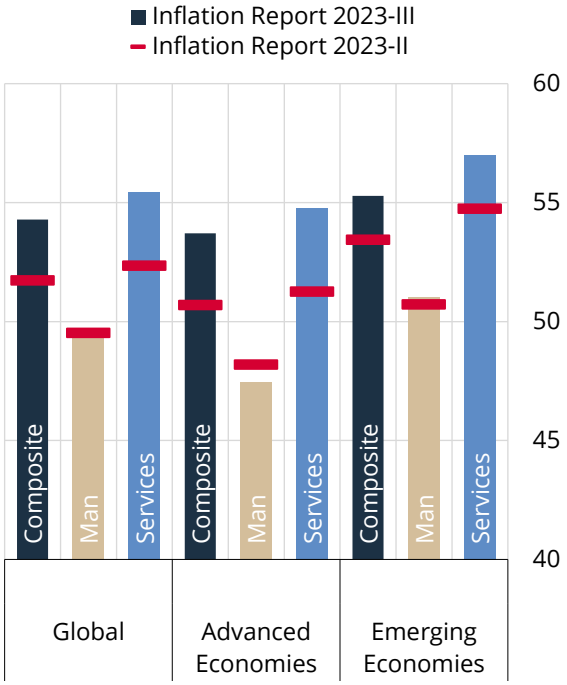
2. Economic Outlook

2.1 Global Economy

The global growth outlook remained flat compared to the previous reporting period, while relatively strong demand conditions persisted despite the tightening in financial conditions and tight labor markets. Meanwhile, the divergence between the manufacturing industry and the services sector, particularly in advanced economies, is noteworthy. The ongoing improvement in global supply conditions, coupled with strong demand, especially in the services sector, played a major role in maintaining the resilience of the growth trend. The composite PMI index rose to 54.3 on a quarterly basis, indicating that global economic activity gained strength compared to the previous reporting period. This strengthening stemmed from the services sector, whose index value rose by 3.1 points, while the manufacturing industry index continued to stay just below the threshold value at 49.3. As for advanced economies, the manufacturing industry index declined notably to 47.5, the lowest reading since the pandemic (Chart 2.1.1). The global growth index weighted by the export shares of Türkiye's trading partners remained flat compared to the previous reporting period. The projected growth rate of the index for 2023 is 1.7%, which is about 0.4 points higher than the trough in January. The revisions in the 2023 growth forecasts of Türkiye's trading partners differed across countries. While the outlook did not change considerably across the euro area, the growth forecasts for Iraq and the United Arab Emirates (UAE), which are among oil-exporting trading partners, were revised downwards by 2 and 0.7 points, respectively, following the developments in energy prices and the Organization of the Petroleum Exporting Countries' (OPEC) decisions (Table 2.1.1). Against this background, the contribution of the Middle East and Africa region to external demand declined across subgroups. In sum, expectations that global economic growth will continue in 2023, albeit at a slower pace, were maintained, but the restraining effects of monetary policies, particularly on manufacturing industry production, started to be more pronounced in advanced economies.

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	Forecast for 2023	
	Realization	Inflation Report 2023-II	Inflation Report 2023-III
Euro Area	3.5	0.7	**0.5**
Germany	1.8	0.1	**-0.3**
USA	2.1	1.1	**1.6**
UK	4.1	-0.2	**0.1**
Italy	3.8	0.6	**1.1**
Iraq	8.8	4.5	**2.4**
Spain	5.5	1.4	**2.1**
France	2.6	0.5	**0.6**
Netherlands	4.5	1.3	**0.9**
Israel	6.4	3.0	**2.9**
Russia	-2.1	-0.9	**0.7**
UAE	7.2	4.3	**3.6**
Romania	4.8	2.6	2.6
Belgium	3.1	0.5	**0.9**
Poland	4.9	0.6	**1.0**
Egypt	6.6	3.7	**3.9**
Bulgaria	3.4	1.4	**1.6**
China	3.0	5.5	5.5

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

The global demand outlook continues to be influential on commodity prices, while indicators for supply chains continue to improve. Although prices posted a broad-based decline across commodities excluding energy compared to the previous reporting period, the headline commodity index remains above its average of the last decade. The index decreased by 18.3% year-on-year. OPEC+' decisions to cut output in addition to maintaining production below output quotas cause supply-side pressures on oil prices to

persist. Brent oil prices per barrel went up by 5.1% over the inter-reporting period. Industrial commodity prices, which have historically been on a path consistent with the global growth outlook and China's growth, in particular, decreased by 4.5% compared to the previous reporting period due to the recent loss of pace in China's recovery. Agricultural commodity prices, on the other hand, hovered above their average of the last decade, yet receded by 2.8% compared to the previous reporting period. The supply chain has recently improved on the back of lower demand and higher freight capacities (Table 2.1.2).

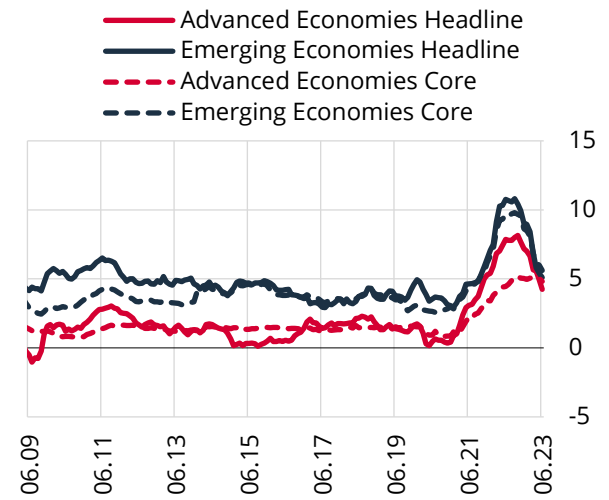
Table 2.1.2: Commodity Prices (%)

	April	May	June	July	Annual	Compared to the Previous Inflation Report*
Commodity Headline Index	3.0	-6.6	-0.1	2.1	-18.3	4.5
Energy	4.2	-8.9	-0.1	4.6	-28.2	8.7
Agricultural Commodity	1.2	-4.3	-1.2	-4.1	-8.2	-2.8
Industrial Metal	-0.2	-5.4	-0.9	-0.5	-0.9	-4.5
Precious Metal	5.3	-0.5	-2.7	0.8	13.9	-1.2
Non-Energy	1.5	-3.4	-0.1	-1.2	0.6	-0.8
Brent Oil	7.1	-10.0	-1.1	4.8	-27.9	5.1
Natural Gas (USA)	-9.1	4.9	8.2	6.2	-63.0	29.0
Natural Gas (Europe)	-4.8	-24.7	2.5	-8.4	-82.8	-19.9
Coal	7.0	-15.0	-20.0	3.8	-66.8	-22.2
Aluminum	1.5	-3.3	-3.2	-1.7	-10.6	-6.4
Copper	-1.2	-6.5	1.7	0.1	11.7	-1.4
Iron	-6.9	-11.4	6.0	-0.5	2.8	11.0
Wheat	-2.9	-7.2	6.7	-1.1	-19.0	12.4
Soybeans	-0.1	-7.0	3.5	5.6	-2.7	1.8
Rice	-0.4	2.7	2.8	-1.3	7.1	-12.1
Corn	2.7	-7.0	1.3	-9.8	-16.7	-17.8
Cotton	0.4	1.4	-0.4	1.3	-16.5	4.6
Sugar	17.3	4.7	-3.8	-4.0	29.6	-6.3

Source: Bloomberg.
* Denotes the percentage change between 20 July 2023 and 5 May 2023.

Despite a continued decline in both advanced economies and emerging economies in the current reporting period, global inflation remains elevated, while the persistence in core indicators supports the expectations that this downtrend will lose momentum in the period ahead. Consumer inflation figures of advanced and emerging economies fell to 4.24% and 5.11%, respectively, from 5.65% and 6.90% in the previous reporting period (Chart 2.1.2). However, inflation continues to hover significantly above the average target rates of 2% in advanced economies and 3.5% in emerging economies (Chart 2.1.3). Remaining sticky due to the strong course of labor markets and domestic demand, core inflation, on the other hand, receded to 4.83% from 5.10% in advanced economies, and to 5.61% from 6.85% in emerging economies in the current reporting period. The stickiness in core inflation implies that inflation will remain above inflation targets in both advanced and emerging economies. For 2023, fourth-quarter average annual inflation expectations in the US and the euro area are 3.1% and 3.0%, respectively, while core inflation expectations stand at 3.7% and 4.0%, respectively. Across advanced economies, fourth-quarter average annual inflation expectations are 3.1%, while those for emerging economies remain around 6.0%.

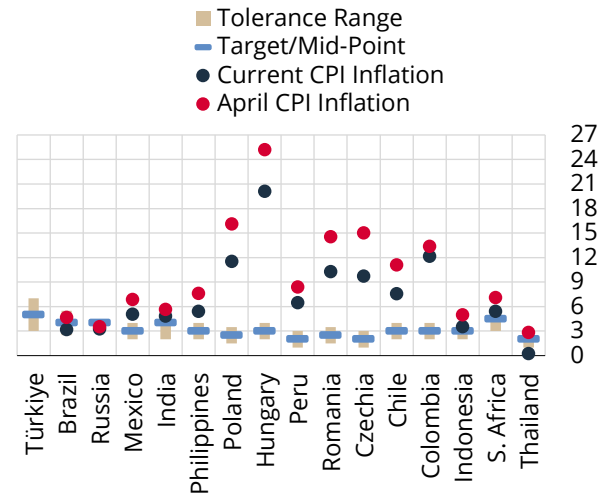
Chart 2.1.2: Global Inflation* (Annual % Change)



Source: Bloomberg.

* Advanced Economies: The USA, the euro area, Japan, the UK, Canada, South Korea, Switzerland, Sweden, Norway and Israel.
Emerging Economies: China, India, Russia, Türkiye, Brazil, Mexico, Poland, Indonesia, South Africa, Thailand, Czechia, Colombia, Hungary, Romania, the Philippines, Chile and Peru.

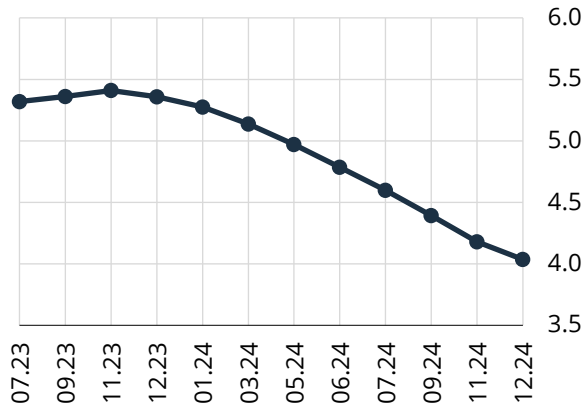
Chart 2.1.3: Consumer Inflation in Emerging Economies (Target, Tolerance Range and Realization, %)



Source: Bloomberg.

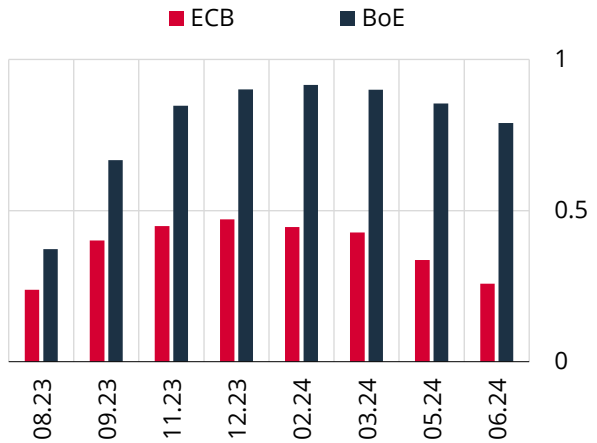
Despite the recent downward trend in global inflation owing to favorable energy and commodity prices, the strong performance of labor markets keeps wage pressures and global demand brisk, and the limited decline in core inflation indicators supports the expectation that central banks will remain tight for a protracted period. As the tightening steps were transmitted to market conditions, central banks' emphasis on financing and credit conditions grew stronger in the current reporting period. The Fed decided to leave its policy rate unchanged at its June meeting for the first time in its monetary tightening cycle that started in March 2022. The Fed underlined that this decision pointed to the continuation of the rate hike process but at a slower pace. The end-2023 policy rate implied by futures, which fell to 3.75% in the aftermath of the banking crisis in March, returned back to its pre-crisis levels of 5.36% (Chart 2.1.4). At their meetings of May and June, the ECB and the BoE also hiked rates by a total of 50 and 75 basis points, respectively, thereby maintaining their tight monetary policy stances. On account of the communications of these central banks that the rate hike cycle will continue, markets are pricing the tight stance to stay in place in the upcoming period (Chart 2.1.5). On the other hand, the Bank of Japan has kept its policy rate unchanged to achieve its medium-term inflation target, and has been sticking to its bond purchase programs. Considering the sluggish economic activity and tepid inflation, the People's Bank of China cut its policy rate by 10 basis points (a reduction in one-year loan prime rate from 3.65% to 3.55% , which is a benchmark for commercial loans, and from 4.3% to 4.2% for the 5-year rate, which is a benchmark for housing loans) after a 10-month interval. As uncertainties regarding the inflation outlook remain strong in most other emerging economies, existing tight monetary policies are maintained or tightening steps are strengthened, in view of country-specific conditions.

