarter to 1.57 points (Chart 2.4.6 and Chart 2.4.2).

Chart 2.4.6: Energy Prices
(Annual % Change)



Source: Bloomberg, CBRT, TURKSTAT.

Chart 2.4.7: Energy Commodity Prices*
(USD, Euro)



Source: Bloomberg.
* Brent oil per barrel, coal per ton and butane and propane per gallon. European natural gas prices are in euro and per MWh.

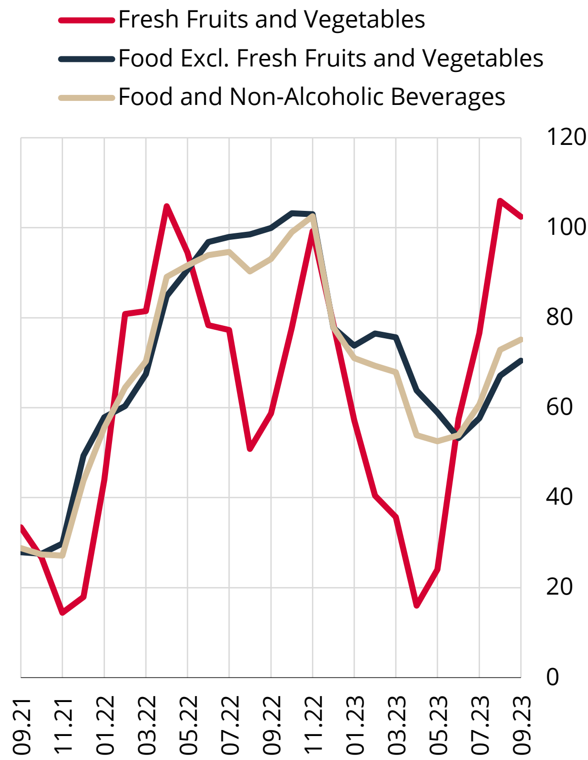
Table 2.4.1: Consumer Prices

	Quarterly % Change (Seasonally Adjusted)				Annual % Change			
	2022	2023			2022	2023		
	IV	I	II	III	IV	I	II	III
CPI	**7.61**	**12.04**	**6.07**	**26.31**	**64.27**	**50.51**	**38.21**	**61.53**
B	**7.71**	**13.05**	**9.38**	**25.50**	**57.68**	**52.11**	**46.63**	**67.22**
C	**7.68**	**13.20**	**10.28**	**25.51**	**51.93**	**47.36**	**47.33**	**68.93**
1. Goods	7.03	8.79	5.10	24.43	67.31	47.10	30.92	52.39
Energy*	**1.48**	**2.63**	**-20.84**	**33.71**	**94.43**	**35.66**	**-16.52**	**10.25**
Food and Non-Alcoholic Beverages	**12.34**	**13.30**	**12.41**	**22.21**	**77.87**	**67.89**	**53.92**	**75.14**
Unprocessed Food	11.19	17.34	21.56	23.39	73.25	65.94	68.44	96.17
Fresh Fruits and Vegetables	10.48	9.43	17.12	15.40	78.54	35.72	57.49	102.46
Processed Food*	11.83	12.04	3.96	22.81	82.00	71.68	43.36	59.95
Core Goods	**6.50**	**7.56**	**9.22**	**22.09**	**48.96**	**36.58**	**36.69**	**53.23**
Clothing and Footwear	3.95	3.32	6.21	13.96	25.01	16.26	20.04	31.36
Durable Goods (Excl. Gold)	7.06	9.33	13.72	24.41	48.13	40.21	43.30	65.61
Furniture	10.78	14.44	4.27	22.53	75.44	63.26	37.52	62.08
Automobile	5.14	8.91	17.78	27.56	31.17	31.93	46.61	72.91
Electrical and Non-Electrical Appliances*	13.57	5.75	7.56	22.01	61.01	41.05	42.53	57.63
Other Durable Goods*	7.71	8.63	6.51	23.07	51.43	40.96	36.33	53.37
Other Core Goods*	8.94	7.85	4.13	22.69	65.91	44.48	37.75	50.10
Alcoholic Beverages, Tobacco Products and Gold*	**6.90**	**10.37**	**12.25**	**26.24**	**58.90**	**41.00**	**40.14**	**67.19**
2. Services	**10.43**	**16.83**	**11.02**	**30.04**	**55.49**	**59.93**	**59.45**	**86.46**
Rent	11.36	18.08	18.28	25.53	47.07	62.76	75.91	95.03
Restaurants and Hotels	11.49	20.97	13.69	25.32	68.48	70.73	67.22	92.48
Transport	5.55	12.87	3.61	58.55	88.70	57.12	36.25	95.97
Communication	7.47	12.13	14.23	12.24	30.13	35.87	43.84	55.04
Other Services	9.08	19.62	10.05	26.25	48.05	57.08	57.42	81.64

Source: CBRT, TURKSTAT.
* No seasonally detected.

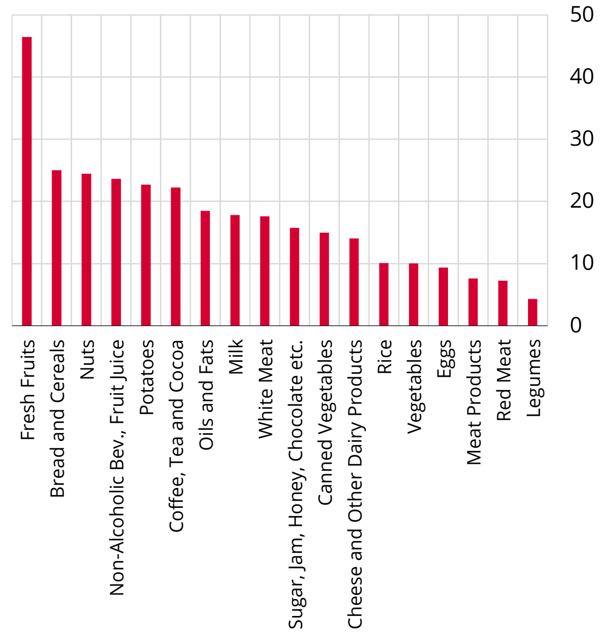
Despite the decline in global agricultural commodity and food prices, the increase in food prices strengthened, and annual food inflation continued to remain above headline inflation. The downtrend in annual inflation in food and non-alcoholic beverages since December 2022 was replaced by a significant increase in the third quarter. Annual inflation was up by 21.22 points quarter-on-quarter to 75.14%, standing 13.61 points above headline inflation (Chart 2.4.8). In the food group where price hikes showed a generalized pattern, seasonally adjusted data signaled a significant rise at 22.21%, compared to the previous quarter. In July and August, prices of fresh fruits and vegetables increased in contrast to their seasonal averages due to adverse weather conditions and higher input costs, pushing annual inflation in this group up to a historic high at 105.98% for the index in August. Despite a decline in vegetable prices in September, the fresh fruits-vegetables group remained strong with a quarterly increase of 15.40%. Inflation in the other food group also followed a rise in this period (Table 2.4.1, Chart 2.4.8 and Chart 2.4.9). The end of the Turkish Grain Board's flour regulation in June and impacts related to the minimum wage hike caused bread and cereal prices to rise above their historical trends. The effects of the 35.3% increase in the reference price for raw milk from 1 August 2023 onwards were closely felt in milk and dairy products (Chart 2.4.9). The acceleration of fats-oils prices was driven by the olive oil prices that were also affected by foreign demand. Nuts, non-alcoholic beverages, potatoes and coffee-tea-cocoa were the other subgroups that stood out with price increases above historical trends (Chart 2.4.9).

Chart 2.4.8: Food Prices
(Annual % Change)



Source: CBRT, TURKSTAT.

Chart 2.4.9: Food Prices by Sub-Items*



Source: CBRT, TURKSTAT.
* Denotes the difference between the 2023Q3 quarterly percentage change and the historical average (third-quarter average of the 2012-2021 period).

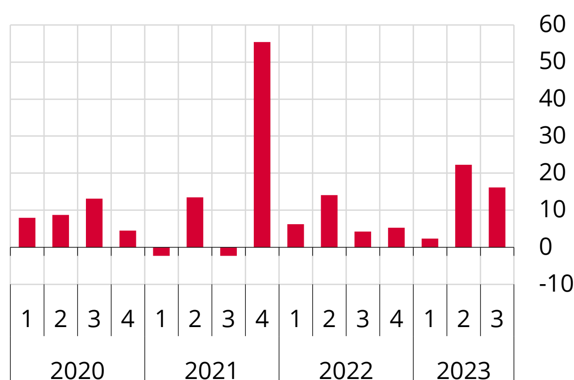
Prices of alcoholic beverages and tobacco products surged by 26.93% in the third quarter. The lump-sum and minimum lump-sum tax rates on alcoholic beverages and tobacco products were revised in July in view of the PPI increase of the past six months. Additionally, the two-point increment in the VAT rate on tobacco products had a significant effect (fiscal multiplier effect[1]) on final prices in this period. The tax hike-driven effects in tobacco products were followed by producer-driven price hikes in September. Thus, in the third quarter, prices of alcoholic beverages surged by 19.02%, while those of tobacco products soared by 27.71%. Price hikes in alcohol and tobacco products added 0.89 points to the increase in annual consumer inflation in the third quarter.

Drivers of Inflation

The depreciation of the Turkish lira played an important role in the rise in consumer inflation. After the exchange rate increases in May, more stable price movements were observed in August, and a mild course prevailed in the rest of the quarter. Accordingly, after the second-quarter increase, the basket exchange rate rose by 16.15% between June and September (Chart 2.4.10). Given that the surge in the exchange rate and the adjustments in taxes and the minimum wage all took place in quick succession, these hikes had a rapid pass-through to consumer prices via both the cost and expectation channels. In fact, items with high exchange rate sensitivity, durable goods and energy in particular, posted noticeable price hikes in the last quarter.

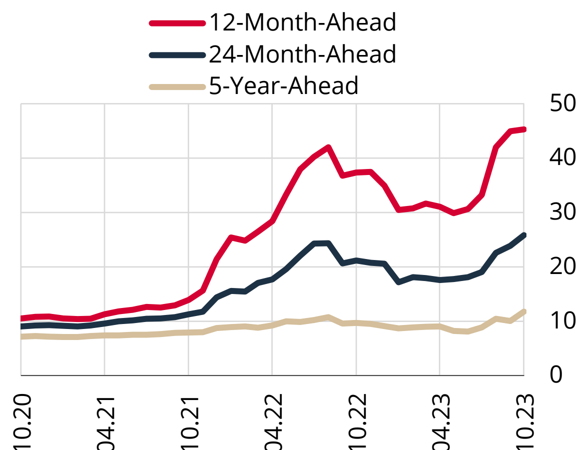
[1] The fiscal multiplier effect refers to the fact that since the tax base for tobacco products is the retail price, a one-unit increase in producer prices is reflected in retail prices at a higher rate due to ad valorem tax rates.

Chart 2.4.10: Currency Basket*
(Quarterly % Change)



Source: CBRT.
* USD and euro have equal weights. Calculations are based on the average exchange rate in the last month of the relevant quarter.

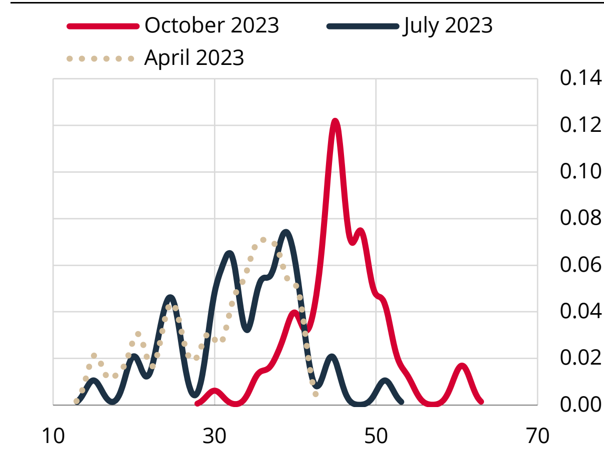
Chart 2.4.11: Consumer Inflation Expectations* (%)



Source: CBRT.
* Results of the CBRT Survey of Market Participants that polls real and financial sector representatives as well as professionals.