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



Source: Bloomberg.

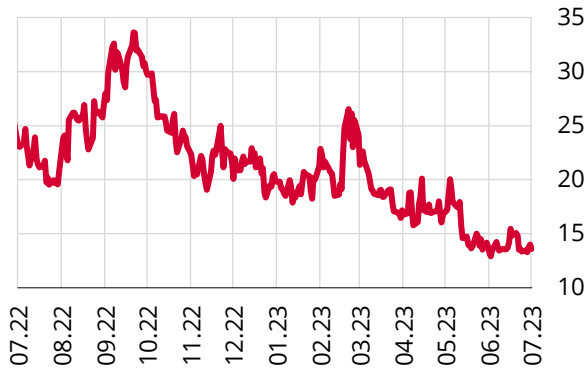
Chart 2.1.5: Implied Policy Rates
(% Points)



Source: Bloomberg.

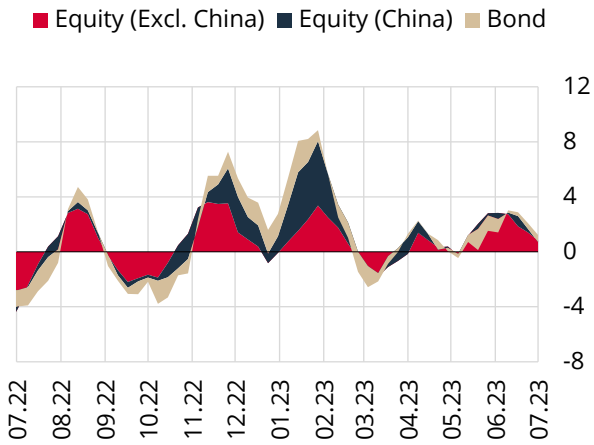
As heightened risks after the banking crisis in March decreased, risk appetite has recently recovered and portfolio flows to emerging economies have continued. In addition to the decline in banking-related risks, the expectation that monetary policy tightening in advanced economies was coming to an end also supported the recovery in risk appetite. In this context, volatilities in global markets eased and fund inflows to emerging economy equity markets continued (Chart 2.1.6 and Chart 2.1.7). In the May-June period, the equity markets saw fund inflows of USD 17.2 billion, while the bond markets saw fund outflows of USD 5.1 billion.

Chart 2.1.6: Risk Appetite Indicator VIX
(%)



Source: Bloomberg.

Chart 2.1.7: Weekly Portfolio Flows to Emerging Economies
(4-Week Moving Average, Billion USD)



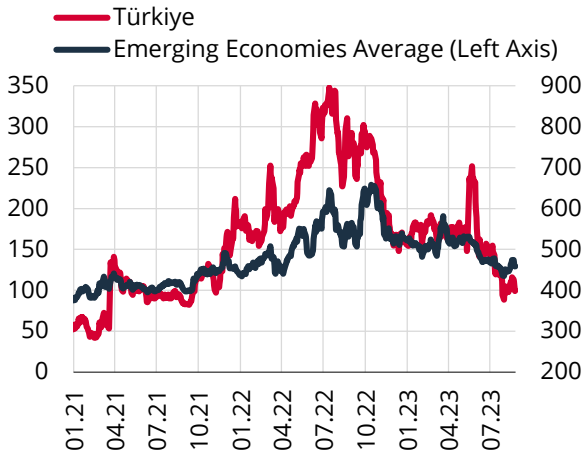
Source: IIF.

2.2 Financial Conditions

While the outlook for global growth remained flat, the signals of a slower-than-expected tightening in monetary policies of advanced economies suppressed global volatilities. After 10 consecutive rate hikes, the Fed's decision to pause raising interest rates at its June meeting and the decline in the expected quantity of rate hikes until the end of the year supported the global risk appetite. While the risk premium indicators of emerging economies decreased in parallel to the recovery in risk appetite, Türkiye's CDS premium increased due to domestic uncertainties and reached this year' s peak of 703 basis points in May, but it began to decline in June and receded to 435 basis points as of 25 July (Chart 2.2.1). That said, Türkiye's CDS premium continued to hover significantly above its 10-year average of 350 basis points. Throughout

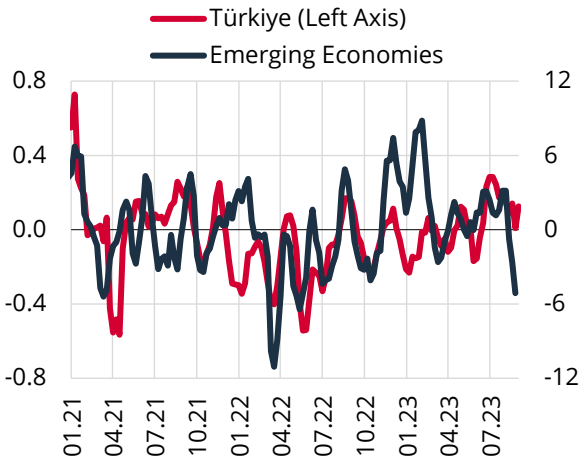
the current reporting period, the Turkish equity market saw a net foreign inflow of USD 0.84 billion while the government domestic debt securities (GDDS) market saw a net foreign outflow of USD 0.03 billion. As of June, the net portfolio inflow reached USD 1.55 billion, with a breakdown of USD 0.07 billion in the GDDS market and USD 1.48 billion in the equity market (Chart 2.2.2).

Chart 2.2.1: CDS Premium in Türkiye and Emerging Economies*
(Basis Points)



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

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



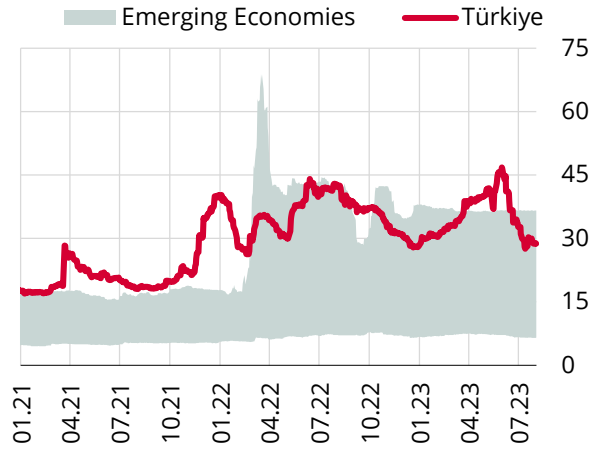
Source: CBRT, IIF.
* Turkish data includes portfolio flows to equity and GDDS markets. Repo is included in the GDDS data.

The exchange rate volatility of the TL implied by options rose in May due to domestic uncertainties, but has slumped since June. In the current reporting period, while emerging market currencies appreciated slightly against the US dollar amid the favorable global risk appetite, the TL depreciated significantly. However, the exchange rate volatility of the TL performed favorably compared to peer currencies. The one-month and 12-month exchange rate volatilities of the TL rose to 56.87 and 46.77 points in May, but declined to 20.18 and 29.99 points as of 25 July (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: Brazil, Chile, Colombia, Mexico, Poland, the Philippines, Malaysia, South Africa, Indonesia, Romania, Russia, and Hungary.

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

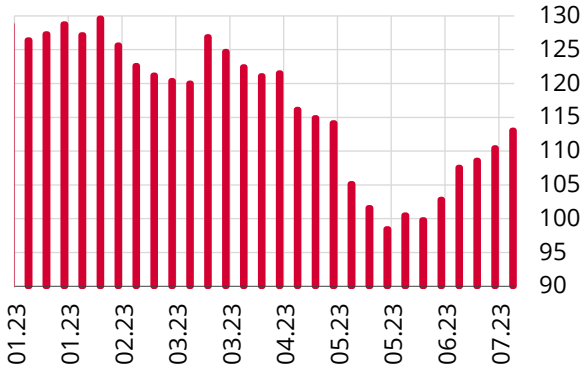


Source: Bloomberg.
* Emerging Economies: Brazil, Chile, Colombia, Mexico, Poland, the Philippines, Malaysia, South Africa, Indonesia, Romania, Russia, and Hungary.

CBRT reserves decreased rapidly in May, but assumed a strong uptrend as of June. Having fallen to USD 98.5 billion in May, the CBRT's gross international reserves started to increase noticeably in June and reached USD 113.1 billion as of July 14. The total decline in gross reserves since the beginning of the year

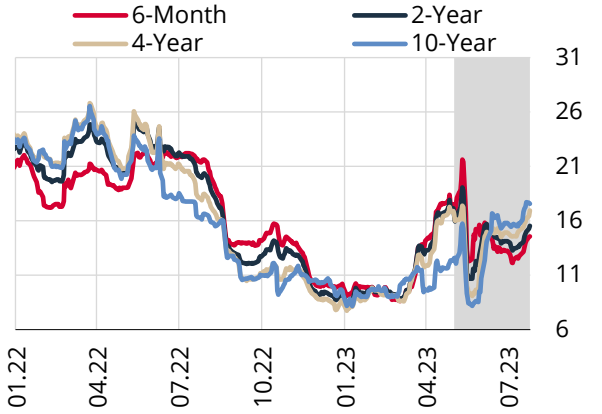
amounted to USD 15.7 billion (Chart 2.2.5). Having fluctuated in May due to domestic uncertainties, GDDS yields declined in short and medium terms as risk premiums fell. Meanwhile, yields on long-term GDDS increased further and surpassed short and medium-term GDDS yields (Chart 2.2.6)

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



Source: CBRT.

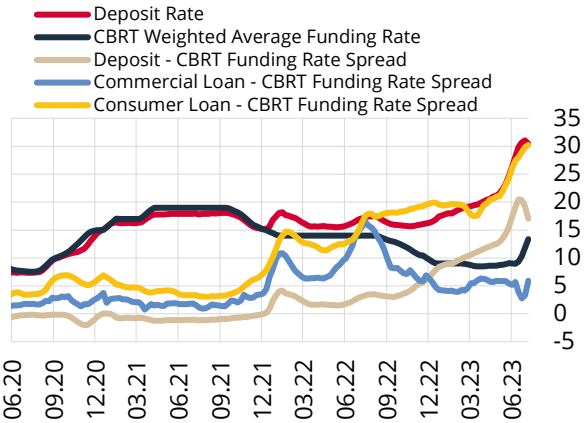
Chart 2.2.6: GDDS Yields (%)



Source: Bloomberg.

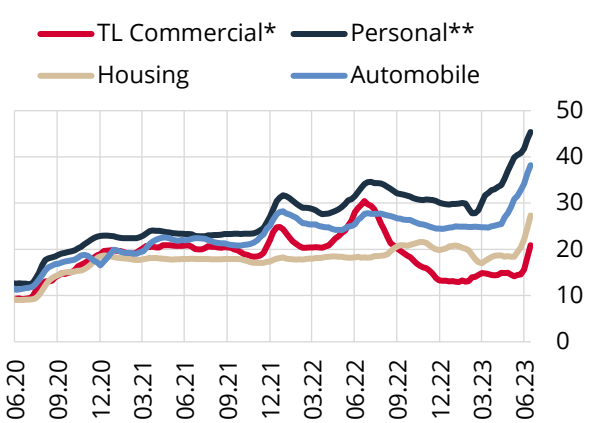
Costs of funding from the CBRT increased noticeably after the latest MPC decisions. Banks' CBRT-weighted average funding costs increased compared to the previous reporting period due to the rate hike by a total of 900 basis points in June and July MPC meetings (Chart 2.2.7). Personal loan rates increased by 1,587 basis points from late March to 48.13% as of 14 July. Meanwhile, commercial loan rates rose by 986 basis points after the June MPC decision and reached 24.96% as of 14 July (Chart 2.2.8). The spread between deposit rates and the CBRT weighted average funding rate, which widened due to the securities maintenance regulation based on banks' TL deposit shares and the conversion rate of FX deposits to TL deposits, declined from its peak of 22.17% in the week of the June MPC meeting to 12.83% as of 14 July. In the same period, the spread between consumer loan rates and the weighted average funding cost increased from 28.05% to 31.51% while the spread between TL commercial loan rates and the weighted average funding cost increased from 4.37% to 9.96%.