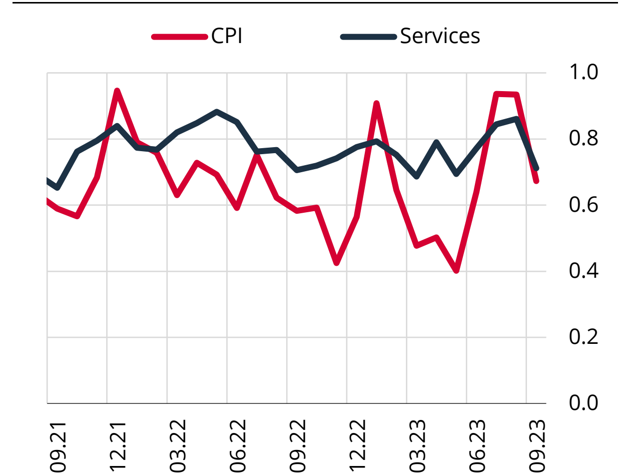
While inflation expectations continued to rise, diffusion indices hovered significantly above their historical averages due also to the VAT hike, indicating that price increases were spread across the economy. According to the Survey of Market Participants, the upward revision in inflation expectations that started in June became more evident in August. Exchange rate developments and the quarterly inflation realizations that exceeded expectations were the main drivers of the upward revision in inflation expectations, while revisions started to lose momentum in the following period amid further monetary tightening steps (Box 2.3). October survey results indicated that the 12-month-ahead inflation expectation increased by 12.07 points from the previous reporting period to 45.28%. The 5-year-ahead inflation expectation was revised upwards by 2.90 points to 11.76% (Chart 2.4.11). As of October, the current year-end inflation expectation is 68.01%. The distribution of 12-month-ahead CPI inflation expectations shifted right in line with the revisions, while the consensus on the median value strengthened compared to previous reporting periods (Chart 2.4.12). The minimum wage increase, tax adjustments, exchange rate developments and upward movements in global energy prices adversely affected the price-setting behavior of firms, particularly in the core goods sector. The diffusion index for the core goods sector has recently displayed a notable increase, while the diffusion index for the services sector, which has been hovering above its historical average, has increased slightly further due to these developments (Chart 2.4.13). As the time-dependent price-setting and backward-indexation behavior in the services sector is more apparent, the impact of macroeconomic shocks spreads over time. In other words, it causes inertia in the sector's inflation. This outlook is likely to be maintained in the last quarter of the year, and while price increases in the services sector will continue, price increases in other sectors, particularly in core goods, will weaken as the impact of shocks wanes. In fact, leading indicators for October support this outlook.

Chart 2.4.12: Distribution of Survey of Market Participants
(12-Month-Ahead CPI Expectation)



Source: CBRT.

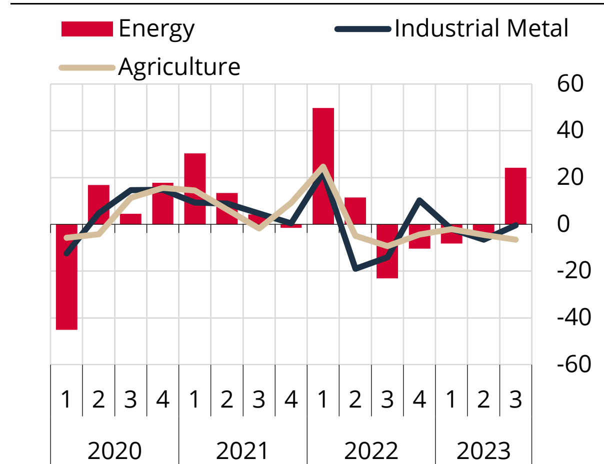
Chart 2.4.13: Diffusion Indices of CPI and Main Expenditure Groups*
(Seasonally Adjusted, Monthly)



Source: CBRT, TURKSTAT.
* Calculated as the ratio of the difference between the number of items with increasing prices and the number of items with decreasing prices to the total number of items.

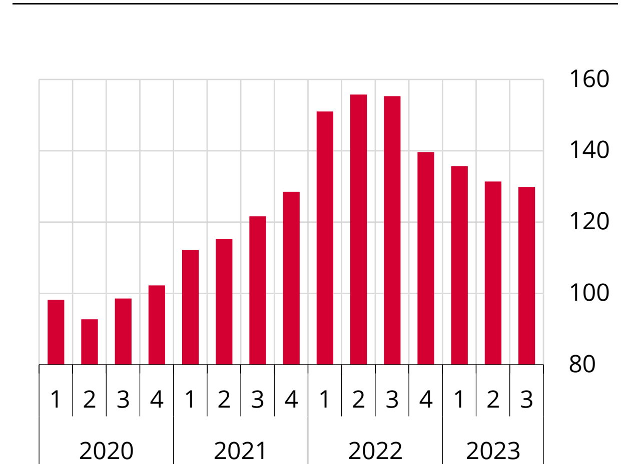
Global energy prices rose markedly, while prices in other commodity groups edged down. In the last three months, prices diverged notably between energy and commodities excluding energy. The energy group posted strong price increases, while industrial metal prices remained flat, and agricultural prices continued to decline (Chart 2.4.14). Price hikes in the energy group were not limited to crude oil but spilled over into the rest of the group as prices of propane, butane, coal and natural gas also increased. As a result of the relatively favorable prices prevailing in global markets, the import unit value index continued to decline in this quarter, albeit at a slower pace. Thus, despite rising global energy prices, chiefly crude oil prices, cost pressures driven by external developments have recently eased somewhat (Chart 2.4.15). Sustained mild global supply conditions have become another factor to support this outlook.

Chart 2.4.14: Commodity Price Indices
(Quarterly % Change)



Source: Goldman Sachs.

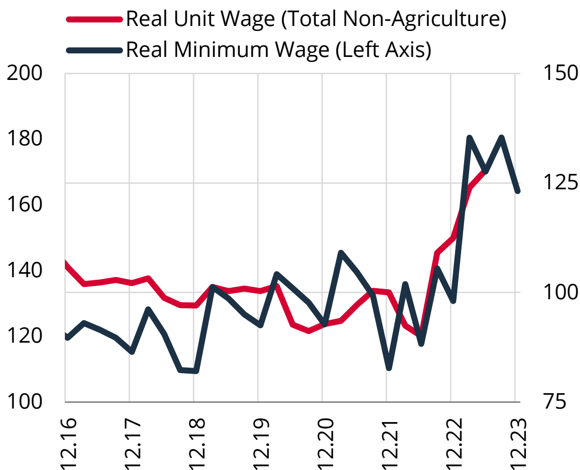
Chart 2.4.15: Import Unit Value Index*
(2019Q4=100, USD)



Source: TURKSTAT.
* Quarterly data denotes the last month of the respective period. 2023Q3 data is as of August.

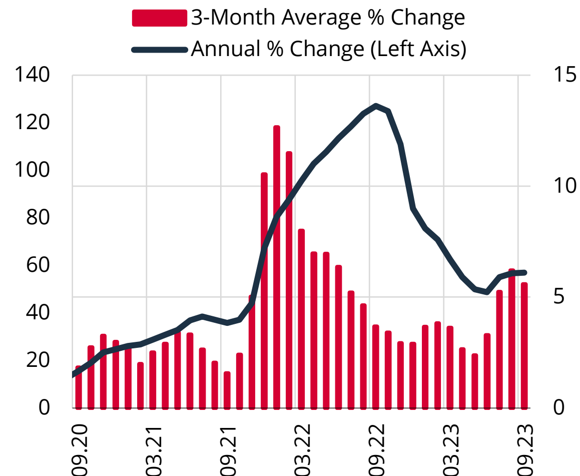
The underlying trend of producer prices strengthened in the last quarter. Wage data for the second-quarter suggest that the economy-wide rise in nominal wages following the significant increase in minimum wage announced at the beginning of the year continued into the following quarter. The sharp increase in nominal wages was accompanied by a rise in real hourly unit wages (Chart 2.4.16). Accordingly, following the second minimum wage hike in July, real wages are expected to have risen in the third quarter. The underlying trend of producer prices strengthened in the third quarter due to developments in the exchange rate as well as other domestic and external costs (Chart 2.4.17). Against this background, PPI-driven pressures on consumer prices remained strong throughout the quarter.

Chart 2.4.16: Real Unit Wage per Hour Worked and Real Minimum Wage*



Source: CBRT, TURKSTAT.
* Real unit wage per hour worked is real wage per hour/productivity. 2015=100. Seasonally adjusted and deflated by the CPI. Real Minimum Wage is net minimum wage deflated by the seasonally adjusted CPI. Forecast is used for the last-quarter data. 2015=100

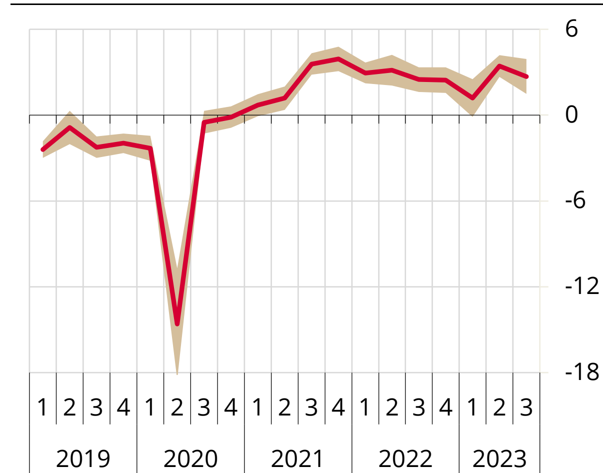
Chart 2.4.17: Manufacturing Prices Excluding Petroleum and Base Metals



Source: CBRT, TURKSTAT.

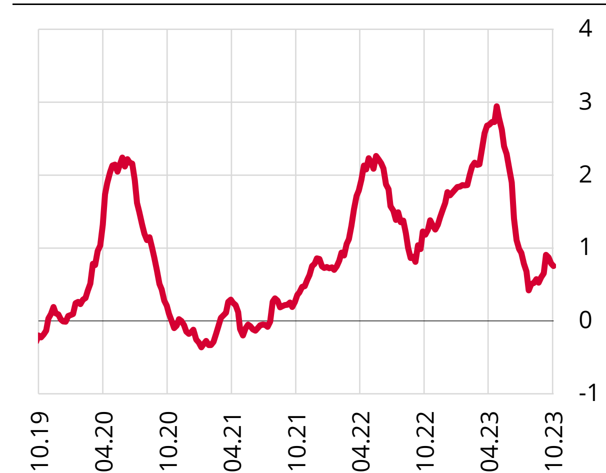
After remaining robust in the second quarter of the year, demand conditions are projected to remain inflationary in the third quarter, albeit with some weakening. The main output gap indicator monitored by the CBRT increased in the second quarter of 2023, led by domestic demand. Rising wages, credit conditions, transfers to households and public spending were the main drivers of domestic demand. Despite the buoyant tourism demand, the sluggish global goods trade weakened external demand pressures. Meanwhile, aggregate demand conditions are estimated to have lost momentum in the third quarter (Chart 2.4.18). High-frequency data such as industrial production and the capacity utilization rate support this outlook (Chart 2.3.5 and Chart 2.3.6). Amid tightening monetary policy measures, credit flows converged to their historical averages in July and August, but this course was interrupted in September (Chart 2.4.19). As the output gap indicator remains in positive territory and credit flows still hover above their historical averages, aggregate demand conditions continue to be inflationary, albeit to a lesser degree.

Chart 2.4.18: Output Gap* (%)



Source: CBRT.
* Displayed with 95% confidence interval, which is computed based on 8 output gap indicators with different methods.

Chart 2.4.19: Total Credit Change* (13-Week Average, Real, Standard Value)



Source: CBRT.
* Weekly credit changes adjusted for exchange rates are deflated by CPI. The 13-week average is taken after weekly real changes are standardized. The mean and standard deviations of the series are calculated based on the 2006-2019 period.

The tax measures announced in July and the hikes in administered prices pushed headline inflation significantly upwards in the third quarter. Among the measures announced in July, increases in VAT across the whole economy (2 points) and in cleaning products (12 points) as well as in the lump-sum SCT on fuel stood out. In addition to their direct effects, the tax hikes in fuel spilled over into the whole economy with rising prices through indirect effects.[2] The impact of the adjustments in taxes and fees on annual consumer inflation is estimated to be above 6 points. Moreover, increases in administered prices along with tax adjustments also had a negative impact on inflation in the last quarter. In transport services, in addition to the rising fares in various urban passenger transport services, the ceiling price for passenger transportation by air and the intercity rail passenger transportation fare posted upsurges. Increases in municipal water tariffs grew stronger in the last 3 months. As the Turkish Grain Board's regulation ended, average flour prices provided to producers rose, and bread prices recorded surging prices. Following the increase in the reference price of raw milk by the Turkish National Dairy Council, prices of milk, cheese and other dairy products rose, albeit at a lower rate. Following the hike in fresh tea purchase prices, tea prices increased during the quarter. The upward revision of the euro reference price caused pharmaceutical prices to post hikes. Prices of health services increased due to the amendment in the Communiqué on Healthcare Practices. Prices of alcoholic beverages and tobacco products went up in July due to the rise in lump-sum and minimum lump-sum taxes following the producer price increase in the first six months of the year as well as the VAT hike. Meanwhile, prices of tobacco products rose further in September, driven by firms. In the last quarter of the year, impact of administered prices on inflation is expected to arise from the energy group. With the increase in natural gas consumption in winter, the use of the first 25 cubic meters of natural gas free of charge is likely to have a diminishing effect, and accordingly, the natural gas item is likely to push headline inflation upwards in November and December.[3] Moreover, the October hikes in industrial and commercial electricity tariffs and natural gas tariffs for industrial and electricity producers are expected to have indirect spillover effects on consumer prices through production costs.

[2] For the total effect of tax adjustments on inflation, please refer to Zoom-in 2.2 in the Inflation Report 2023-III.
[3] For the analysis of the likely effect of the natural gas adjustment on headline inflation in the upcoming period, please refer to Zoom-in 2.3 in the Inflation Report 2023-III.

Box 2.1

Findings from Interviews with Firms

The CBRT holds face-to-face meetings with firms as part of the "Economic Lens to the Real Sector" (ELRS).[1] This box summarizes the findings from the interviews conducted in the July-September 2023 period.