Chart 2.2.7: Banks' Domestic Funding Costs and Interest Rate Spreads
(4-Week Moving Average, %)



Source: CBRT.

Chart 2.2.8: Loan Rates
(Flow, Annual, 4-Week Moving Average, %)

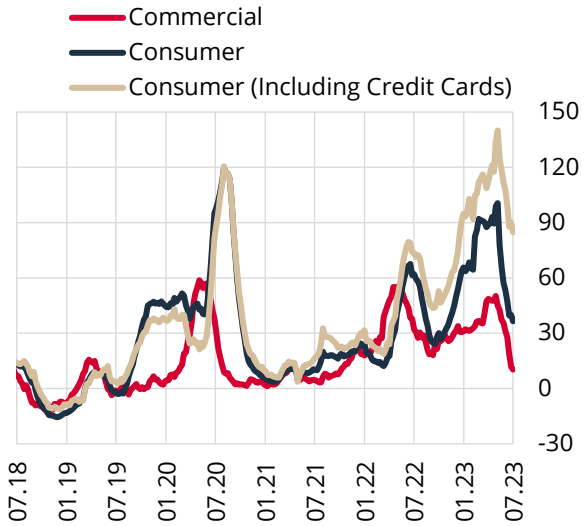


Source: CBRT.
* Excluding overdraft accounts and credit cards.
** Excluding overdraft accounts.

Having accelerated in the previous reporting period, loan growth remained robust in the second quarter of 2023. Despite the deceleration led by commercial loans in June, loan growth, which poses a risk to inflation by boosting domestic demand, remained above historical averages in the second quarter of 2023 due to retail loans. The 13-week annualized growth rate of retail loans, which reached 140% in May, receded to 84.8% as of 14 July, while the growth rate of commercial loans declined from 50.2% to 10.4% in the same period (Chart 2.2.9). Meanwhile, the annual growth rate of retail loans reached 80%. The recent

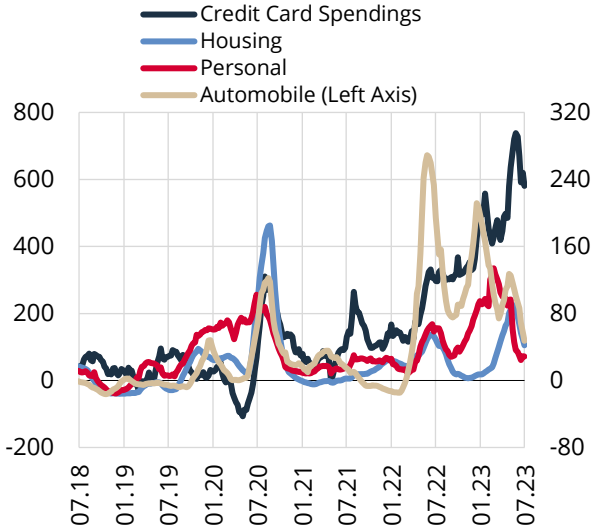
retail loan growth was mainly driven by credit card expenditures, which reached an annual growth rate of 186.6% (Chart 2.2.10). An analysis of loan changes in real terms reveals that commercial and retail loans grew above their long-term averages in the second quarter of 2023 (Chart 2.2.11). Meanwhile, according to the Bank Loans Tendency Survey, loan demand is expected to strengthen in the third quarter (Chart 2.2.12).

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



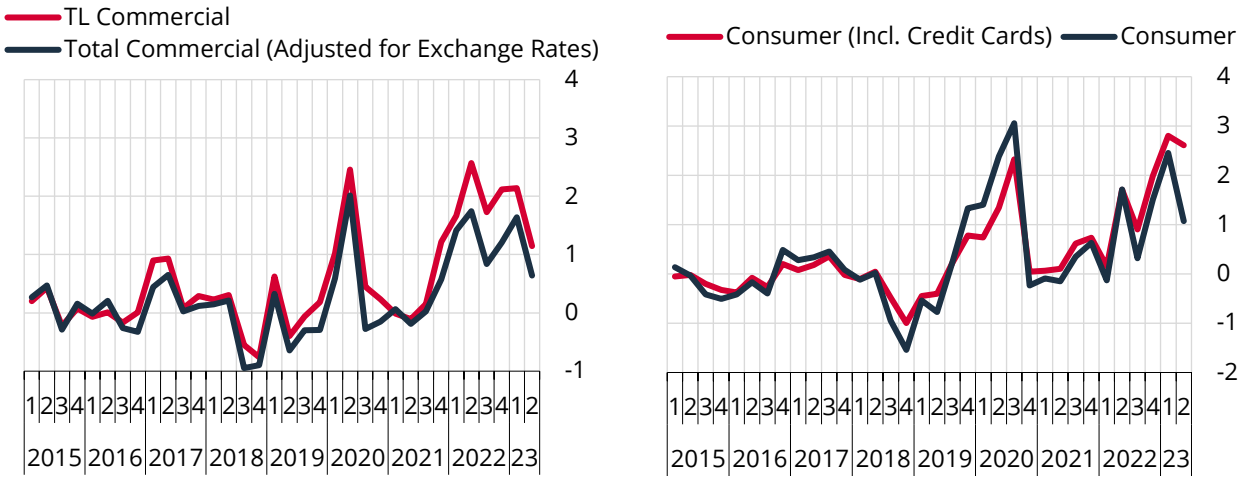
Source: CBRT.

Chart 2.2.10: Loan Growth by Types of Retail Loans (13-Week Annualized Growth, %)



Source: CBRT.

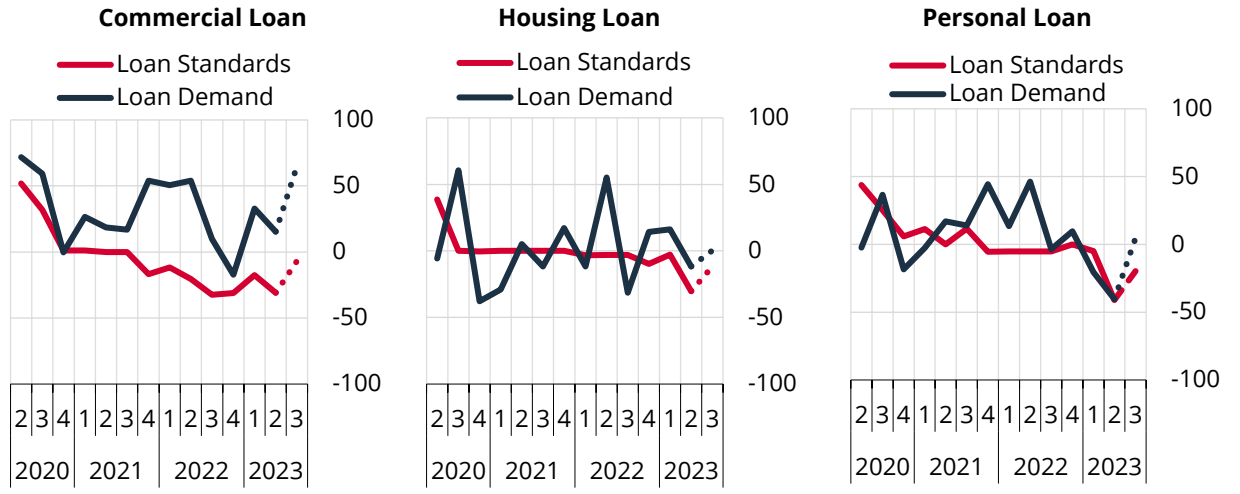
Chart 2.2.11: Credit Change* (Quarterly, Real, Standardized Value)



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.

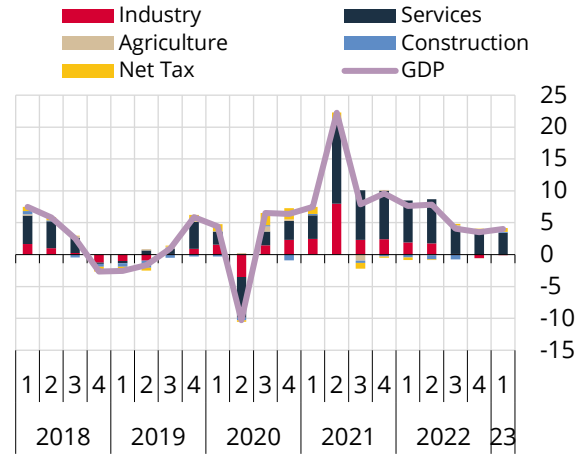
* Denotes banks' expectations. The calculation for loan standards and loan demand is as follows: Banks are asked how their loan standards (loan demand) have changed in the past three months. Net trends, which are calculated using percentages, show the direction of change in loan standards (loan demand).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

2.3 Economic Activity

Supply and Demand Developments

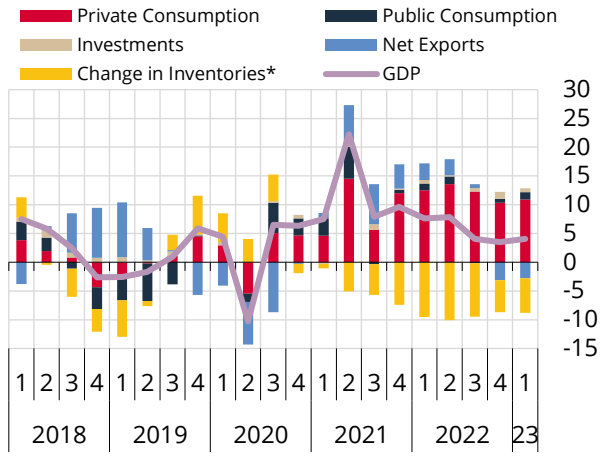
GDP data for the first quarter of 2023 suggests that annual growth accelerated compared to the last quarter of 2022, while quarterly growth was moderate. In the first quarter, despite the earthquake-driven effects, GDP increased by 4.0% on an annual basis, and by 0.3% in seasonally and calendar adjusted terms over the previous quarter. In this period, the services sector remained the main driver of annual growth on the production side, whereas the industrial sector continued to have a negative effect on growth, and the contribution of the construction sector was limited (Chart 2.3.1). On the expenditures side, the largest contribution to growth came from final domestic demand with 12.9 points, whereas net exports had a downward effect of 2.8 points on growth (Chart 2.3.2). In this period, investments contributed by 1.2 points to annual growth, with the largest contribution coming from machinery-equipment investments. Annual growth in private consumption stood at 16.2%, while the expenditure items excluding net exports and investments contributed to annual growth by 5.6 points.

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



Source: CBRT, TURKSTAT.

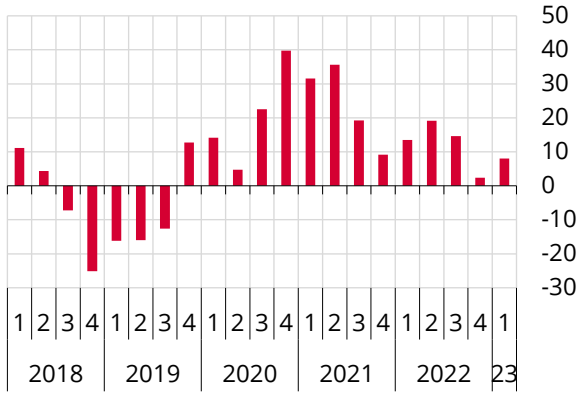
Chart 2.3.2: Annual GDP Growth and Contributions from Expenditures Side
(% Points)



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

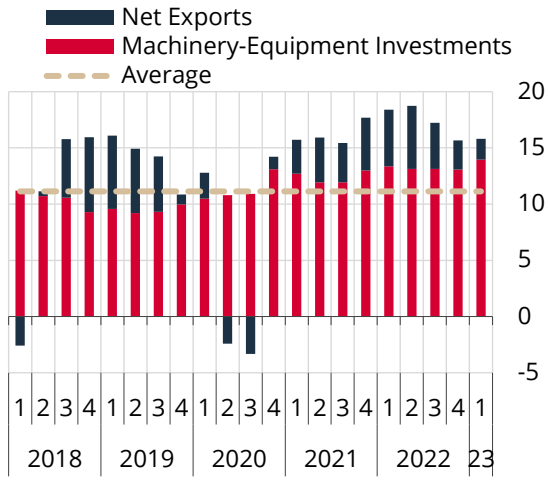
The share of machinery-equipment investments and net exports in GDP increased. Machinery-equipment investments, a sub-item of investments, carried their annual increase over into the fourteenth quarter and contributed 1.1 points to annual growth in the first quarter (Chart 2.3.3). Thus, the share of machinery-equipment investments in GDP rose to 14%. The total share of net exports and machinery-equipment investments rose to 15.8%, continuing to hover above historical averages (Chart 2.3.4).