It was observed that economic activity slowed down slightly in the third quarter of the year compared to the previous quarter.

According to the information obtained from the interviews, while aggregate demand conditions slowed down in tandem with domestic sales, production activity largely maintained its strength. On the other hand, an evident prudence in terms of investment stance was noted, especially in firms operating in the domestic market. It was observed that firms reflected labor and exchange rate-related costs to prices significantly within the quarter, and price increase plans due to these costs decreased for the remainder of the year.

It was seen that domestic sales remained relatively buoyant in the third quarter of the year but lost momentum compared to the previous quarter.

It was evaluated that the slowdown in consumer demand due to elevated level of prices and the tightening in financing conditions suppressed sales. On the other hand, wage increases and payments made within the scope of the EYT (early retirement package) regulation, demand brought forward due to price hike expectations, campaigns and post-earthquake expenses were noted as the main factors that eased the pressure and supported sales. It has also been reported that consumers are prioritizing their basic needs, campaign sensitivity is increasing, and the tendency towards affordable products is prevalent. Sales of basic needs products (food, cleaning products etc.), consumer electronics and automotive stood out as product groups with relatively positive sales.

It has been reported that the demand for **food and fast-moving consumer goods**, cleaning and personal care products in particular, brought forward ahead of the VAT regulation as well as EYT payments and July wage adjustments had a positive impact on sales. In **apparel,** sales were weak, and the expected seasonal level was not observed. It was stated that sales to tourists were also below expectations. It has been observed that **white goods** sales, which started the quarter vigorously, remained brisk despite some slowdown during the period. It has been reported that the buoyant outlook in **consumer electronics** has also continued in the sector. Despite having been limited by the deceleration in new home sales, **furniture** sales remained relatively brisk on the back of EYT payments and the purchases of Turkish workers living abroad. It was emphasized that price hikes and limitations on the number of installments suppressed the demand for both white goods and furniture. Although the demand for the **automotive** industry continues to be buoyant, it has been reported that the increase in regulations and inspections regarding the second-hand market has reduced the demand for trading purposes. On the other hand, it has been reported that the supply-demand imbalance in the automotive market has begun to wane as the supply-related problems lost their significance. As for the **housing sector**, it has been stated that the demand for residential purposes remains low due to high prices and credit conditions, and the expected buoyance in sales to foreigners has not been observed.

Exports followed a similar course to the previous quarter.

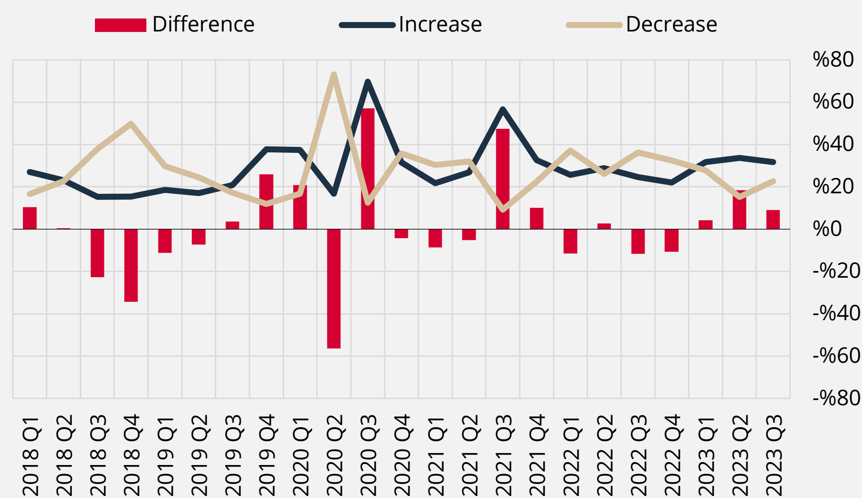
It was noted that weak global demand conditions, especially in major markets, and cost increases were the main factors that put pressure on exports. It was also underlined that competition conditions have tightened due to the decrease in freight prices and the normalization in global supply chains. Firms'

[1] The main purpose of this study is to obtain information on periodic production, domestic and international sales, investments, employment, credit conditions and cost and price developments in a timely manner, to closely monitor economic activity and to improve the communication between the CBRT and real sector representatives through meetings with firms in different sectors. The findings obtained from the semi-structured interviews constitute a high-quality and timely source of information for monetary policy decisions. Interviews are held with firms in the manufacturing industry and trade and services sectors within the framework of the sample created by considering their weight in the total economic activity at sectoral, regional and scale levels. The charts are produced by scoring the anecdotal information obtained from the firm interviews. This study includes evaluations and inferences based on interviews with firms and does not reflect the views of the CBRT. The information and findings obtained may differ from the official statistics, information and findings that will be published later.

export orientation and market/product diversification flexibility were the notable factors that relieved the pressure in this period.

On a sectoral basis, it was observed that weak demand conditions continued in the **apparel and textile** sector, while it has been stated that profitability has been affected somewhat positively by the recent increase in exchange rates. **Furniture** exports were said to have been on a more positive course in the nearby regional markets, despite the stagnant outlook in the EU market. Although **white goods** main and sub-industry exports exhibited different trends on a product basis, it was observed that they generally followed a flat course compared to the previous quarter. It has been stated that exports in the **automotive** sector have maintained their positive outlook, which has been supported by waning supply problems and the new projects. Although the occupancy rate targets set ahead of the season could not be achieved, it was stated that it was a good season and **tourism** revenue levels of the previous year could be exceeded. While the high prices set before the season were cited as the main reason for the failure to achieve the targeted occupancy rates, it was also reported that firms started to discount prices in the middle of the season, which had a positive impact on the occupancy rates.

Chart 1: Demand Perception of Firms*
(Compared to the Previous Quarter)



Source: CBRT ELRS.
* Demand perception shows the evaluation made by considering the current sales, orders and expectations of the firms. The difference series shows the difference between firms with a positive perception of demand and those with a negative perception of demand compared to the previous quarter and provides information on the prevalence of the change in demand perception, not the size of the change.

Despite the loss of momentum in domestic demand in the third quarter of the year, production activity largely maintained its strength.

Loss of momentum in domestic demand in the third quarter limited the production activity, which had been driven by the buoyant course of domestic and foreign demand in the second quarter. For firms mainly operating in the domestic market, the slowdown in demand as well as the tightening financing conditions have begun to be reflected in production. Production dynamics in exporting firms, on the other hand, maintained their relatively positive course.

Looking at sectoral developments, it is estimated that the year will be completed with strong growth in the **automotive** industry, with supply problems left behind and the production process continuing smoothly. Thanks to strong demand, the sub-industry is also expected to remain buoyant. In **construction**, activity remains weak in general, except for the earthquake zone. While firms try to finish their existing projects to avoid additional costs, it is observed that the appetite for new projects remains low. In the **construction sub-industry,** continuation of activity in the housing and infrastructure sectors and export orientation support production. Production in **white goods, consumer electronics and furniture** followed a positive course as a result of the buoyant domestic demand. In the **chemical industry,** production was similar to the previous quarter, with sub-items other than textiles maintaining their strength in the domestic market and foreign demand remaining almost flat. In the **machinery and equipment** sector, while the demand for the construction-

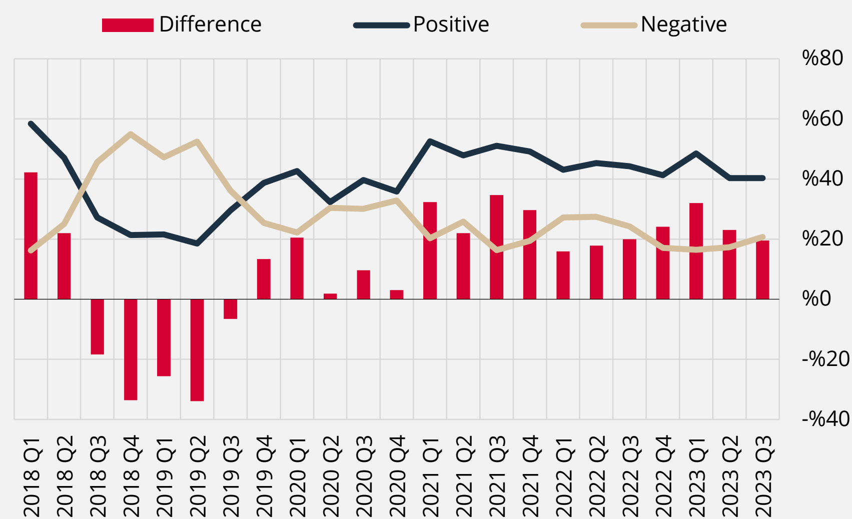
infrastructure sectors maintains its strength in the domestic market, activity is similar to the previous quarter due also to foreign demand. **Apparel** production is negatively affected by the weak domestic and foreign demand. The weakness in production is more evident in textiles, where the emphasis on competitiveness is more intense. In the **basic metals industry**, slower-than-expected recovery in the domestic market, the weak foreign demand and Chinese competition are affecting the production negatively.

As of the third quarter of the year, prudence in the investment stance of firms for the next 12 months has become evident, especially in firms operating in the domestic market.

Financing conditions and uncertainties regarding the domestic market were highlighted as the reasons why the prudent approach to investment, which started in May due to the uncertainties brought about by the election period, became evident in the third quarter.

The investment stance in export-oriented firms continues to be positive compared to domestic market-oriented firms. This situation is supported by positive expectations regarding exports. In addition, it has been observed that the investment stances of large organizations with strong resources that can meet their financing needs and continue their investments in a strategically planned manner, firms in sectors that have to continue their investments due to their structure, and/or firms with certain motivations such as the use of incentive certificates, diverge positively.

Chart 2: Investment Stance of Firms* (Next 12 Months)



Source: CBRT ELRS.

* Investment stance shows the evaluation made by considering the investment appetite of the firms for the next 12 months. The difference series shows the difference between the number of firms with a positive investment stance and firms with a negative investment stance, and provides information on the prevalence of the change in investment stance, not the size of the change.

Machinery-equipment, production facilities and energy investments continue to be at the forefront among firms' investment plans. Mechanization and automation investments continue to be expedited to reduce labor costs and needs as well as to increase production efficiency. It is observed that firms facing stronger and more stable demand continue to invest in production facilities. Renewable energy investments, on which firms focus in order to reduce energy costs and carbon footprint, have tended to slow down somewhat due to the relatively stable course of energy prices and the financing conditions. In sectoral terms, the investment stance in the manufacturing sector is relatively positive in the food, rubber and plastic, machinery, electrical equipment and automotive sub-sectors. In the construction sector, in addition to the high land prices, the high course of housing prices, uncertainty regarding demand and restricted housing loan opportunities limit firms' land investments. Increasing rents and high investment costs negatively affect the investment stance of firms in the retail trade sector.

As of the third quarter, it was observed that the prudence in the investment stance of firms was reflected in their employment plans. It is noteworthy that prudence in employment plans is mainly observed in firms operating in the domestic market and that the ratio of firms planning to increase employment has partially decreased compared to the previous period. Efforts to increase automation and efficiency in the production process continue to be a factor which limits employment growth. It is stated that the fact that some experienced employees leave the workforce due to the EYT regulation is a factor that increases the problems of firms in new hiring. In addition, it is reported that the opportunity to work for higher wages in the earthquake zone increases the problems of firms in new hiring in provinces outside the earthquake zone, especially in the construction sector.

The financing needs of firms increased in the third quarter of the year.

The financing need increased mainly due to working capital, which was affected by labor, fuel and exchange rate-based supply costs. In addition, the need for financing due to disruptions in cash flow driven by credit conditions and shortened maturities in inter-firm trade was also emphasized. It was observed that the investment-related financing need decreased in the third quarter, based on the current investment level.

It was stated that credit conditions and standards tightened as of the third quarter, but a partial easing was seen in the maturity and limit channels to a very limited extent in August and was a little more widespread in September. Within the framework of the simplification of macroprudential measures, it was reported that there was some easing in access to credit by large firms as of the end of the quarter. In addition, regaining access to rediscount loans and increasing the credit disbursement limit were effective in improving access to credit for exporting firms. It has been observed that due to the difficulties in accessing finance, efforts are being made to increase the share of equity in meeting the working capital need. On the other hand, although it was stated that there was a tightening in inter-firm trade conditions due to maturity and cash flow, it was noted that there were no significant problems with collections.

In the third quarter, it was observed that labor and exchange rate-related costs were largely reflected in prices during the quarter, while the costs of fuel, which affect all sectors, continued to be reflected.

There was a significant increase in the cost pressure on firms in the third quarter. The most emphasized cost element was labor, followed by exchange rate-related costs and input and supply costs. The emphasis on fuel costs increased significantly throughout the quarter.

The improvements made in the minimum wage and other wage groups since July have caused a widespread cost increase. It has also been stated that some firms have increased wages above the minimum wage increase in order not to lose skilled labor. In addition, it has been reported that in the construction sector, daily wages have increased significantly due to the effect of intense construction activities in the earthquake zone, and the wages of skilled labor and workers have increased above the mentioned rates. Although global commodity prices remained flat throughout the quarter, it was stated that exchange rate-related costs increased, most visibly in sectors where the direct and indirect imported input ratio is high.