Chart 2.3.3: Machinery-Equipment Investments (Annual % Change)



Source: TURKSTAT.

Chart 2.3.4: Share of Machinery-Equipment Investments and Net Exports in GDP* (%)

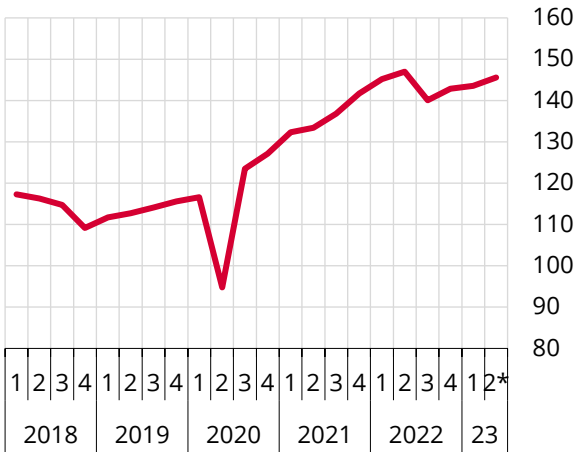


Source: CBRT, TURKSTAT.
* Dashed line indicates the average share of machinery-equipment investments and net exports in GDP from 2009Q1 to 2023Q1.

The contracting effect of the Kahramanmaraş-centered earthquakes of 6 February on economic activity was largely offset. Aggregate demand remains on the rise backed by mild external demand and strong domestic demand. In the first quarter, the seasonally and calendar-adjusted industrial production increased by 0.5% compared to the last quarter of 2022 (Chart 2.3.5). According to April-May averages, production rose by 1.4% in the second quarter over the first quarter, showing that the negative effects of the earthquake on production were offset. Leading indicators and high-frequency data for the second quarter suggest that the upward trend in economic activity continued as the effects of the earthquake alleviated.

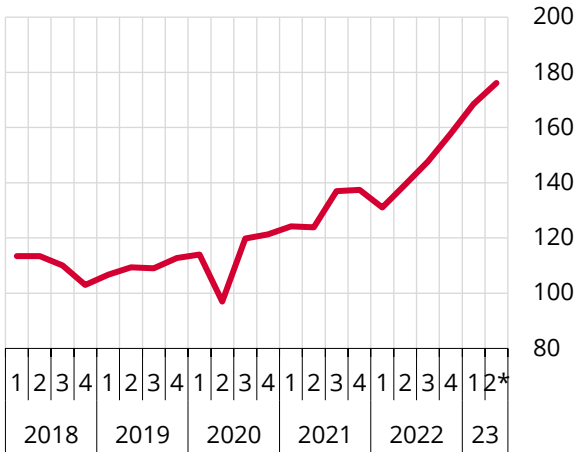
Domestic demand outlook, which was stronger than the external demand in the first quarter, was maintained in the second quarter as well. The retail sales volume index, which had increased substantially in the first quarter despite earthquake-driven effects, rose by 4.6% on a quarterly basis as of May (Chart 2.3.6). The upward trend in real domestic card expenditures continued with further acceleration in the second quarter. Coupled with the flat course of the registered export orders of manufacturing industry firms in the second quarter, the increase in registered domestic market orders confirms that domestic demand was more buoyant than external demand. Information obtained from field interviews also suggests that domestic demand was strong in the second quarter (Box 2.1).

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



Source: TURKSTAT.
* Average of April-May.

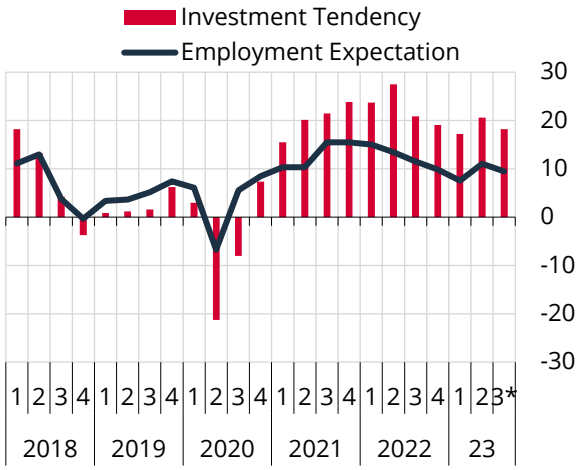
Chart 2.3.6: Retail Sales Volume Indices
(Seasonally and Calendar Adjusted, 2015=100)



Source: TURKSTAT.
* Average of April-May.

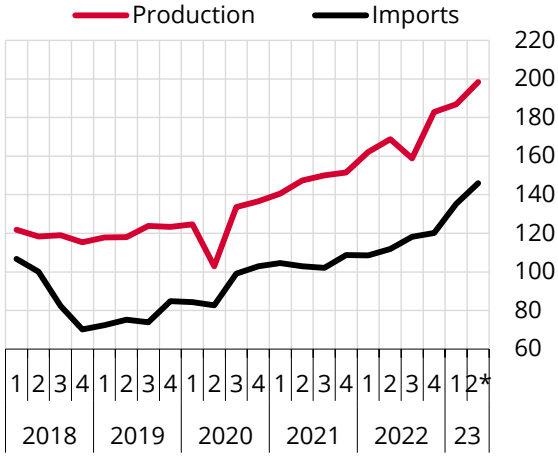
According to the Business Tendency Survey(BTS), investment tendencies of manufacturing industry firms rose to the pre-earthquake level (Chart 2.3.7). Having posted a slight decline in the first quarter due to the earthquake, the investment tendency of firms increased in the second quarter and reached pre-earthquake levels. Indicators for the production and foreign trade of capital goods also confirm the favorable outlook in investments. As of May, production and imports of capital goods excluding vehicles surged quarter-on-quarter by 6.2% and 8.0% in the second quarter, respectively (Chart 2.3.8). The capacity utilization rate, which had decreased in the first quarter due to the earthquake, climbed to 76.2% in the second quarter on the back of the recovery in economic activity. Based on July data, the capacity utilization rate reached 76.9% in the third quarter, sustaining its upward trend.

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



Source: CBRT.
* As of July.

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



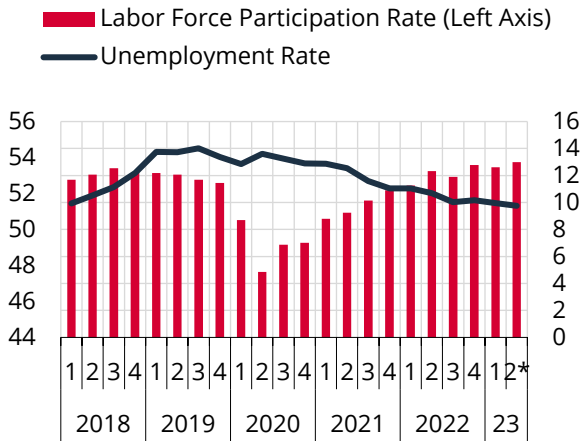
Source: CBRT, TURKSTAT.
* Average of April-May.

Labor Market Developments

Although employment growth slowed in the first quarter due to the earthquake, data for the second quarter indicate that the seasonally adjusted employment exceeded its pre-earthquake level. While the seasonally adjusted employment increased at a high monthly rate in April, the unemployment rate remained flat as the labor force participation also increased. In May, the labor force participation rate

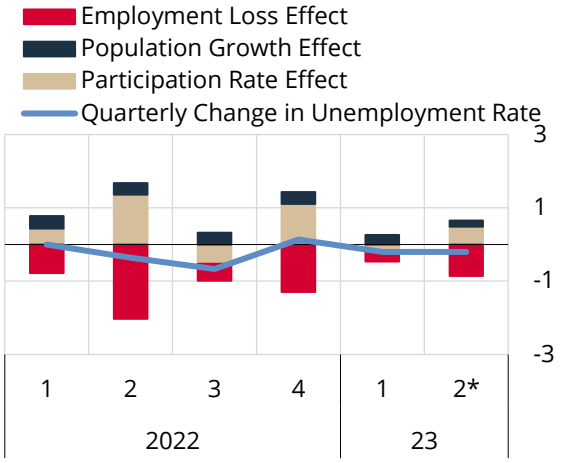
decreased, while employment growth continued, albeit at a slower pace. As a result, the unemployment rate dropped by 0.5 points to 9.5%, which is below the pre-earthquake level. When analyzed on a quarterly basis, employment was up by 0.9% (298,000 people) as of May compared to the previous quarter. Meanwhile, the seasonally adjusted labor force participation rate edged up by 0.3 points over the previous quarter to 53.7% (Chart 2.3.9). Thus, the unemployment rate fell by 0.2 points quarter-on-quarter to 9.8% in the second quarter of the year. As employment also increased in this period despite the upward effects of the participation rate and population growth on the unemployment rate, the unemployment rate decreased on a quarterly basis (Chart 2.3.10 and Chart 2.3.11).

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



Source: TURKSTAT.
* Average of April-May.

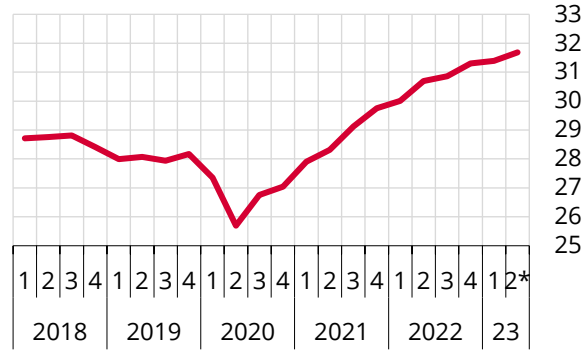
Chart 2.3.10: Contributions to Change in Total Unemployment Rate
(Seasonally Adjusted, % Points)



Source: CBRT, TURKSTAT.
* Average of April-May. Negative value of the employment loss effect indicates an increase in employment.

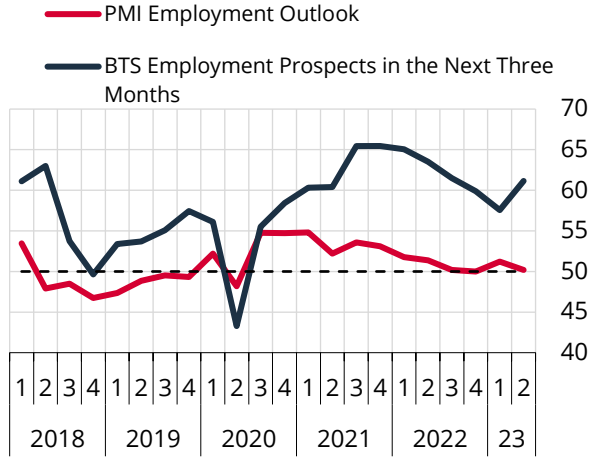
Leading indicators and high-frequency data suggest that the uptrend in employment continued (Chart 2.3.12). High-frequency data imply a recovery in the number of new job postings and job applications across the country in the second quarter despite a slight deceleration after the earthquake. Against this background, it is expected that the effects of the disaster on the labor market will remain relatively limited across the country.

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



Source: TURKSTAT.
* Average of April-May.

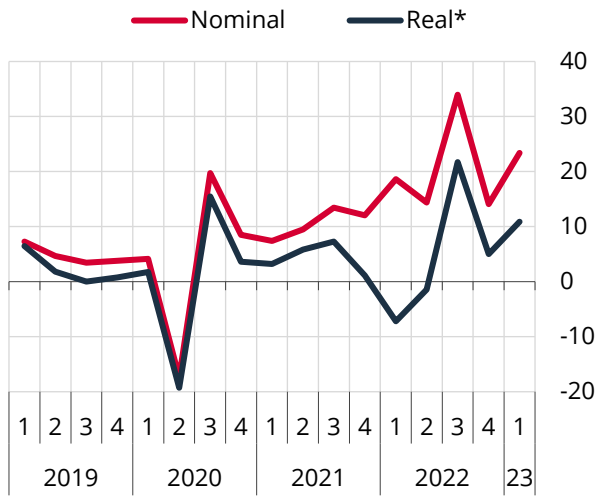
Chart 2.3.12: Employment Outlook and Expectation in the Industrial Sector*
(Seasonally Adjusted, Up-Down)



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

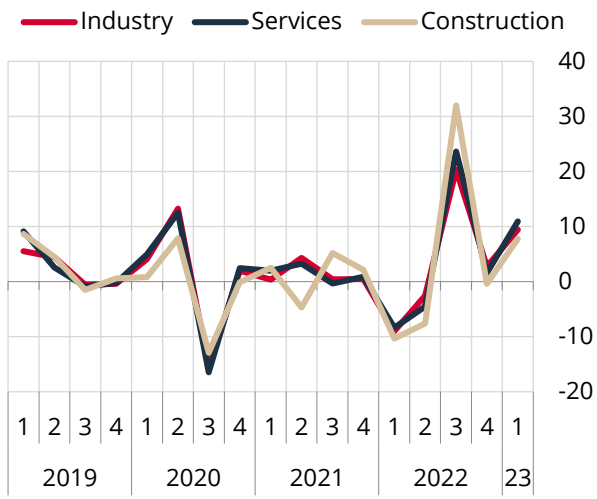
The upward trend in the non-farm gross wage and payroll index accelerated in the first quarter of the year. Having risen substantially in the second half of 2022, the index maintained this upward trend in the first quarter and increased in both real and nominal terms (Chart 2.3.13). The quarterly increase in the seasonally adjusted real earnings index across sectors gained pace in the first quarter (Chart 2.3.14). The net minimum wage was raised by 34% to TL 11,402 in July, registering a year-on-year increase of 107.3%.

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)

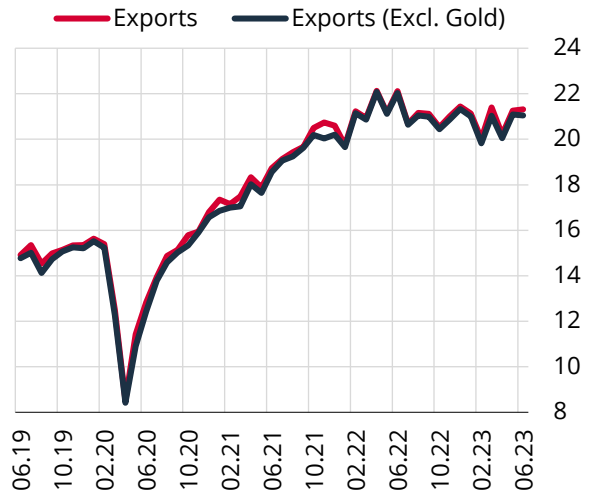


Source: CBRT, TURKSTAT.
* Deflated by the CPI.

Foreign Trade and Balance of Payments Outlook

In the second quarter of the year, exports maintained their previous year's level. Having followed a flat course in the first quarter of 2023 compared to the last quarter of 2022, exports posted a recovery in May after the religious holiday but decreased slightly in June due to the calendar effect stemming from the Feast of Sacrifice and bridging days (Chart 2.3.15). Across the quarter, the rise in exports remained limited (0.5%). Exports to Europe accounted for USD 0.1 billion of the USD 0.3 billion increase in seasonally adjusted exports, making a limited contribution compared to the first quarter, whereas exports to Middle East and African countries increased their contribution compared to the previous quarter, adding USD 0.2 billion. Seasonally adjusted data indicate that exports from the disaster zone approached the pre-earthquake level as of June after the fall in February, and the impact of the disaster on exports disappeared to a large extent. In this period, the persistently weak outlook for the economic activity in Türkiye's key export markets caused by the policies of major central banks continued to restrain external demand. In fact, the manufacturing PMI in the euro area, an important trade partner of Türkiye, dropped to 43.4 in June, the lowest level since the pandemic.

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



Source: CBRT, Ministry of Trade, TURKSTAT.
* Provisional data for June.

Table 2.3.1: Imports* (USD Billion)

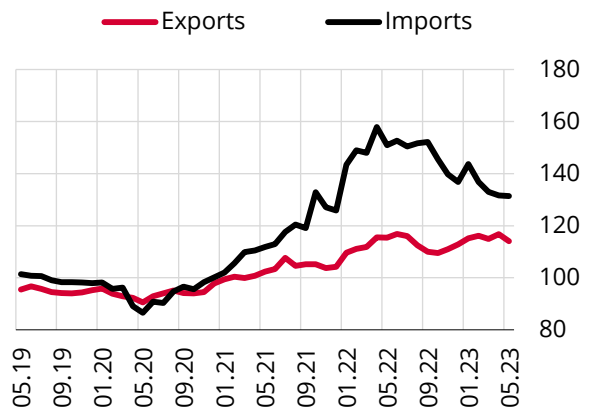
	2022 Jan.-Jun.	2023 Jan.-Jun.	Change (USD Billion)	Change (%)
Total Imports	**177.3**	**184.8**	**7.5**	**4.2**
Gold	5.2	16.6	11.4	220.8
Energy	47.8	36.1	-11.7	-24.6
Intermediate Goods**	92.6	85.8	-6.7	-7.2
Investment Goods	18.3	24.5	6.2	33.9
Consumption Goods	13.3	21.6	8.3	62.3

Source: Ministry of Trade, TURKSTAT.
* Provisional data for June.
** Intermediate goods excluding gold and energy.

Despite the ongoing decline in energy imports in line with the developments in energy prices in the second quarter of the year, the strong domestic demand and high gold imports restricted the fall in total imports. Having posted a powerful increase in the first quarter, gold imports lost momentum in the second quarter due to restrictive measures regarding gold imports but still remained well above the second quarter's reading of 2022. Thus, gold imports rose by USD 11.4 billion year-on-year in the first half of the year to USD 16.6 billion (Table 2.3.1). In the same period, energy imports decreased by 24.6% to USD 36.1 billion in parallel with energy prices. Meanwhile, seasonally and calendar adjusted imports excluding gold and energy continued to increase in the second quarter due to strong domestic demand. In line with this development, imports of consumption and investment goods surged by 62.3% and 33.9%, respectively in the first half of the year compared to the same period of the last year. On the other hand, imports of intermediate goods excluding gold and energy declined by USD 6.7 billion to USD 85.8 billion in the same period. Against this background, the foreign trade deficit excluding gold and energy widened in quarterly terms in the second quarter. In seasonally adjusted terms, the export/import coverage ratio rose by 5 points quarter-on-quarter to 71%, while the export/import coverage ratio excluding gold and energy remained relatively flat compared to the previous quarter and stood at 89%.

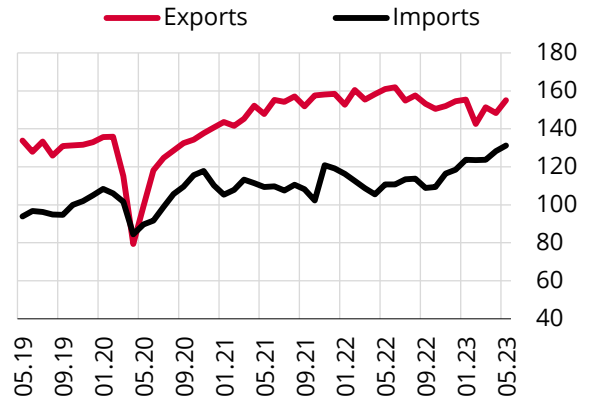
In the second quarter of the year, export prices remained at the previous quarter's level while import prices continued to decrease in tandem with the ongoing decline in energy prices. In this period, export prices increased while import prices decreased, and thus, the terms of trade rose (Chart 2.3.16). In the meantime, the quantity of exports in seasonally adjusted terms, which declined in February due to the earthquake, posted a slight recovery in the March-May period. The quantity of imports maintained its upward course driven by consumption and investment goods that increased on the back of buoyant domestic demand (Chart 2.3.17).

Chart 2.3.16: Foreign Trade Unit Value Indices
(2015=100)



Source: TURKSTAT.

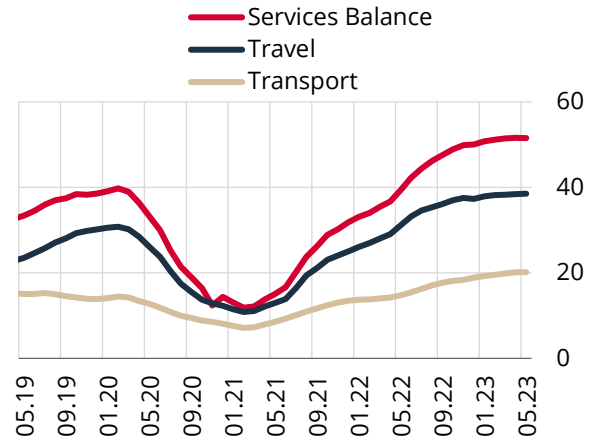
Chart 2.3.17: Foreign Trade Quantity Indices
(Excluding Gold, Seasonally Adjusted, 2015=100)



Source: CBRT, TURKSTAT.

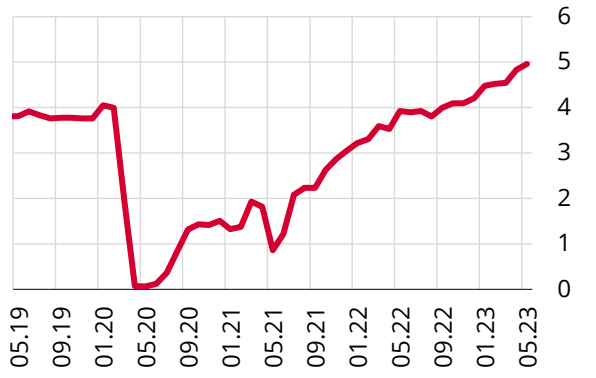
The year-long strong contribution of the services balance to the current account balance continues. Backed by net travel and net transport revenues, the services balance continued to gain momentum in the second quarter of the year (Chart 2.3.18). In the first five months of the year, travel and transport revenues increased year-on-year by USD 2.5 billion and USD 1.5 billion to USD 14.1 billion and USD 13.8 billion, respectively. In addition, annualized travel and transport revenues hit their historic-highs as of May. The seasonally and calendar adjusted number of foreign visitors, which significantly exceeded its pre-pandemic level, continued to increase and be the driver of the rise in travel revenues (Chart 2.3.19). The number of foreign visitors rose by 26.1% to 13.6 million people in the first five months of the year compared to the same period last year. Tourism revenues are estimated to contribute strongly to the current account balance in the second half of the year with their year-long and better-than-expected performance (Zoom-In 2.1).

Chart 2.3.18: Services Balance
(12-Month Cumulative, USD Billion)



Source: CBRT.

Chart 2.3.19: Number of Foreign Visitors
(Seasonally and Calendar Adjusted, Million People)



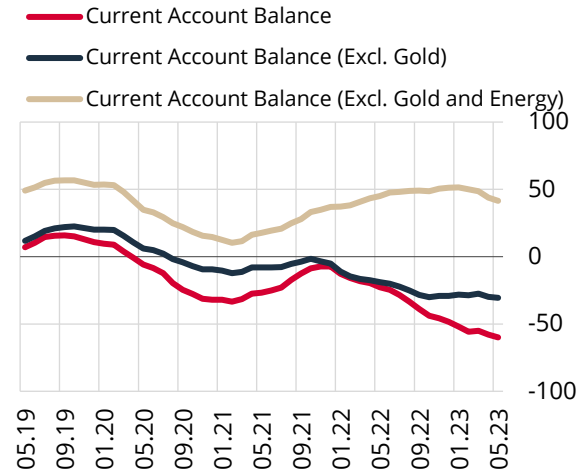
Source: CBRT.

Despite a strong services balance and the decline in energy imports, the current account deficit widened further due to the increase in the foreign trade deficit. In May, the annualized current account deficit rose to USD 60 billion despite the energy prices-driven decline in energy imports. This rise was due to the increase in the foreign trade deficit despite the strong services balance. Meanwhile, the annualized current account surplus excluding energy declined by USD 3.6 billion to USD 12.2 billion compared to April while the current account surplus excluding gold and energy stood at USD 41.5 billion (Chart2.3.20). In the first half of the year, although the fall in energy prices was mirrored positively in the current account balance, imports of consumption goods strengthened amid buoyant domestic demand, and gold imports remained elevated despite losing pace, thus constituting the main drivers of the widening in the current account

deficit. It is assessed that further easing in energy prices, continuing recovery in weak external demand, and the year-long and better-than-expected performance of tourism revenues will pose a downside risk, whereas the ongoing buoyant course of domestic demand and the import demand driven by reconstruction activities in the earthquake zone will pose an upside risk to the current account balance in the period ahead.