Increasing costs caused significant price hikes within the quarter, and the fact that cost increases occurred in items with an extensive effect such as labor force, exchange rate and fuel was effective in the acceptance of price hikes.

It has been observed that the ratio of firms planning price increases for the coming period consistently decreased from July to September. Firms' price increase plans are influenced by costs that cannot be reflected due to demand and competitive conditions as well as upside cost expectations. Views were shared that energy costs, including fuel, would increase, and it was stated that there may also be an increase in FX-denominated input prices as a result of the inflationary pressure that is effective at the global level. However, it is stated that the tightening in credit conditions and demand conditions may limit price increases. It was observed that the rate of increase in automobile prices slowed down in September. In addition to the elimination of the availability problem, it was stated that the end-of-year campaigns, which have not been implemented for a while, will be on the agenda again with price discounts included, due to normalizing demand and competitive conditions in the last quarter.

Box 2.2

Macro Components of Consumer Inflation

In the third quarter of 2023, annual consumer inflation increased by 23.3 points to 61.5 percent. This rise was mainly attributed to the recent exchange rate developments, higher fuel prices and tax adjustments, while a significant part of this increase stemmed from the changes in the price-setting behavior. Analyses conducted at the CBRT on micro data reveal that the price-setting behavior changes periodically after large shocks, and pass-through of the shocks to inflation fastens (Chart 1). In the third quarter of 2023, the occurrence of multiple shocks in a short period of time and in particular the large and sudden exchange rate shock led to a tendency to react instantly and pull forward in price-setting behavior. Against this background, this Box analyzes the macro components of recent inflation realizations.

To decompose inflation into its components, the models within the CBRT that take price-setting behavior into account during periods of large shocks are used. In addition, vector auto-regression (VAR) models are employed to decompose the indirect effects of international prices on fuel prices. The decomposition of the tax effect is based on the elasticities presented in Zoom-In 2.2 in Inflation Report 2023-III and the historical pass-through effects calculated within the CBRT. In order to decompose the tax and fuel effects in unprocessed food, sub-item-based models within the CBRT were utilized.

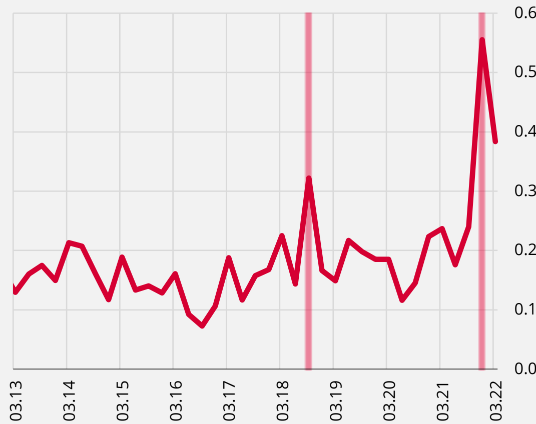
In the third quarter of 2023, the exchange rate-driven contribution to consumer inflation increased by 4.3 points compared to the previous quarter to 19.9 percent (Chart 2). This outlook is mainly driven by the 29.5 percent depreciation of the Turkish lira against average exchange rate basket in the third quarter, which is higher than the depreciation in the same period of the previous year (10.4 percent). The recent rapid increases in fuel prices were due to exchange rate, Brent oil price hikes and tax adjustments. Excluding exchange rate-driven increases, the rise in fuel prices, together with its direct and indirect effects, pushed annual consumer inflation up by 4.8 points. In addition to these items, various tax adjustments were announced after July in order to balance the additional financing need arising from the earthquake and increased public expenditures.[1] Excluding fuel taxes, tax adjustments accounted for 2.5 points of the total increase in annual inflation.

Among other determinants, the unprocessed food group, led by some fresh fruits and vegetables that diverged from seasonal norms due to supply-side effects, and the alcohol-tobacco group, which was driven by increases in producer prices, stand out. Excluding taxes and indirect effects of fuel prices, the contribution of these two main groups to annual consumer inflation rose by 1.0 point to 7.9 points in the third quarter. Unprocessed food and alcohol-tobacco together with demand indicators (credit and output gaps), wages[2], import prices and constant term accounted for 1.6 points of the rise in annual inflation in total.

Deterioration in pricing behavior also played a significant role in the rise in consumer inflation. Standard econometric models employed in inflation forecasting, which provide reliable results in the long run, have difficulty in predicting the short-term effects of large economic shocks, and the impact of shocks may exceed the levels predicted by these models' forecasts. It is assessed that the occurrence of multiple shocks (exchange rate, wages, taxes, oil price, etc.) in a short period of time led to a significant change in firms' price-setting behavior and inflation expectations. The effects which were expected to be spread over time, were quickly reflected on prices in the third quarter due to the magnitude of the shocks. These effects, which are aggregated under "time dependent price-setting behavior", have increased by 10.1 points to 10.4 points.

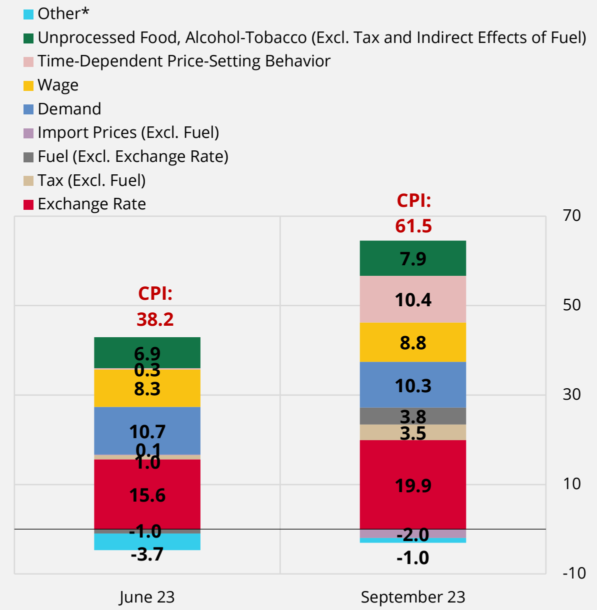
[1] CBRT (2023a).
[2] CBRT (2023b).

Chart 1: Processed Food Average Frequency Change* (%)



Source: Özcan Kodaz and Yürek (2023).
* Frequency is obtained by dividing the number of price increases seen in the prices of the products monitored during the month by the total number of products. Shaded areas denote periods of high exchange rate shocks.

Chart 2: Annual CPI Inflation Decomposition



Source: CBRT, TURKSTAT.
* The other item includes constant term, error term and exogenous effects not included in the tax item, such as the 25 m³ natural gas subsidy to households.

In sum, contributing to the recent exchange rate shock, various tax adjustments exerted inflationary pressures, and fuel prices recorded a rapid increase due to the rise in Brent oil prices. In this context, the annual consumer price inflation in September was realized 23.3 points higher than the annual inflation in June. Of this difference, 4.3 points resulted from the depreciation of the Turkish lira, 4.8 points from the direct and indirect effects of the increase in fuel prices excluding exchange rates, 2.5 points from tax adjustments excluding fuel prices and 1.6 points from other determinants. The remaining 10.1 percentage points stemmed from the deterioration in expectations and price-setting behavior due to large and short-term shocks.

References

CBRT (2023a). Impact of tax and administered price adjustments on inflation, Inflation Report 2023-III, Zoom-in 2.2.

CBRT (2023b). An evaluation of the effect of minimum wage increase on inflation, Inflation Report 2023-III, Box 2.6.

Özcan Kodaz, E. F. and Yürek, S. (2023). State-dependency in price adjustments: evidence from large shocks. CBRT Working Paper No. 23/04.

Box 2.3

Drivers of Inflation Expectations

Inflation expectations play an important role in the functioning of the monetary transmission mechanism (Blinder et al., 2008). Stability of long-term inflation expectations is regarded as one of the most significant features of efficient and credible monetary policy. By playing a significant role in forming economic preferences of agents, inflation expectations impact real economic activity and inflation dynamics. The functioning of the expectations channel is closely related to the extent to which economic agents perceive the central bank to be committed to combating inflation. For instance, if the central bank is credible and the economic agents trust in its commitment to the fight against inflation, tightening of monetary policy leads to a fall in inflation expectations. Accordingly, monetary policy will be more likely to succeed against inflation by impairing the persistence in inflation. For this reason, it is useful to determine how inflation expectations are formed, and the role a central bank plays in the formation of expectations is of importance.

The latest World Economic Outlook published by the International Monetary Fund (IMF) discusses inflation expectations in detail and presents the increasing role of inflation expectations on registered inflation. The Report also includes findings regarding the decisive role that economic agents' choice between backward-looking or forward-looking expectations plays in the effectiveness of monetary policy (IMF, 2023).

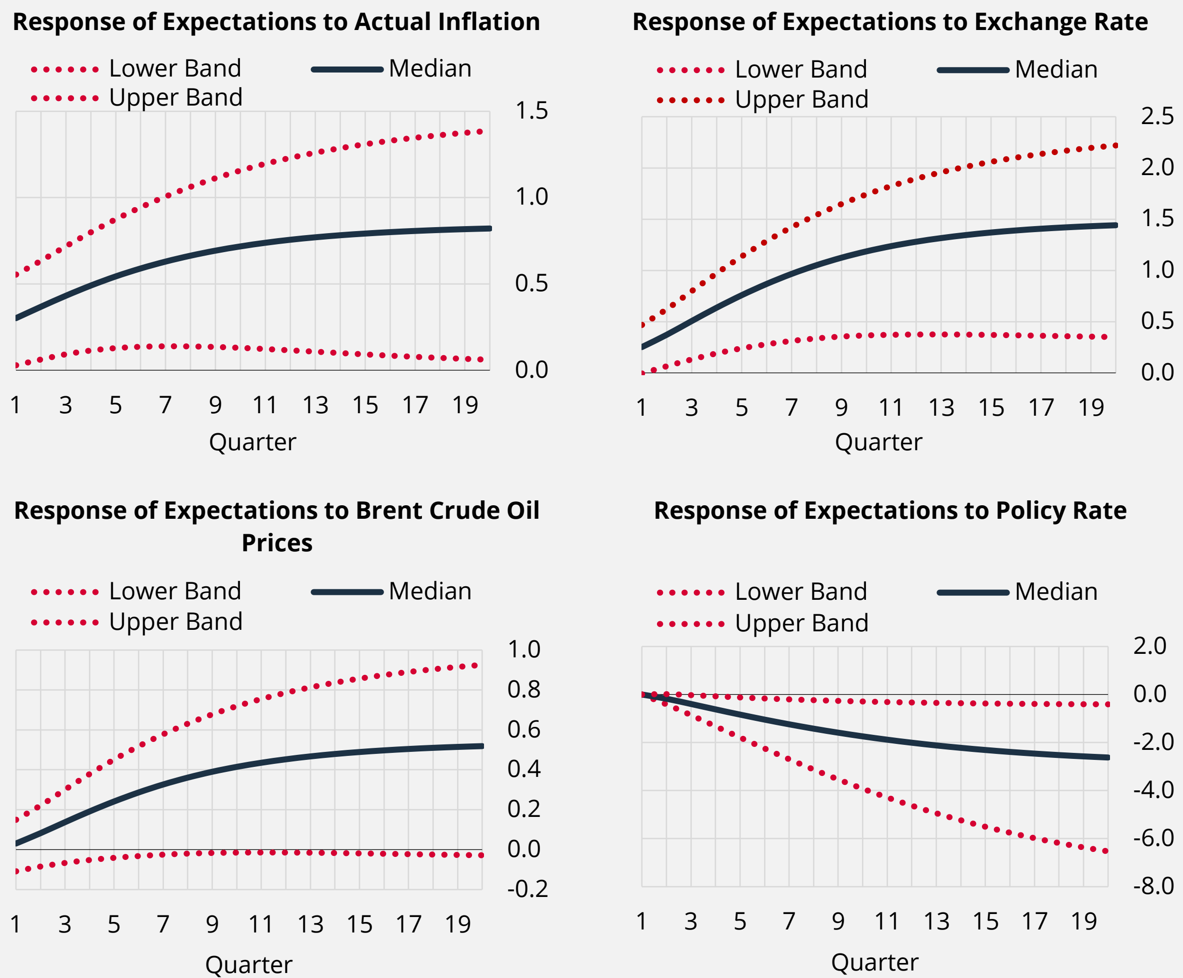
In this study, we estimate a VAR model with seven endogenous variables in order to better understand the factors, the monetary policy stance in particular, driving inflation expectations. The Bayesian method is employed in model estimation, covering the period between the first quarter of 2006 and the third quarter of 2023.[1] Endogenous variables, in turn, are Brent crude oil price, import unit value index, exchange rate (basket), output gap, headline inflation, 12-month-ahead inflation expectations and the policy rate. Among the variables, Brent crude oil price, import unit value index, exchange rate and seasonally adjusted headline price index are introduced into the model in logarithmic difference terms, and the attained headline inflation is annualized. Inflation expectations and policy rate are in annual terms. 12-month-ahead inflation expectations are obtained from the Market Participants Survey of the CBRT. Output gap is obtained from various models used within the CBRT. Global growth index (export-weighted), minimum wage, Global Supply Chain Pressure Index, CDS rate and the measure that gauges the impact of taxes and administered prices are the exogenous variables in the model. Minimum wage and the global growth index are in logarithmic difference terms. In estimation, we used normal-inverse Wishart distribution as prior and allowed hyperparameters to maximize the likelihood function. Considering the large number of endogenous variables in the model, we included two lags.

In accordance with previous findings (Gülşen and Kara, 2021; Koç et al., 2021), the cumulative impulse-response functions suggest that inflation outturns and increases in the exchange rate basket are the main variables that raise inflation expectations (Chart 1). The response of expectations to global crude oil price shocks is more limited.[2] On the other hand, our findings[3] reveal the importance of monetary policy stance in anchoring expectations, i.e. monetary policy tightening shocks lower expectations. As a matter of fact, when the model is estimated with six endogenous variables without the policy rate, while response to Brent crude oil shocks does not change, response to inflation and exchange rate

[1] For detailed information about the method, see Öğünç (2019).
[2] It should be noted that the exchange rate and crude oil are included in the model as quarterly changes without annualizing.
[3] Although response to the output gap assumes the expected sign, a wide credibility band, including zero, is attained.

shocks, particularly inflation, strengthens.[4] When the findings are assessed jointly, it is confirmed that monetary policy plays an important role in anchoring expectations, and that tightening measures have an impact on inflation not only directly but also indirectly via the expectations channel. Accordingly, the monetary tightening that the CBRT has implemented since June will have an influence on managing inflation expectations.

Chart 1: Cumulative Impulse-Response Functions* (Responses to a 10-point Shock)



* Cumulative impulse-response functions are displayed with 68% credibility bands.

In addition to monetary tightening, the CBRT aims to be influential on anchoring expectations through revisions in inflation forecasts published in Inflation Reports and forecast paths in monetary policy documents. The fact that economic agents may exhibit backward-looking behavior in forming inflation expectations increases the inflation-growth trade off during disinflation by undermining the effectiveness of monetary policy decisions. Adoption of forward-looking behavior by economic agents in forming expectations will strengthen the effectiveness of monetary policy, ensuring the achievement of the targeted inflation path faster and at lower cost. Within this framework, ensuring that economic agents take the CBRT's inflation forecasts instead of actual inflation as reference will contribute to the achievement of the targeted disinflation path earlier. To show the change in the weights attached to inflation outturns and the CBRT inflation forecasts in the formation of inflation

[4] While the response of expectation, in the model including the policy rate, to a 10-point inflation shock at the end of 20th quarter is estimated to be 0.8 points, in the model without the policy rate cumulative response increases to 1.9 points. Cumulative response of expectations to the exchange rate shock increases to 1.8 points in the model without the policy rate from 1.5 points. Response to the Brent crude oil shock increases to 0.6 points in the model without the policy rate from 0.5 points and credibility band remains mostly unchanged. In the model without the policy rate, response to the output gap also increases and credibility band shifts upwards to the positive region.

expectations over time, we estimate the equation below with the Market Participants Survey micro data for 60-month moving windows:

$$\pi_{i,t}^{Expectation} = \alpha\pi_{t-1} + \beta\pi_t^{CBRT\ forecast} + \mu_i + e_{i,t}$$

While $\pi_{i,t}^{Expectation}$ stands for 12-month-ahead inflation expectation for each participant, π_{t-1} shows annual inflation reading in the previous month. $\pi_t^{CBRT\ forecast}$ represents the 12-month-ahead CBRT forecast published in the latest Inflation Report available to the participants. μ_i shows the participant fixed effect and $e_{i,t}$ measures the error term. The change in α and β coefficients, which represent the weights of actual inflation and CBRT forecasts over time, respectively, are displayed in Charts 2 and 3.

Chart 2: Weight of Actual Inflation in Inflation Expectations
(60-Month Moving Window)

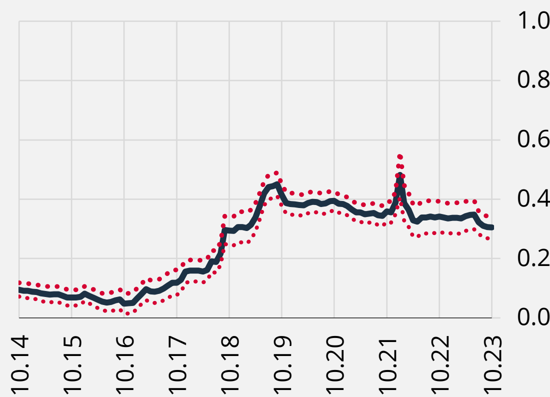
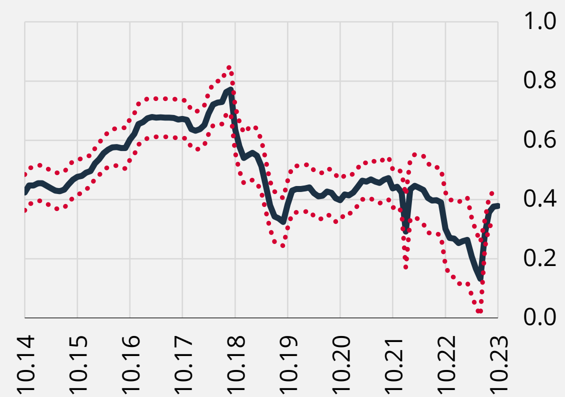


Chart 3: Weight of the CBRT's Inflation Forecasts in Inflation Expectations
(60-Month Moving Window)



Model estimation suggests that the sensitivity of inflation expectations to the registered inflation has been high over recent years. On the other hand, the weight attached to the CBRT's inflation forecasts declined starting from the last quarter of 2018 until the Inflation Report 2023-III. With the shift in the approach to forecast as of the Inflation Report 2023-III, inflation forecasts have gained importance in expectation formation of the survey participants and weight attached to inflation outturns has decreased somewhat. In this context, transparent communication of credible inflation forecasts with high information content and accompanying monetary policy strategy to achieve these forecasts will play an important role in anchoring expectations during the disinflation process.

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3. Medium-Term Projections

3.1 Current State, Short-Term Outlook and Assumptions

Changes in Key Forecast Variables

Economic activity remains robust, yet signs of domestic demand-induced rebalancing have recently emerged amid tightening financial conditions. In the second quarter of the year, private consumption provided the highest contribution to GDP growth on the expenditures side, which rose by 3.8% year-on-year and 3.5% quarter-on-quarter. In addition, the services sector continued to be the main driver of annual growth on the production side. On the other hand, net exports had a downward effect of 6.3 points on growth due to the weak external demand and strong domestic demand conditions. Leading indicators suggest that even though economic activity continued to grow on the back of domestic demand in the third quarter of 2023, it started to be balanced amid the strengthened monetary tightening. Moreover, exports remained almost flat quarter-on-quarter amid weak external demand, while the rebalancing in domestic demand started to have a dampening effect on import demand. Third-quarter data point to a buoyant and tight labor market. The output gap, which peaked in the second quarter, still stood in positive territory in the third quarter, albeit narrowing amid monetary tightening.

In the third quarter of 2023, consumer inflation rose to 61.5%, 7.9 points above the upper end of the forecast range presented in the previous Inflation Report. In the third quarter, non-energy commodity prices continued to follow a favorable course with a decline on a quarterly basis, yet inflationary pressures intensified amid rising global energy prices. The increase in fuel prices driven by the rise in exchange rates and global prices contributed to widespread price hikes through direct and indirect channels. Strong demand conditions, together with the adjustment in the minimum wage in July, facilitated the pass-through of widespread wage increases to consumer inflation. Although aggregate demand conditions lost momentum and started to be balanced in the third quarter, domestic demand conditions continued to have an upward effect on inflation. On the other hand, adjustments in taxes and fees, such as the increase in VAT and SCT on fuel products, contributed significantly to the rise in consumer inflation.

In the third quarter, the combination of negative shocks occurring in a short period of time led to a deterioration in inflation expectations and pricing behavior beyond projections. The exchange rate pass-through to inflation is rapid and strong during periods of major exchange rate changes. In addition, the ongoing rigidity in services inflation is driven by administered groups as well as items with a time-dependent pricing behavior and a strong tendency to backward indexation. Against this backdrop, the contribution of main groups, particularly the services sector, to annual inflation increased significantly quarter-on-quarter. As a result, the underlying trend of inflation posted a rise, and annual inflation in the B index increased in the third quarter (Table 3.1.1).

Table 3.1.1: Changes in Key Forecast Variables*

	2023-III
Consumer Inflation (Quarter-End, Annual % Change)	61.5 (51.2)
B-Index Inflation (Quarter-End, Annual % Change)	67.2 (57.8)

* Figures in parentheses are from the previous Inflation Report.

Assumptions on Exogenous Variables

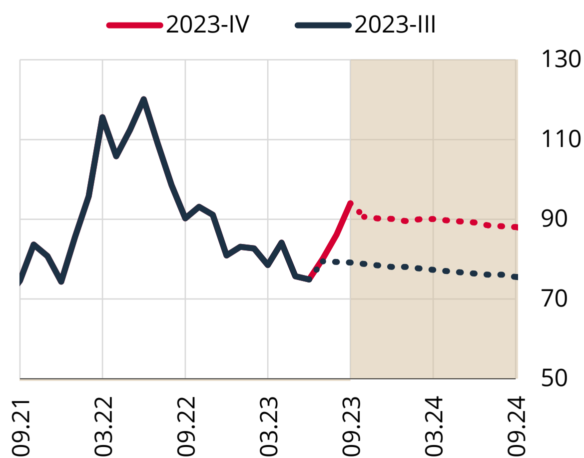
Although global economic activity lost momentum in the current reporting period, expectations that economic growth would continue in 2023, albeit at a slower pace, were maintained. Global economic activity slowed down as the weak outlook for the global manufacturing industry started to be accompanied by the services sector. In this period, PMI indicators declined in both groups, being more pronounced in the services sector. The global growth index weighted by the export shares of Türkiye's trading partners remained flat despite the deterioration in leading indicators. The euro area manufacturing industry PMI

indicator for October pointed to a decline in economic activity (Zoom-In 2.1). In addition, due to its significant weight in global trade, China's weakening growth dampens global demand through both direct and indirect production linkages.

While the downtrend in global inflation slowed due to energy prices, the persistence in core inflation started to break down. Although headline inflation declined in the advanced economies , it remains significantly above the central banks' targets. In emerging economies (excluding Türkiye), it remained almost flat. On the other hand, core inflation, especially in advanced economies, lost some momentum and receded compared to the previous reporting period owing to the effects of tight monetary policies. The improvement in global supply conditions and the slowdown in demand for services had an effect on the global inflation outlook. The easing in supply-side inflationary pressures and the effects of tight monetary policies starting to be felt evidently on demand contributed to the decline in inflation. However, recent geopolitical developments keep the upside risks to energy prices, particularly oil prices, alive and pose risks to the inflation outlook. Moreover, the strong course of labor markets and inflation hovering above target rates raised expectations that central banks of advanced economies will maintain their tight monetary policy stance for a longer period of time, leading to a significant tightening in global financial conditions.

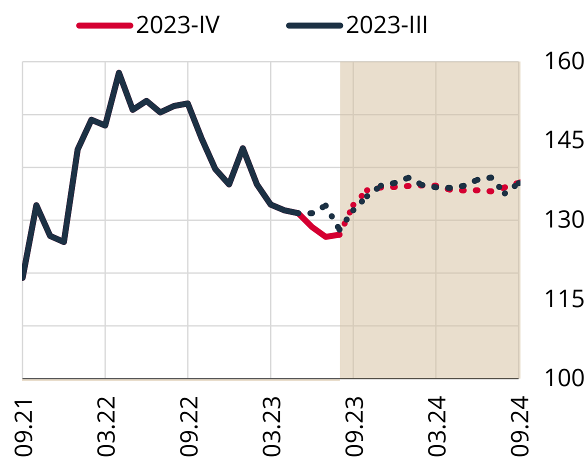
While the downward trend in non-energy commodity prices continues in line with the global growth outlook, geopolitical risks, financial conditions and supply-side factors continue to have an impact on commodity prices. Compared to the previous reporting period, the headline commodity index excluding energy posted a broad-based decline, but still remains above the average of the last decade. OPEC+ countries' continued production below capacity and geopolitical risks kept the upward pressure on oil prices alive and led to increased price volatility. Other industrial commodity prices, on the other hand, remained flat compared to the same period of the previous year, in line with the global growth outlook and especially China's growth. Accordingly, the average oil price assumption was revised upwards from USD 79.4 to USD 84.2 for 2023 and to USD 88.7 for 2024 (Chart 3.1.1). Assumptions for the average annual change in import prices for 2023 and 2024 were slightly revised to -10% and 2.7%, respectively (Chart 3.1.2).

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



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

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



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

Assumptions for food prices are revised upwards for 2023 and downwards for 2024. In the third quarter of 2023, despite the decline in global agricultural commodity prices and food prices, the upward trend in food prices continued at a stronger pace due to ongoing domestic supply-side problems and inadequacies in the market structure. The upward trend is mostly driven by the unprocessed food item, which is affected by supply-side factors beyond the control of monetary policy. The exchange rate pass-through was assessed to be higher and faster in 2023, and the assumptions for food prices for 2024 were revised downwards. In the upcoming period, food inflation is assumed to end 2023 at 66.7% and 2024 at 31.0% (Table 3.1.2).