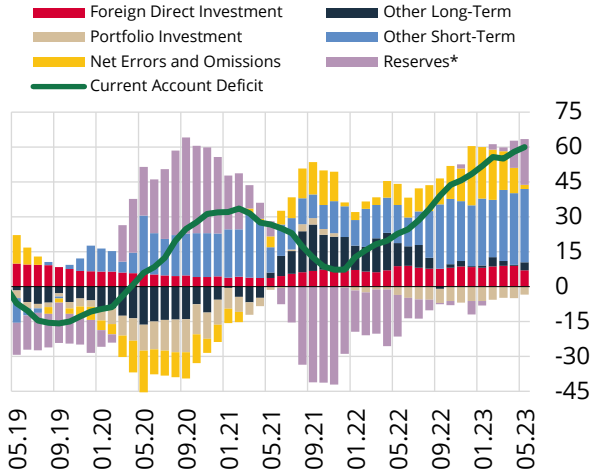
The widening of the current account deficit increases the external financing need. As of May, financing of the 12-month cumulative current account deficit was provided mainly through short-term channels such as non-residents' deposits in Türkiye and commercial loans (Chart 2.3.21). In the relevant period, net outflows were seen in portfolio investments, while net inflows continued in foreign direct investments. Capital outflows were driven by equity and GDDS sales of non-residents. In 12-month cumulative terms, the banking sector continued to deleverage with a long-term debt rollover ratio of 85%, while the long-term debt rollover ratio of companies stood at 142%. As of May, annualized net errors and omissions inflows decreased significantly to USD 1.8 billion, while the CBRT reserves and total reserves declined by USD 16.3 billion and USD 19.6 billion, respectively.

Chart 2.3.20: Current Account Balance
(12-Month Cumulative, USD Billion)



Source: CBRT.

Chart 2.3.21: 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 half of the year, budget expenditures rose substantially due to the earthquake-related costs as well as regulations increasing budget expenditures, while a more limited increase was registered in budget revenues. As of June, the annualized budget deficit and primary deficit to GDP ratios are estimated to have been 3.8% and 1.4%, respectively. The central government budget, which had run a surplus in the first half of 2022, posted a deficit of TL 483.2 billion in the same period this year. In the first six months of the year, total expenditures and primary expenditures surged year-on-year by 101.7% and 101.3%, respectively. These substantial increases were driven by factors such as earthquake-related expenditures, the 30% increase in civil servants' salaries in January including an additional welfare share, and the rise in religious feast bonus payments to pensioners from TL 1,100 to TL 2,000. The largest contribution to the annual growth of primary expenditures came from current transfers and personnel expenditures, while other sub-items had a more limited contribution.

Central government budget revenues increased by 48.6% year-on-year in the January-June period. Tax revenues were up by 55% and non-tax revenues by 12%. The increase in non-tax revenues was limited as the CBRT's profit and reserve fund transfer, which was TL 49.3 billion in 2022, materialized at TL 40 billion this year. The Special Consumption Tax (SCT) and the Value Added Tax (VAT) on imports made the largest contribution to the annual growth of tax revenues in the first half of the year.

There are many factors that need to be taken into account when assessing the fiscal stance in 2023. The abovementioned expenditure items that place an additional cost burden on the budget have an upward

effect on the budget deficit. On the other hand, the upside risks to the budget are expected to be counterbalanced by factors such as the limitation of the earthquake's burden on the 2023 budget by the fact that reconstruction costs will be spread over years, resources such as donations, aid, loans, and Disaster Reconstruction Fund resources, the savings achieved by keeping the central government budget deficit well below projections in 2022, the fiscal space enabled by reduced transfers from the budget to energy State Economic Enterprises in 2023 thanks to the lower-than-expected course of energy prices, the revenue to be generated through channels such as recent revenue-boosting measures and tax amnesty, and the transfer of the FX-protected deposit scheme entirely to the CBRT as of the second half of the year. Moreover, due to the need for resources resulting from the expenditures made to reduce the effects of the earthquake disaster on the economic and social life, the enactment of the Supplementary Budget Law is also important in terms of the public financial outlook (Box 2.2).

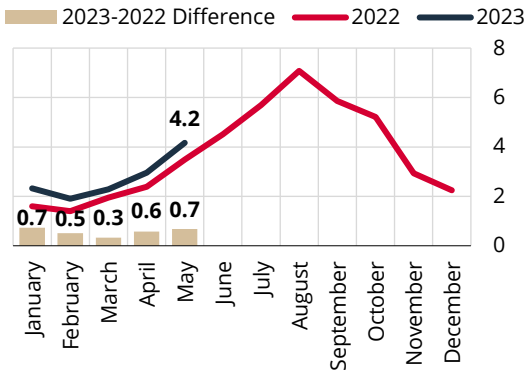
Zoom-In 2.1

Recent Outlook in Travel Revenues

The number of foreign visitors continues to increase in 2023. Despite the negative effects of the Russian-Ukrainian War, the number of foreign visitors to Türkiye increased sharply in 2022 to 44.3 million people, approaching historic highs. The upward trend in the number of visitors continued in the first five months of 2023 as well (Chart 1). In May, the number of visitors was up by 0.7 million people compared to the same period of the previous year and reached 4.2 million people. In the January-May period, the number of visitors rose by 2.8 million year-on-year to 13.6 million people. High-frequency leading indicators suggest that the rise in the number of visitors continued in June, and the strong outlook is expected to prevail for the rest of the year.

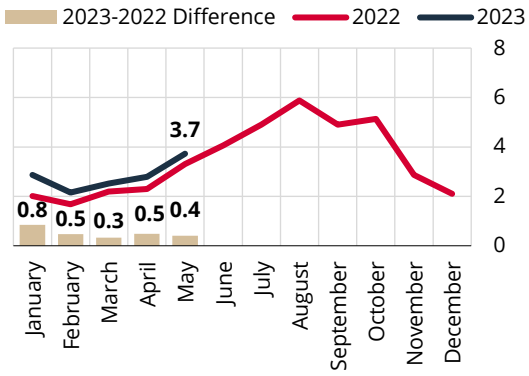
Travel revenues remained strong in the first five months of 2023 on the back of the increase in the number of visitors. In line with the rise in the number of visitors, travel revenues increased substantially in 2022 and reached the historic high of USD 41.4 billion. In the first five months of 2023, travel revenues sustained their upward trend and maintained their strong outlook (Chart 2). In May, revenues grew by USD 0.4 billion year-on-year to USD 3.7 billion. In the January-May period, travel revenues rose by USD 2.5 billion (22.1%) year-on-year to USD 14.1 billion. Considering the expectation that the number of visitors will increase in the remainder of the year, the upward trend in travel revenues is expected to continue. Accordingly, it is estimated that the rate of increase in travel revenues will be similar to that of the first five months in the rest of the year, and tourism revenues will reach USD 56 billion, the 2023 target of the Ministry of Tourism.

Chart 1: Number of Foreign Visitors
(Million People)



Source: CBRT, TURKSTAT.

Chart 2: Travel Revenues
(USD Billion)

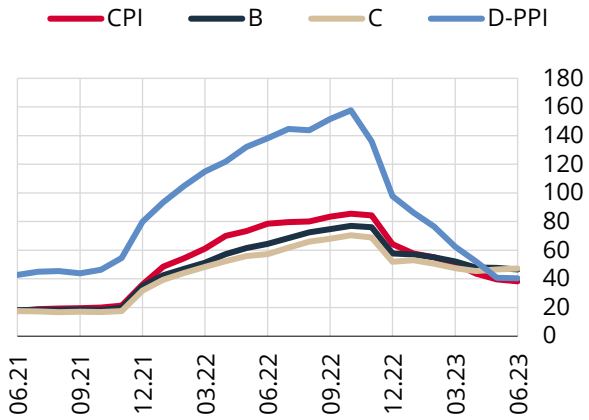


Source: CBRT, TURKSTAT.

2.4 Inflation

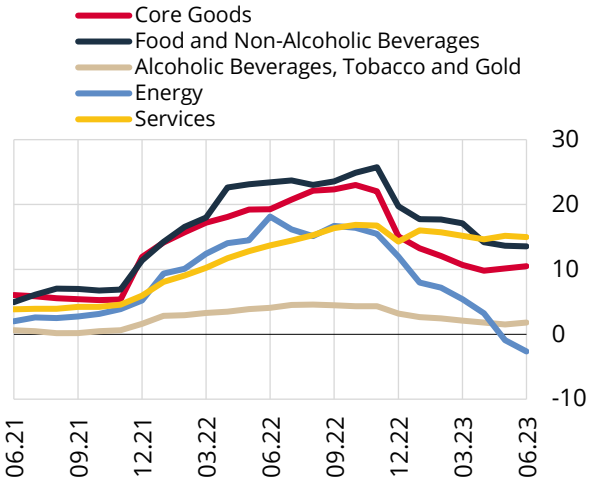
Annual consumer inflation decreased by 12.30 points to 38.21% in the second quarter of 2023, yet remained 1.49 percentage points above the upper band of the forecast range presented in the previous Inflation Report. Free allowance of natural gas for households pulled energy prices down, while quarterly increases in other groups remained brisk (Table 2.4.1). The downtrend in annual consumer inflation continued (Chart 2.4.1). Global commodity prices declined further, supporting the fall in consumer inflation through the input prices channel. International transportation costs and low levels of supply constraints were other factors contributing to the disinflation process. The rise in the exchange rate in June, which followed a relatively stable course in April and May, started to affect consumer inflation, mostly durable goods. Recent increases in exchange rates and labor costs exacerbate the pressures on producer prices. Demand conditions remained strong in the first half of the year. After remaining relatively flat in the first half of the year, inflation expectations increased in July. The rigidity in elevated level of expectations keeps the upside risks to the inflation outlook alive. Despite the decline in global food and agricultural commodity prices, domestic food prices put pressure on headline inflation through red meat as well as fruits and vegetables. Services inflation is more rigid than goods inflation, causing inflationary effects to spread over a longer period of time (Box 2.3). In this period, administered prices and taxes had a downward impact on quarterly inflation, while increases in taxes and fees[1], chiefly VAT and SCT hikes on fuel, will have a significant impact on consumer inflation in the upcoming period (Zoom-In 2.2). Against this background, the contribution of energy and food prices to annual inflation decreased quarter-on-quarter, while that of core groups such as services and core goods remained almost flat in the second quarter (Chart 2.4.2).

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



Source: TURKSTAT.

Chart 2.4.2: Contributions to Annual CPI
(% Points)



Source: CBRT, TURKSTAT.

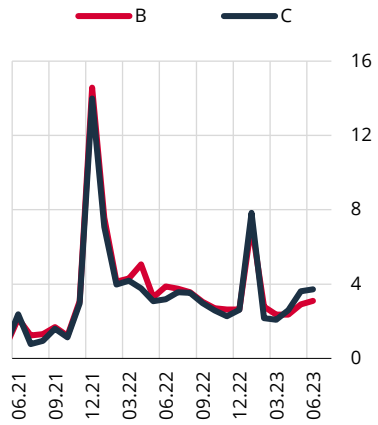
* B index: CPI excluding unprocessed food, energy, alcohol-tobacco and gold. C index: CPI excluding food and non-alcoholic beverages, energy, alcohol-tobacco and gold. D-PPI: Domestic Producer Prices Index.

The underlying trend of inflation is on the rise. In seasonally adjusted terms, the monthly increase in the B and C indices trended upwards throughout the second quarter (Chart 2.4.3). As of June, the seasonally adjusted rates of increase in the B and C indices were 3.10% and 3.72%, respectively (2.35% and 2.09% in March). Alternative indicators such as median inflation and SATRIM followed a similar trend, confirming this outlook (Chart 2.4.4). Across subgroups that make up the B index, monthly price increases decelerated in processed food, but strengthened slightly in services and core goods (Chart 2.4.5). The core goods' stronger quarterly inflation was led by durable goods with high and fast exchange rate pass-through (Table 2.4.1).

[1] With the Presidential Decrees No. 7344, 7346 and 7347 published in the Official Gazette dated 07.07.2023 and numbered 32241, the rates of taxes and fees were amended. The Presidential Decree No. 7390 published in the Official Gazette dated July 16, 2023 and numbered 32250, re-determined the SCT rates for the goods in the list No. (I) attached to the Special Consumption Tax Law No. 4760.