Table 3.1.2: Revisions in Assumptions*

	2023	2024
Export-Weighted Global Production Index (Annual Average % Change)	1.7 (1.7)	2.0 (2.1)
Oil Prices (Average, USD)	84.2 (79.4)	88.7 (76.3)
Import Prices (USD, Annual Average % Change)	-10.0 (-9.5)	2.7 (2.4)
Food Prices (Year-End % Change)	66.7 (61.5)	31.0 (35.0)

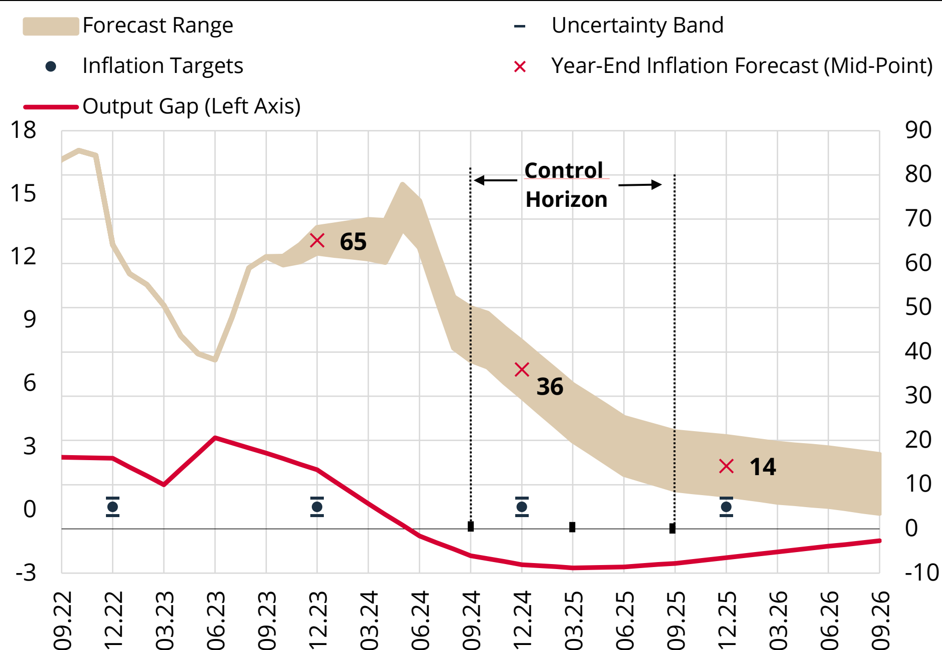
* Figures in parentheses are from the previous Inflation Report.

3.2 Medium-Term Outlook

Inflation is projected to be 65% at the end of 2023, to fall to 36% at the end of 2024 and sustain the downtrend by receding to 14% at the end of 2025. As a result of the increase in inflation above the forecasts due to exchange rates, supply-side effects in some unprocessed food products and fuel prices, coupled with additional impacts of this development on the expectations, the year-end forecast has been revised upwards by 7 points to 65%. On the other hand, assumptions for global growth and import prices were kept at levels consistent with the previous reporting period. The end-2024 forecast has been raised to 36% stemming from revisions in the assumptions for administered prices and energy import prices. Moreover, volatilities in commodity prices, particularly oil, driven by geopolitical developments and the effects of tight monetary policy on global financial conditions as well as uncertainties regarding administered prices and wages have been factored into the uncertainty band of inflation forecasts (Box 3.1).

It is projected that inflation will rise throughout the first half of 2024, and consumer inflation will assume a steady decline as of the second half of 2024. The policy rate hikes as well as actions taken to strengthen the monetary transmission mechanism, such as quantitative tightening, selective credit policy and steps to simplify the macroprudential framework, started to be mirrored in financial conditions. Leading indicators also give signs of a gradual balancing in domestic demand amid slower consumer loan growth and increased demand for Turkish lira savings instruments (Box 3.2). Medium-term forecasts are based on an outlook in which the monetary policy stance will be determined in a way that ensures a significant decline in inflation. This tight monetary policy stance is expected to reinforce the balancing in domestic demand and the gradual improvement in the current account balance. Additionally, it is anticipated that with firm and steady adherence to monetary tightening, monthly inflation will decelerate in the short run and inflation expectations, which are highly sensitive to inflation realizations, will improve (Box 2.3). Accordingly, with 70% probability, inflation is projected to be between 62% and 68% (with a mid-point of 65%) at end-2023; between 30% and 42% (with a mid-point of 36%) at end-2024, to come down to 14% at end-2025 and converge to the 5% target in the medium term and stabilize thereafter (Chart 3.2.1).

Chart 3.2.1: Inflation Forecasts* (%)



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

Table 3.2.1: Revisions in Year-End Inflation Forecasts for 2023 and 2024 and Sources of Revisions

	2023	2024
Inflation Report 2023-III Forecast (%)	58	33
Inflation Report 2023-IV Forecast (%)	65	36
Forecast Revision Compared to IR 2023-III	7	3
Sources of Forecast Revision (% Points)		
TL-Denominated Import Prices (Including the Exchange Rate, Oil and Import Prices)	+2.0	+1.8
Output Gap	+0.8	-0.7
Food Prices	+1.3	-1.0
Administered Prices (Including Energy)	-	+1.5
Realization – Forecast Difference and Its Reflection on Underlying Inflation	+2.9	+1.4

Source: CBRT.

The end-2023 inflation forecast was revised upwards from 58% to 65%. In comparison to the forecasts of the previous reporting period, TL-denominated import prices pushed the end-2023 inflation forecasts up by 2.0 points. While the impact of stronger-than-expected demand conditions on the forecasts was 0.8 points, the change in the assumption for food prices brought forecasts up by 1.3 points. The forecast deviation due to the current inflation realizations exceeding the forecasts of the previous reporting period and the effect of the increase in the underlying trend of inflation are estimated to push year-end inflation up by 2.9 points (Table 3.2.1).

The end-2024 inflation forecast was revised upwards from 33% to 36%. The inflation forecasts were revised upwards by 3 points compared to the previous Inflation Report, with TL-denominated import prices and administered prices contributing 1.8 and 1.5 points, respectively. On the other hand, the forecast deviation and the revision of the underlying trend of inflation increased the end-2024 inflation forecast by 1.4 points.

Lastly, the balancing in demand conditions and the assumption for food prices are estimated to reduce the end-2024 inflation forecast by 0.7 and 1.0 points, respectively.

Forecasts are based on an outlook in which global growth and the external demand outlook display a slowdown compared to the previous reporting period, and global inflation remains above the inflation targets, albeit at a slightly slower pace. Inflation remaining significantly above the inflation targets raises the expectation that monetary policies of particularly advanced economies' central banks will stay on a tight path for a longer period of time. Moreover, recent geopolitical developments have adversely affected the global risk appetite, and the risk premium indicators of emerging economies have risen. Accordingly, global financial conditions are assumed to be slightly tighter in the upcoming period than projected in the previous reporting period.

Although temporary rises in inflation are expected in the coming period, the disinflation process is projected to begin in the second half of 2024. The cost pressures driven by wages and exchange rates, as well as the tax adjustments have broadly passed through to prices in the recent period, and the underlying trend of monthly inflation has been expected to decline as of September. However, monthly inflation is expected to see temporary rises in November, January and May owing to several factors that fall outside the scope of the monetary policy. In the last quarter of the year, households exceeding the free natural gas utilization limit of 25 cubic meters will have an upward mechanical effect on monthly inflation. As for January 2024, minimum wage adjustments, the developments regarding services items with time-dependent price setting and automatic tax adjustments are expected to kick in. Annual inflation is expected to peak in May 2024 due to base effects stemming from natural gas prices. In the second half of 2024, a strong and uninterrupted disinflation process is projected to begin as the cumulative effects of monetary tightening take hold.

Inflation forecasts are based on a policy framework in which the monetary stance that will steer inflation closer to the 5% target in the medium term will be decisively maintained. The current course of inflation expectations and the deterioration in pricing behavior keep upside risks to the inflation outlook alive. The strong monetary tightening initiated in June aims to bring inflation expectations closer to the forecasts at first and then to medium-term targets. Moreover, controlling expectations is also essential for mitigating the trade-off between inflation and growth during the disinflation process. Re-anchoring of expectations and reverting price-setting behavior back to historical norms will be the key factors that support the disinflationary process in 2024 and prevent the propagation of shocks to the economy. In addition to the interest rate hikes, selective credit policy, which will complement the monetary tightening process, will contribute to balancing of the domestic demand and contain demand-side pressures on inflation. Meanwhile, the simplification of the micro and macroprudential framework that is carried out in coordination with the gradual strengthening of monetary tightening will sustainably increase the demand for TL-denominated financial assets, support stability in the foreign exchange markets, enhance the effectiveness of market mechanisms and further strengthen monetary transmission. Accordingly, a monetary policy outlook in which macro financial stability will support price stability has been adopted. In short, owing to the impact of the implemented policies, disinflation in 2024 is estimated to be driven by the anchoring of inflation expectations, the balancing in domestic demand and the stable course of the Turkish lira amid increased demand for TL-denominated financial assets.

Analyses on the effects of the monetary tightening on macroeconomic and financial conditions support that additional steps can be taken decisively, if necessary, in the fight against inflation. The fact that approximately half of the banks' Turkish lira loans and securities portfolios are at floating rates, that Turkish lira fixed-rate securities are mainly accounted for at amortized cost, which is not sensitive to interest rate changes, and that the maturity of deposits is extended with the backing of reserve requirement practices reduce the sector's vulnerability to interest rate changes. The capital position of the banking sector, which is well above the legal limits, is considered to be sufficient to absorb losses that may stem from possible interest rate changes.

For the upcoming period, a medium-term outlook is adopted in which taxes, administered prices and other fiscal policies will be determined in coordination with monetary policy and within a macro framework in line with the projected disinflation path. It is assumed that fiscal discipline will be maintained and public finances will support the disinflationary process when temporary earthquake expenditures are excluded. Against this background, maintaining the tight monetary policy stance until strong indicators point to a permanent fall in inflation and to price stability, will contribute further to the improvement in the country risk premium.

3.3. Key Risks to Inflation Forecasts and Possible Impact Channels

Geopolitical risks and supply-side factors put pressure on commodity prices. OPEC+ countries continue to produce below capacity and to make further production cuts, which keeps supply-side pressures on oil prices alive. Moreover, geopolitical developments exacerbate supply-driven risks to oil prices. Despite the decline in commodity prices excluding energy, uncertainties may also arise in other commodity prices parallel to the news flow regarding geopolitical developments.

Although the deceleration in global inflation lost pace in the current reporting period, it remained considerably above targets. Although the core inflation rate and the underlying trend have relatively improved in advanced economies pursuing a tight monetary policy stance, inflation developments on a global scale still hover above the central banks' targets. This leads central banks to adopt a discourse that entails stronger tightening in financing and credit conditions. Expectations that global monetary policy will remain tight for a longer-than-projected period may exert pressure on capital flows and the Turkish lira, which may pose upside risks to inflation and downside risks to commodity and import prices.

Expectations regarding the global growth outlook for 2023 remain flat compared to the previous reporting period, while the deterioration in the growth outlook became more pronounced for 2024. Despite the tightening in financial conditions, growth is expected to continue in 2023, albeit at a slower pace, and the effects of the tight monetary policy are projected to be visible in 2024. Global growth expectations do not pose an additional upside risk to end-2023 inflation forecasts through the external demand channel but may pose a downside risk to end-2024 inflation forecast.

The tight monetary policy stance coupled with the balancing in domestic demand is considered to decelerate imports and support the improvement in the current account balance. Policies adopted mainly by advanced economies limit external demand from Türkiye's major trading partners and cause exports to display a flat outlook. While the decelerating effects of the tight monetary policy on imports became visible, rising global energy prices keep the direct upside risks to energy imports alive.

Recent indicators point to a decline in the underlying trend of monthly inflation. Recently, the depreciation of the Turkish lira accompanied by domestic and external cost developments have led inflation to settle on a higher course. Inflationary pressures such as tax adjustments, administered prices and wage adjustments can have an adverse impact on pricing behavior and expectations and magnify the passthrough of shocks. Persistence of these conditions that will exert pressure on the underlying trend poses an upside risk to the inflation forecasts for the year end.

Inflation expectations remain elevated. High levels of medium-term inflation expectations indicate that upside risks to price-setting behavior persist.

Growth and composition of credits have started to normalize. In the first half of 2023, retail loan growth that fed into inflation considerably by supporting domestic demand lost pace. In the upcoming period, contained by the sustained monetary tightening and selective credit policies, credit growth is expected to contribute to the balancing and disinflation process in the economy. On the other hand, in the case of a reversal in these conditions, an upward pressure on inflation may occur.

Recent geopolitical risks pose additional risks to energy prices and export dynamics. Geopolitical risks stemming from the Israeli-Palestinian conflict may pose upside risks to energy prices and downside risks to external demand and export revenues. These channels and their effects on inflation are closely monitored.

Adjustments to be made through taxes to finance earthquake-driven expenditures may pose a risk to inflation. The quantity and timing of earthquake-related expenditures will be important for maintaining fiscal discipline. Maintaining fiscal discipline is significant to anchoring pricing behavior and the course of sovereign risk premium. On the other hand, increased weight of indirect taxes in fiscal revenues can have direct effects by pushing prices up and also indirect effects by distorting inflation expectations.

Minimum wage, taxes and administered prices shape both inflation and inflation expectations. The level and frequency of minimum wage and public salary adjustments may affect inflation and expectations through production cost and demand channels. Taxes and administered prices that are not aligned with the inflation target may exert pressure on inflation. The coordination of economic policies is of critical importance to attain the inflation target in the shortest time possible.

Table 3.2.2: Key Risks to Inflation Forecasts and Possible Impact Channels*

Risk	Evaluation of Risks Compared to the Baseline Scenario and Possible Effect on Inflation (↑ | ↔ | ↓)		Tracked Indicators
Risks to the course of energy prices	• Sustained underproduction by OPEC+ countries and additional cuts on production keep supply-side pressures on oil prices alive. • If the recent geopolitical developments inflict a wider area, upside risks to energy prices will emerge from both supply and demand sides.	↑ ↑	• Crude oil prices and demand-supply balance • OPEC+ decisions • Indicators for domestic energy market • Administered prices
Risks to global financial markets and macroeeonomic outlook	• Despite the improvement in core inflation and underlying trends, inflation rates hover above the targeted inflation rates in advanced economies adopting a tight monetary policy. The persistence of these circumstances poses an upside risk to domestic inflation through imported products. • On the other hand, tight monetary policies in advanced economies are expected to be maintained for the remainder of 2023, with the main effects to be seen in 2024. Uncertainty persists over the level of tightening and the timing of easing. A longer-than-anticipated duration of tight monetary policy will pose an upside risk to inflation due to global financial conditions and a downside risk to import prices.	↑ ↔	• Global inflation rates • Monetary policy response in advanced and emerging economies • Global risk appetite indicators • Export-weighted global economic activity index • Global trade volume and inflation developments • Import and commodity prices

Economic activity and geopolitical risks	• After a robust course in the second quarter, demand conditions started to decelerate in the third quarter, yet aggregate demand conditions are still considered to be inflationary. A delay in complete rebalancing of aggregate demand conditions may exert pressure on inflation. • A faster-than-estimated rebalancing in domestic demand may pose downside risks to inflation. • Recent geopolitical developments entail additional risks to energy prices and export dynamics. Geopolitical developments are considered to involve upside risks to energy prices and downside risks to external demand and exports.	↑ ↓ ↑	• Export, import and current account balance indicators • Oil prices
High course of medium- term inflation expectations	• The high levels of medium-term inflation expectations indicate that upside risks to pricing behavior persist.	↑	• Main inflation indicators • Indicators for past-indexation behavior in inflation expectations • Distribution of inflation expectations • Inflation uncertainty indicators • Survey and market pricing-based inflation and exchange rate expectations
The underlying trend of inflation	• Taxes, administered prices and general and minimum wage adjustments weigh on cost pressures and pose risks to pricing behavior, entailing upside risks to inflation forecasts. • In case such shocks continue, they may pose upside risks to inflation forecasts.	↑ ↑	• Tax adjustments • Increase in the weight of indirect taxes in total taxes • Administered prices • Minimum wage adjustments • Real unit labor costs • Private sector wage-setting process • Real earnings indices

Risks to financial markets and credit growth	• Retail loan growth, which supported domestic demand and contributed significantly to the rise in inflation in the first half of 2023, displayed a rapid deceleration. A reversal of this outlook may put upward pressure on inflation.	↑ ↑	• Risk premium indicators • Global risk appetite indicators • Capital flows • Financial conditions • Indicators for demand and activity • News flow regarding geopolitical developments
Risks to the coordinative efficiency of monetary, fiscal and financial policies	• Adjustments in the minimum wage and salaries of public employees may pose risks to the balancing in domestic demand. • Possible tax arrangements for earthquake expenditures, if made through indirect taxes in particular, will keep the upside risk on inflation alive. • Insufficient coordination among monetary, financial and fiscal policies within the recovery process poses risks to the current account balance, inflation and the balancing process in domestic demand.	↑ ↑ ↑	• Administered prices and tax adjustments • Developments in tax revenues and public expenditures • Medium Term Program and fiscal policy measures • Budget and public debt stock indicators • Structural budget balance forecasts

* Each risk row in the table indicates the possible channel and the direction for the change in inflation forecasts in the case that the mentioned risk materializes. The signs ↑, ↓ indicate that the risk on the inflation forecast is upward and downward, respectively. The ↔ sign is used when the net impact on the inflation forecast is not completely clear. The indicators through which the risk is monitored are also listed in the column on the right.

Box 3.1

Risks and Uncertainty Band

While generating the medium-term forecasts, various shocks to the economy, external factors, economic policies and the dynamic interactions of macroeconomic quantities are examined in detail. Although the shocks and external factors that will affect the economy in the future cannot be predicted completely, assumptions regarding these factors are made in the light of data and expert judgements. While generating the forecast path for the Inflation Report 2023-IV, it was assessed that uncertainties were high regarding assumed paths for oil prices, global financial conditions, taxes, administered prices and wage adjustments, which are outside the monetary policy domain. This Box discusses the sources of these risks and their impact on forecasts and the range of uncertainty around those forecasts.

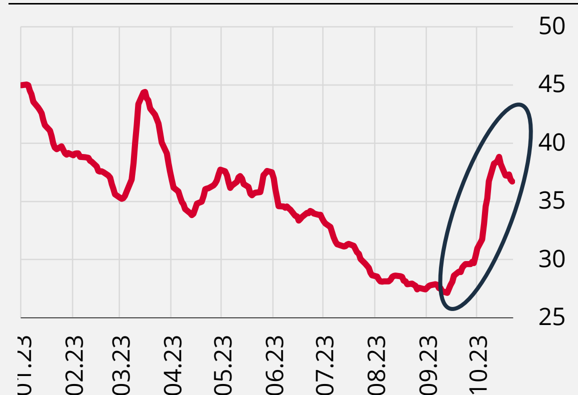
Since oil is a physically traded commodity, oil prices are affected by supply and demand conditions, the level of oil stocks and the change in stocks. In this regard, the decisions taken by oil oligopolies such as OPEC+, national strategies and global policies may create fluctuations in oil prices through supply and demand conditions. On the other hand, oil is not only a physically traded commodity but also a financial commodity that market participants trade in futures markets with a different set of motivations. The increasing financialization of the oil market may cause prices to react more quickly to news flow and geopolitical risks, leading to sudden movements in prices. As a historical phenomenon, numerous oil crises in the past show that oil markets strongly reflect their sensitivity to geopolitical uncertainties (Qin et al., 2020; Zhang et al., 2009). Jiao et al. (2023) also support the idea that speculative behavior increases in periods when geopolitical risk is high, and its impact on the level and volatility of oil prices comes to the fore.

In this context, the tightening in supply conditions resulting from the decisions taken by OPEC+ member countries to reduce production in 2023 and the increase in geopolitical risks lead to a volatile course in oil prices. The price of Brent oil, which was traded around USD 83 per barrel in January 2023, dropped below USD 75 in June. With the effect of developments in supply conditions after this date, prices increased above USD 90 as of September (Chart 1). Amid recent geopolitical developments, indicators give signals that the volatile course of oil prices will continue in the coming period (Chart 2).

Chart 1: Brent Oil Prices
(USD Per Barrel, 5-Day Moving Average)

Source: Bloomberg.

Chart 2: Three Month Implied Brent Oil Price Volatility (5-Day Moving Average)



Source: Bloomberg.

The dual structure in the oil market mentioned above and the weak defense of the market against speculative and geopolitical risks, which has become evident recently, make it difficult to achieve satisfactory performance for traditional statistical-based forecasting methods. As a matter of fact, recently the 2024 oil forecast paths of international institutions and organizations are diverging from one another and their forecasts move in a wide range (Table 1). Uncertainties about the course of oil prices in the coming period pose a risk for inflation forecasts. The possibility that oil prices will

continue to rise due to geopolitical developments has increased the uncertainty in the forecasts. On the other hand, in an environment where geopolitical developments fade quicker than expected, oil prices may converge to their historical averages, that is, prices may decrease in the coming period.

Table 1: Oil Price Forecasts* (Annual Average)

	2023	2024
Energy Information Administration	84.1	94.9
Consensus	84.0	87.8
ECB	82.7	81.8
IMF	80.5	79.9

* While Energy Information Administration (EIA), Consensus forecasts and ECB forecasts show Brent oil prices per barrel, IMF forecasts show the average of Brent, Dubai and West Texas Intermediate oil forecasts. EIA forecasts are taken from the October "Short-Term Energy Outlook" Bulletin, Consensus forecasts are taken from the October Consensus Forecasts Bulletin, ECB forecasts are taken from the ECB's September macroeconomic projections, and IMF forecasts are taken from the October World Economic Outlook.

In addition to oil prices, recent uncertainties regarding global financial conditions remain important. Global financial cycles, the main determinant of which is the monetary policies of advanced economies (Rey, 2015), are of great importance for economies that are commercially and financially connected to the rest of the world, such as Türkiye. The global financial cycle determines capital flows from advanced economies to emerging market economies, the relative position of emerging market currencies, the course of country risk premiums and trade and inflation developments through the exchange rate channel. Studies contributing to the literature show that emerging economies' interest rates move together with the policy rate in the USA and that there is contagion in interest rates (Georgiadis, 2016; Caceres et al., 2016 and Dedola et al., 2017). In this respect, the course of the US bond interest rates through which the Fed sets policy rates and expectations, which are the fundamental determinants of the global financial cycle, are of great importance for the macroeconomic and financial indicators of a small-open and oil-importing economy like Türkiye. Recent research on the Turkish economy has demonstrated that an external monetary policy shock seen in the Fed policy rates has a significant impact on the Turkish lira, inflation and growth (Tüzün, 2021).

In parallel with the findings and historical realizations, the course of the US bond market in the coming period is important in terms of risk appetite for TL-denominated assets, and therefore, the disinflation process. Tightening global financial conditions and deteriorating risk appetite, together with the tight monetary policies implemented by other central banks, make the Turkish lira more sensitive to US interest rates. In addition, this situation creates an environment suitable for an additional capital outflow shock unless the relative situation of an emerging economy such as Türkiye improves and may also cause an increase in the foreign exchange demand of domestic residents. The increase in borrowing costs from abroad negatively affects firms' balance sheets and causes additional increases in the exchange rate. All in all, and also considering the high exchange rate pass-through in the Turkish economy, these developments feed the cost channel and keep upside risks on inflation forecasts alive. In addition, fluctuations in global liquidity conditions and risk perceptions cause volatility in the exchange rate, increasing the uncertainty around forecasts. On the other hand, it is considered that as long as Türkiye improves its relative situation with the implementation of tight monetary policy and continues to do so with determination, the effects of the deterioration in the global risk appetite on the value of the Turkish lira may be limited. Under a scenario where US bond interest rates will remain tight for a shorter period than expected, it is considered that external inflationary pressures such as foreign monetary policy shocks in the economy will decrease and may also create a downward risk to inflation.

Another element that has recently come to the fore outside the control of monetary policy is administered price, tax and wage adjustments. Uncertainties regarding the timing, frequency and amount of these regulations pose risks to inflation forecasts. Shocks that are considered temporary during normal inflationary periods of the economy, such as tax and administered price increases and

minimum wage regulation, may have longer-lasting negative effects than expected through expectations and inflation inertia in a high inflation environment. In addition to their direct effects on the inflation level, administered price and tax adjustments may also negatively affect expectations and pricing behavior by increasing the volatility of inflation. In addition, it becomes difficult to identify the effects of wage regulations on inflation due to cost and demand increases during high inflation periods.

Additionally, during periods of high inflation, the so-called “mathematical” or “mechanical” impact also takes into effect. Volatility in monthly inflation for any given month may have a larger impact on annual inflation through a multiplier effect if inflation in the other months are high. Therefore, volatilities in monthly inflation create uncertainty in both directions on annual inflation. Estimates are based on a framework in which the monetary policy stance will respond not to the primary effects of these external factors on consumer inflation, but to their possible secondary effects that may be observed in inflation expectations or pricing behavior. In addition, since increases in oil prices and uncertainties regarding global financial conditions may negatively affect the current account balance and its financing, macro financial risks are also considered when making a policy response. Scenario analyses that include all these risks show that uncertainties regarding the inflation path have increased temporarily for reasons specific to 2024. Considering all these effects, it was decided to expand the uncertainty range on medium-term forecasts.

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Box 3.2

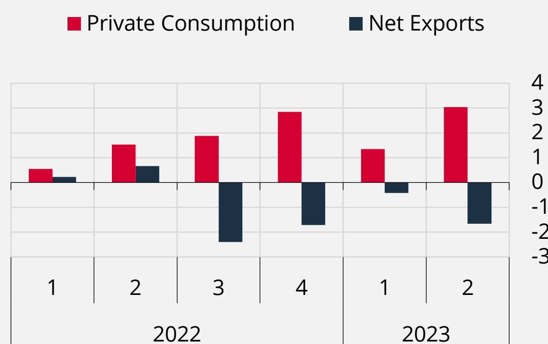
Balancing in Domestic Demand and Monetary Transmission Mechanism

The CBRT implements monetary tightening to achieve price stability through balancing in domestic demand, improving inflation expectations and increasing demand for TL-denominated assets. While monetary tightening encompasses policy rate hikes as well as quantitative and selective credit tightening policies, it is also supported by the simplification of the macroprudential framework and aims to reduce inflation permanently. A particular monetary transmission mechanism is envisaged for the tightening process to ensure disinflation, and policy steps are intended to strengthen this mechanism.