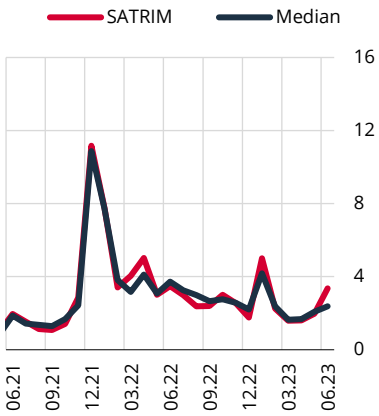
The rise in prices of durable goods was driven by automobile prices (17.40%) due to exchange rate developments and brisk domestic sales. In this period, price increases in furniture (3.24%) slowed down (Box 2.4). Price increases in clothing and footwear strengthened in the second quarter, while the impact of the transition to the new season was seen in the related month as the entry date of summer goods in the index shifted to May. Quarterly price hikes in the services group remained strong at 11.02%, albeit at a slower pace compared to the previous quarter. The highest quarterly price increases were recorded in the rent (16.85 %) and restaurants-hotels (13.98%) subgroups (Table 2.4.1). In addition to soaring housing prices and past inflation-indexation behavior, supply-demand mismatches in the real estate market stimulate an upsurge in rents and affect consumer inflation adversely. The outlook for the restaurants-hotels subcategory was driven by catering services, which are highly sensitive to food prices, chiefly red meat, as well as accommodation services, which are significantly affected by developments in the tourism sector. Communication inflation, another subcategory that stood out in this period, was driven by internet and telephone call rates. The uptrend in processed food, another subcategory of the B index, slowed considerably in the second quarter.

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



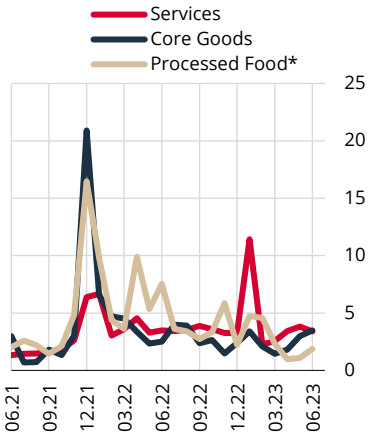
Source: CBRT, TURKSTAT.

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.

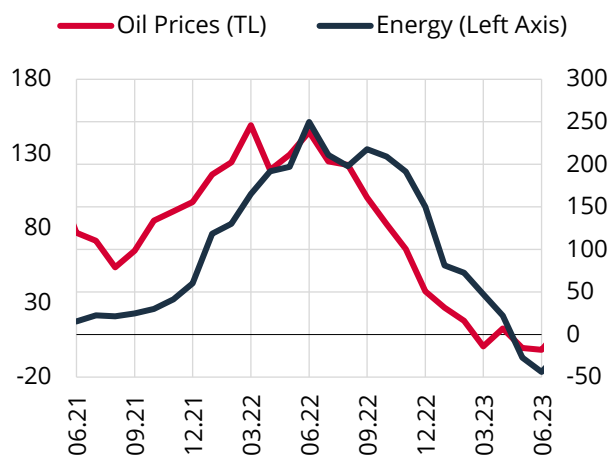
Chart 2.4.5: Subgroups of B Index (Seasonally Adjusted, Monthly % Change)



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

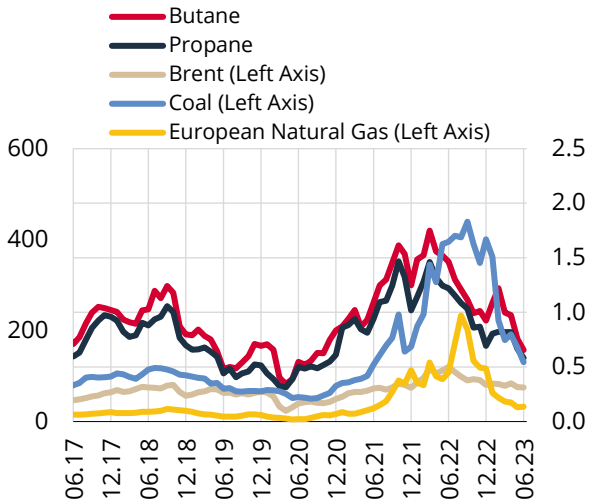
Energy prices fell significantly due to falling international energy prices as well as the reduction in electricity tariffs for households and the free allowance of natural gas in May (Chart 2.4.6 and Table 2.4.1). Having moderated since the second half of 2022, domestic energy prices fell by more than 20% in the second quarter (Table 2.4.1). International Brent crude oil prices, which averaged USD 79 in March, ended June at USD 75 on average. Meanwhile, following the relatively mild course in April and May, the USD exchange rate increased by 17.17% in June. Following these developments, domestic fuel prices decreased in April and May, but increased again in June. International energy prices remained on a downtrend across subgroups in the second quarter, falling approximately to December 2021 readings (Chart 2.4.7). After remaining flat in the first quarter, domestic electricity prices were reduced in April. The one-month supply of free natural gas to households in May led to a significant decline in energy prices and pulled monthly energy inflation down by 16.60 points. As 25 cubic meters of natural gas is free of charge for a year, no significant impact on headline inflation is expected from the natural gas item until the last two months of the year when consumption rises (Zoom-In 2.3). On the other hand, the hikes in municipal water prices limited a more favorable outlook for energy inflation. Accordingly, annual energy inflation receded to -16.52 % in June, while the contribution of this group to annual consumer inflation decreased by 8.04 points quarter-on-quarter to -2.64 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.

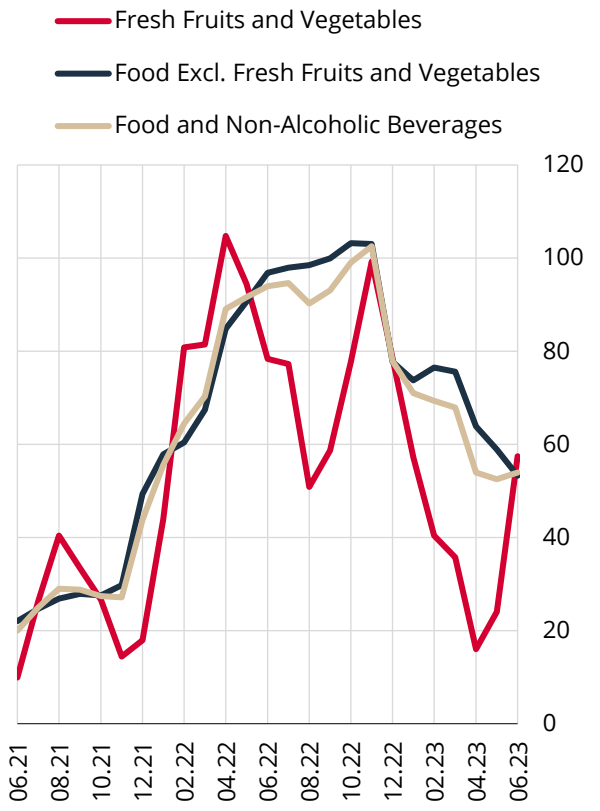
Table 2.4.1: Consumer Prices

	Quarterly % Change (Seasonally Adjusted)				Annual % Change			
	2022		2023		2022		2023	
	III	IV	I	II	III	IV	I	II
CPI	**8.82**	**7.70**	**11.50**	**5.76**	**83.45**	**64.27**	**50.51**	**38.21**
B	**10.73**	**8.18**	**12.78**	**8.60**	**74.63**	**57.68**	**52.11**	**46.63**
C	**10.40**	**7.66**	**12.46**	**10.26**	**68.09**	**51.93**	**47.36**	**47.33**
1. Goods	7.90	7.14	8.35	4.52	93.07	67.31	47.10	30.92
Energy*	**1.24**	**1.48**	**2.63**	**-20.84**	**132.98**	**94.43**	**35.66**	**-16.52**
Food and Non-Alcoholic Beverages	**9.46**	**11.71**	**12.65**	**11.69**	**93.05**	**77.87**	**67.89**	**53.92**
Unprocessed Food	8.19	10.45	16.56	20.72	82.39	73.25	65.94	68.44
Fresh Fruits and Vegetables	8.21	9.21	5.87	25.61	58.72	78.54	35.72	57.49
Processed Food*	10.07	11.83	12.04	3.96	102.90	82.00	71.68	43.36
Core Goods	**10.61**	**6.64**	**7.09**	**8.47**	**77.49**	**48.96**	**36.58**	**36.69**
Clothing and Footwear	7.70	3.47	2.58	5.42	39.62	25.01	16.26	20.04
Durable Goods (Excl. Gold)	7.65	7.06	9.33	13.72	89.96	48.13	40.21	43.30
Furniture	6.35	10.60	13.21	3.24	100.53	75.44	63.26	37.52
Automobile	7.75	5.09	8.72	17.40	93.07	31.17	31.93	46.61
Electrical and Non-Electrical Appliances*	10.32	13.57	5.75	7.56	79.40	61.01	41.05	42.53
Other Durable Goods*	9.39	7.71	8.63	6.51	73.98	51.43	40.96	36.33
Other Core Goods*	12.60	8.94	7.85	4.13	82.74	65.91	44.48	37.75
Alcoholic Beverages, Tobacco Products and Gold*	**5.81**	**6.90**	**10.37**	**12.25**	**85.19**	**58.90**	**41.00**	**40.14**
2. Services	**11.22**	**10.43**	**16.83**	**11.02**	**57.76**	**55.49**	**59.93**	**59.45**
Rent	13.39	12.27	18.29	16.85	36.18	47.07	62.76	75.91
Restaurants and Hotels	9.77	10.91	20.49	13.98	81.34	68.48	70.73	67.22
Transport	11.46	4.85	11.82	4.27	97.98	88.70	57.12	36.25
Communication	6.61	6.89	11.17	13.47	23.44	30.13	35.87	43.84
Other Services	10.81	8.55	19.85	9.17	52.85	48.05	57.08	57.42

Source: CBRT, TURKSTAT.
* No seasonality detected.

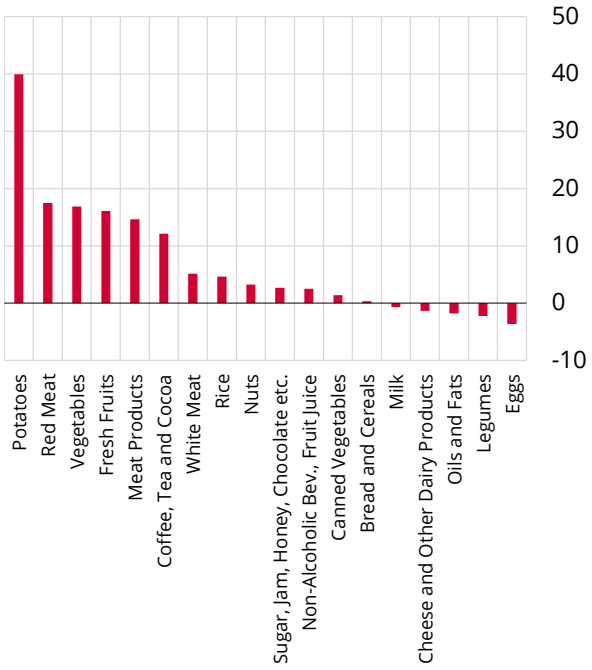
Despite the decline in global agricultural and food prices, domestic supply-side problems and inadequacies in the market structure pushed food prices further upwards. Annual food inflation remained above the headline inflation, albeit with some decline. Annual inflation in food and non-alcoholic beverages slowed to 53.92% due to inflation in food items excluding fresh fruits and vegetables, while annual inflation in fruits and vegetables climbed to 57.49% (Chart 2.4.8). Seasonally adjusted data point to a similar quarter-on-quarter increase in food prices (11.69%), while subgroups recorded a divergence with a stronger price increase in fresh fruits and vegetables (25.61%) and a slowdown in other food groups (8.73%) (Table 2.4.1). In this period, prices of fruits and vegetables increased at a rate significantly above the historical average (Chart 2.4.9). Potatoes, red meat, meat products and coffee-tea-cocoa were the other subgroups that stood out with increases above their historical trends (Chart 2.4.9). The price hikes in red meat (23.91%), which were quite strong in the first quarter due to supply-side problems, continued in this period, albeit at a slightly slower pace. Soaring meat prices continued to affect the prices of processed meat products simultaneously. Tea prices recorded an increase due to the fresh tea purchase prices. On the other hand, in line with international prices, fats and oils prices remained below their historical trend. Following the dry winter in Türkiye, areal precipitation in the March-May period exceeded seasonal norms and last year's precipitation, eliminating the risk of drought. The excessive rainfall, hail and flooding in June damaged agricultural products in some regions. The end of the Turkish Grain Board's flour regulation in June poses a risk to bread and cereal prices, chiefly bread, for the upcoming period. The increase in the minimum wage for the second half of the year is likely to exert upward pressures on food prices through demand and cost channels. Moreover, the recent rise in the exchange rate is another main factor that will put pressure on domestic prices through imported products and agricultural inputs with high exchange rate sensitivity.

Chart 2.4.8: Food Prices (Annual % Change)



Source: CBRT, TURKSTAT.