The monetary transmission mechanism includes the channels through which and to what extent the monetary stance determined by central banks affects inflation to achieve the price stability target. Monetary policy is conducted with the use of monetary policy instruments, chiefly the policy rate, and these instruments work through various channels such as domestic demand, exchange rates, financial markets, credits, company balance sheets, financial and real assets and expectations in the economy. The effects of these channels on inflation occur in different lags, and the period in which the effect is most pronounced may vary depending on the existing economic conditions. Therefore, examining monetary transmission channels is important to understand and monitor how the disinflation process, which is included in our medium-term forecasts, will occur. This Box will focus on the main transmission channels that will ensure the upcoming disinflation process, rather than providing a detailed explanation for the entire monetary transmission mechanism (See CBRT, 2013 for a detailed explanation of whole monetary transmission mechanism).

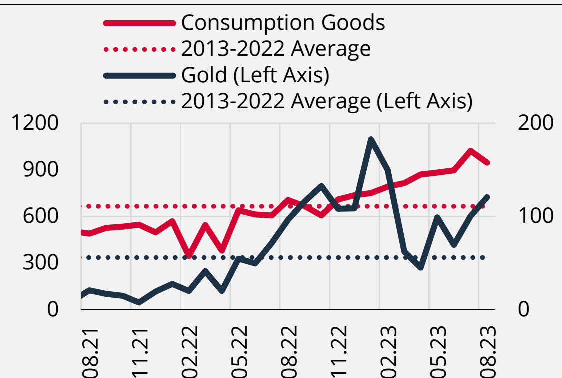
In addition to its direct effect on prices, excessive and high domestic demand created additional inflation by facilitating the pass-through from production costs to prices, and had negative effects on the current account deficit, central bank reserves and exchange rate expectations since some of the excessive demand shifted to foreign goods causing a surge in imports. In addition, expectations that prices will increase and the Turkish lira will depreciate have strengthened the increase in private consumption by causing savings to decrease, demand to be pulled forward and stockpiling behavior to increase. As a matter of fact, as seen in Chart 1, as of the second half of 2022, the contribution of private consumption expenditures to economic activity has risen well above its historical average, and the contribution of net exports has fallen below its historical average. This outlook in the composition of growth is also reflected in the current account deficit, with consumer goods imports significantly exceeding its historical average (Chart 2). On the other hand, the contribution of this excessive domestic demand to the economic growth is significantly offset by the rising imports, a natural reflection of excess consumption.

Chart 1: Contribution of Private Consumption and Net Exports to Quarterly Growth*



Source: CBRT, TURKSTAT.
* Seasonally and working day adjusted. Denotes % points difference from 2005-2021 average.

Chart 2: Consumer Goods Imports, Gold Imports and Historical Averages*

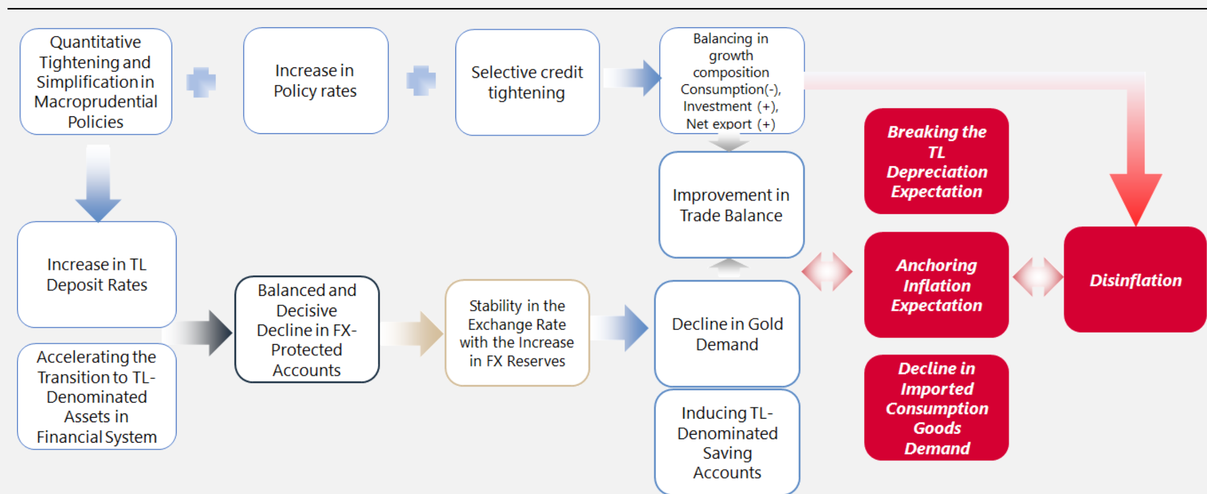


Source: CBRT, TURKSTAT.
* Population growth is controlled by dividing the quantity index by million people.

It is expected that domestic demand will be balanced by the activation of demand channel of monetary transmission through monetary tightening that began in June. Increases in interest rates are expected to stimulate savings and reduce the behavior of pulling demand forward. Monetary tightening accompanied by selective credit tightening aims to balance the consumption side rather than investments. Thus, in the upcoming period, it is planned that investment and exports will be the main drivers of economic growth, while consumption and imports decrease. In addition to the demand channel, it is anticipated that, through the expectations channel, the tight monetary policy will make a solid contribution to the disinflation process by positively influencing inflation and exchange rate expectations. Furthermore, the reduced uncertainty and the improved expectations will enable economic units to make long-term projects and investment decisions more confidently. As a result, the efficient allocation of resources will be achieved, leading to increased productivity as well as strong and sustainable growth.

In addition to demand and expectation channels, the macroprudential policies, which have been simplified and converged to their primary objectives, and the monetary tightening will strengthen the monetary transmission by increasing the demand for TL-denominated financial assets. It is assessed that, in addition to increasing demand for TL-denominated financial assets, strengthening the CBRT's international reserves through effective reserve policies will improve exchange rate expectations, and in turn, this will improve inflation expectations. The strengthening of demand for TL-denominated financial assets and the positive outlook in exchange rate expectations are also anticipated to reduce the demand for gold as a store of value, contributing to the improvement in the current account balance and the balancing of the growth composition. In sum, it is assessed that the disinflation process will commence in 2024 as the improvement in expectations, the balancing of the composition of the growth and the stability of the Turkish lira reinforce each other (Figure 1).

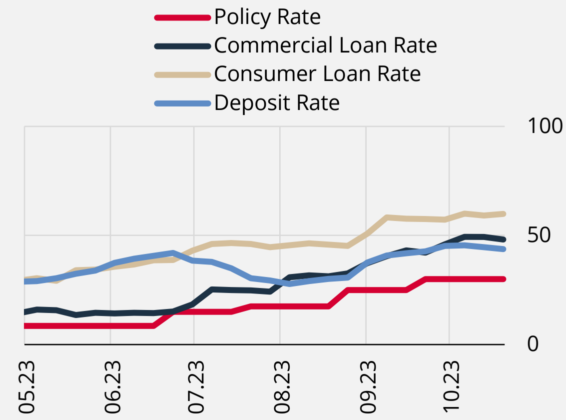
Figure 1: Simplified Monetary Transmission Mechanism*



* Monetary transmission mechanism is simplified such that only featured transmission channels in this Box are provided.

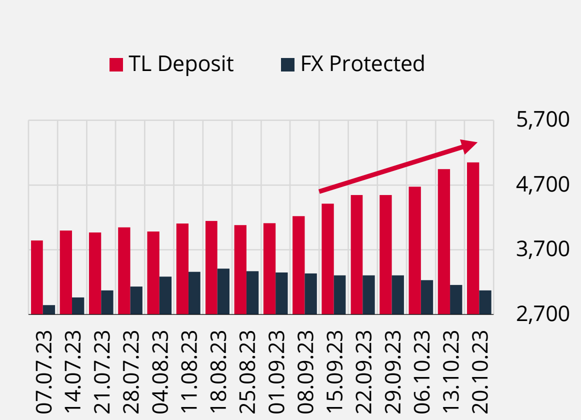
The monetary tightening that has been decisively implemented since June will cumulatively affect demand, savings, and pricing behavior over the upcoming several quarters. In this respect, the full effect of monetary tightening discussed here will be gradually observed contingent on other economic developments. In this regard, some initial effects have started to appear according to some leading indicators. The changes in financial markets are more pronounced. Market interest rates have moved in line with the policy targets (Chart 3), while the balance of Turkish lira-denominated deposits has increased, and balances of foreign currency and foreign exchange-protected deposits has started to decrease (Chart 4). Consumer loan growth has shown a declining trend with the implementation of selective credit tightening measures in addition to policy rate hikes (Chart 5). The CBRT reserves show an increasing trend (Chart 6). This supports the scheme that the simplified transmission mechanism shown in Figure 1 is currently operational regarding financial variables. On the other hand, the initial effects of the transmission mechanism on real activity have started to become evident though they are less pronounced. Domestic demand indicators, which remained strong since the second half of 2022, started to balance in the third quarter of 2023 (Chart 7). Additionally, with the balancing of domestic demand, imports have shown a declining trend in the third quarter, and the foreign trade balance has started to exhibit a better outlook (Chart 8).

Chart 3: Interest Rates (Annual, %)



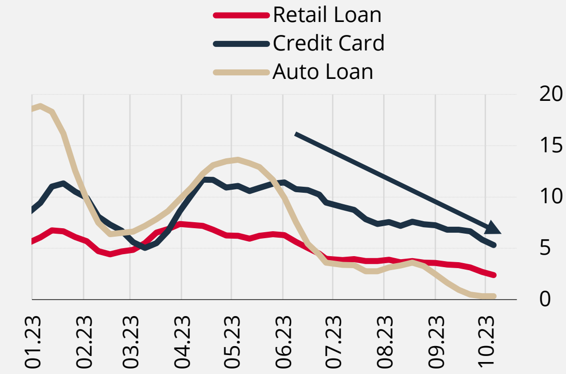
Source: CBRT.

Chart 4: Deposits (Billion TL)



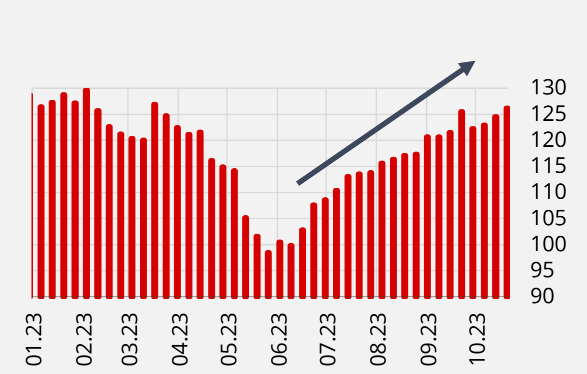
Source: CBRT.

Chart 5: Consumer Loan Rate Growth (4-Weeks-Moving Average of 4-Week Growth, %)



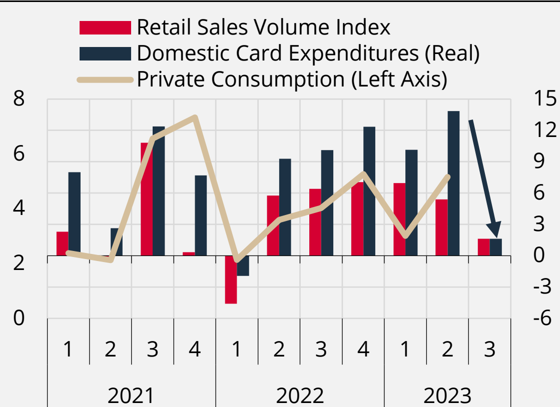
Source: CBRT.

Chart 6: CBRT International Reserves (Gross, Billion USD)



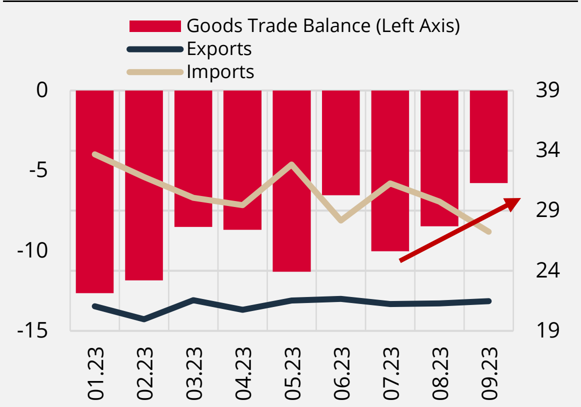
Source: CBRT.

Chart 7: Consumption Indicators (Adjusted for Seasonal and Calendar Effects, Quarterly % Change)



Source: BKM, CBRT, TURKSTAT.

Chart 8: Foreign Trade Balance, Imports and Exports (Adjusted for Seasonal and Calendar Effects, Billion USD)



Source: CBRT, TURKSTAT.

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ISSN 1306-8199