Chart 2.4.9: Food Prices by Sub-Items* (2023Q2 Deviation of % Change from Historical Average, Ranked)



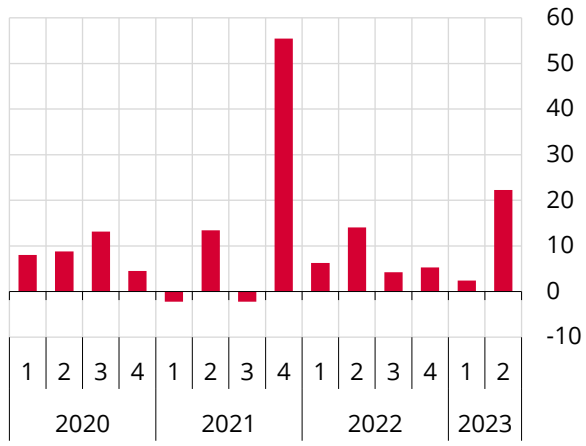
Source: CBRT, TURKSTAT.
* Denotes the difference between the 2023Q2 quarterly percentage change and the historical average (second-quarter average of the 2012-2021 period).

Prices of alcoholic beverages and tobacco products surged by 11.45% in the second quarter. Producer-driven price hikes in June shaped the course of tobacco products, which will have limited carry-over effects into July. Prices of tobacco products rose by 12.29 % in the second quarter, affecting consumer inflation by 0.45 percentage points.

Determinants of Inflation

The TL has depreciated significantly since the previous reporting period. In the second quarter of 2023, the nominal exchange rate basket increased by 22.29% against the TL (Chart 2.4.10). The buoyant course of domestic demand led to a rapid and strong pass-through of the significant depreciation in a short period of time to prices, led by items with high exchange rate sensitivity. In this context, price hikes in durable goods, mostly automobiles, gained strength in the second quarter. The depreciation of the TL is expected to push up imported input costs, leading to overall price hikes for the rest of the year (Box 2.5).

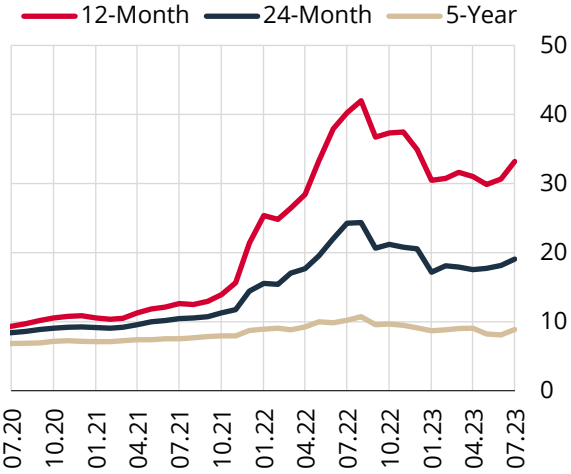
Chart 2.4.10: Currency Basket* (Quarterly % Change)



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* (%)

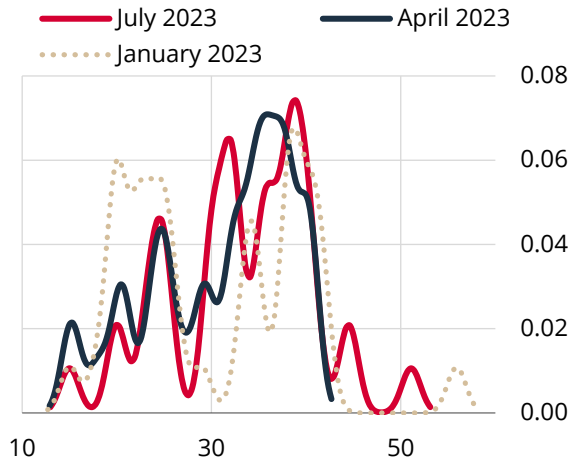


Source: CBRT.

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

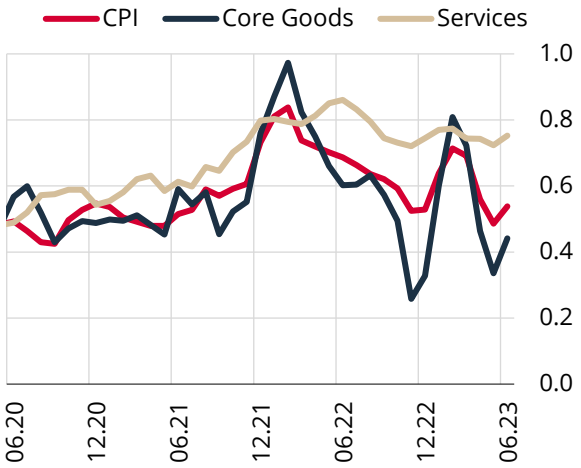
Inflation expectations started to rise again in July. The services diffusion index exhibited inertia, indicating that price increases further spread across the sector. According to the July Survey of Market Participants, 12-month-ahead inflation expectations increased by 2.19 points compared to the previous reporting period and stood at 33.21%. The 5-year-ahead inflation expectation, on the other hand, fell by 0.17 points quarter-on-quarter to 8.86% despite the upward revision in July (Chart 2.4.11). The distribution of 12-month-ahead CPI inflation expectations exhibited a multiple-peak structure, indicating that inflation uncertainty remained high (Chart 2.4.12). In the last 3-month period, diffusion indices for services and core goods sectors followed different courses, revealing the divergence in pricing behavior across sectors. The core goods diffusion index declined significantly in the first two months of the second quarter as the effects of minimum wage, commodity and exchange rate developments eased. However, it started to rise again in June in tandem with the exchange rate developments. In the services sector, where periodic pricing and backward indexation behavior are more prevalent, the diffusion index recorded an inertia throughout the first half of the year, indicating that overall price increases continued across the sector. This realization confirmed the sector's ability to spread the impact of shocks over time (Chart 2.4.13). While the diffusion index has remained high in the services sector and started to increase again in core goods, the fact that inflation uncertainty remains also high, poses a risk to the inflation outlook through the pricing behavior channel. In addition to these developments, the recent depreciation of the TL, wage adjustments and the announced tax hikes keep alive the possibility that rigidities in the services sector will persist for the rest of the year.

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



Source: CBRT.

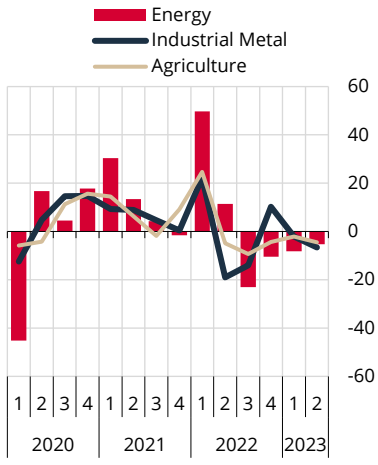
Chart 2.4.13: Diffusion Indices of CPI and Main Expenditure Groups* (Seasonally Adjusted, 3-Month Average)



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.

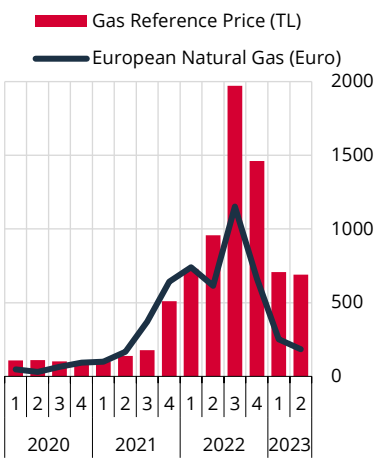
The downtrend in commodity prices continued in the second quarter, albeit at a slightly slower pace. While the favorable outlook in commodity markets was evident across all subgroups, unlike previous periods, the decline in industrial metal and agricultural sub-indices was close to that of the energy group (Chart 2.4.14). The decline in global natural gas prices continued in the last quarter, albeit at a slower pace. However, exchange rate developments restricted the pass-through of this effect to domestic prices (Chart 2.4.15). Energy-related costs eased further in the second quarter, although the final effect was more limited due to exchange rate developments. In tandem with these favorable global developments, the import unit value index remained on a downtrend (Chart 2.4.16), indicating that cost pressures driven by external prices weakened.

Chart 2.4.14: Commodity Price Indices (Quarterly % Change)



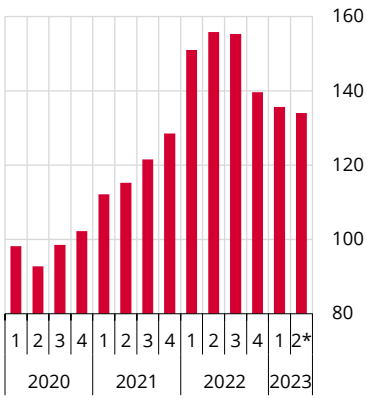
Source: Goldman Sachs.

Chart 2.4.15: Natural Gas Prices (2021Q1=100)



Source: Bloomberg, EXIST

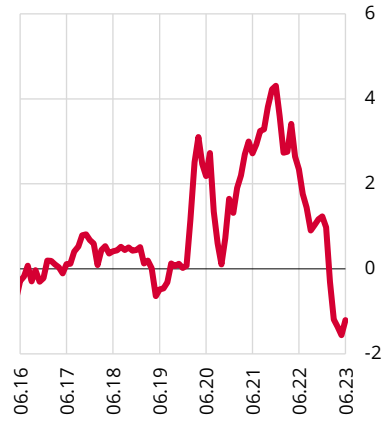
Chart 2.4.16: Import Unit Value Index (2019Q4=100, USD)



Source: TURKSTAT
* Quarterly data denotes the last month of the respective period. 2023Q2 data is as of May.

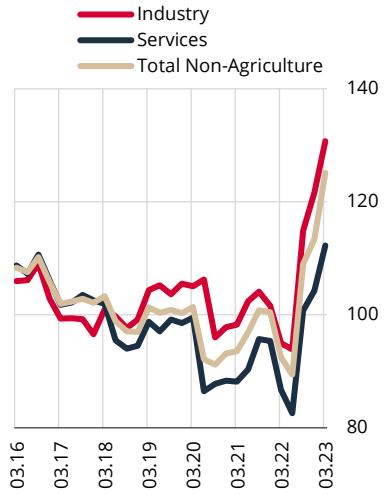
Annual producer inflation declined further on the back of falling energy prices and the base effect, while the underlying trend of producer prices gained strength again. The downtrend in the Global Supply Chain Pressure Index, having prevailed in the first quarter of the year, continued in the second quarter with the index falling below its historical average (Chart 2.4.17). The mild course of supplier delivery times and freight rates reinforced the favorable outlook driven by international prices. Disruptions in the domestic supply chain following the earthquake disaster were short-lived and were repaired in the second quarter. Despite the positive developments abroad, wage hikes were noted as the main driver of cost pressures. Following the minimum wage regulation announced at the beginning of the year, an upsurge was seen in nominal wages in the economy as a whole. While nominal wage growth exceeded quarterly inflation in the first quarter of the year, with the lack of productivity gain, real unit wages per hour worked increased significantly (Chart 2.4.18). In the second quarter, the real unit wage is likely to decline in line with inflation developments. On the other hand, as the second minimum wage hike in the middle of the year is accompanied by adjustments in civil servants' and public sector workers' wages, it is expected that wage-driven pressures on inflation will continue in the second half of the year through both the cost and demand channels (Box 2.6). Taking all these developments into account, the underlying trend of producer prices, which remained high in the first half of the year, gained strength in June amid exchange rate developments (Chart 2.4.19). Driven by energy prices, the rise in headline producer prices was more limited in the first half of the year compared to the core indicator.

Chart 2.4.17: Global Supply Chain Pressure Index*



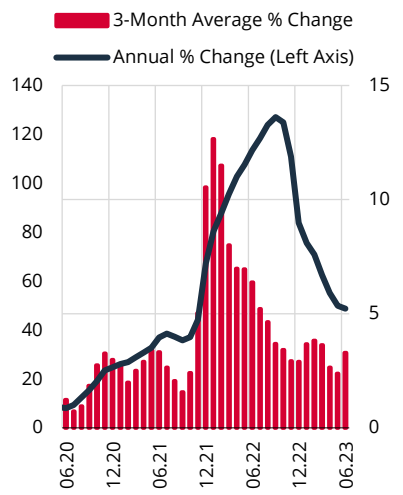
Source: New York Fed.
* Standard deviations from the average index value.

Chart 2.4.18: Real Unit Wage per Hour Worked* (Value Added, 2015=100, Seasonally Adjusted)



Source: CBRT, TURKSTAT.
* Deflated by the CPI. Real Wage per Hour/Productivity.

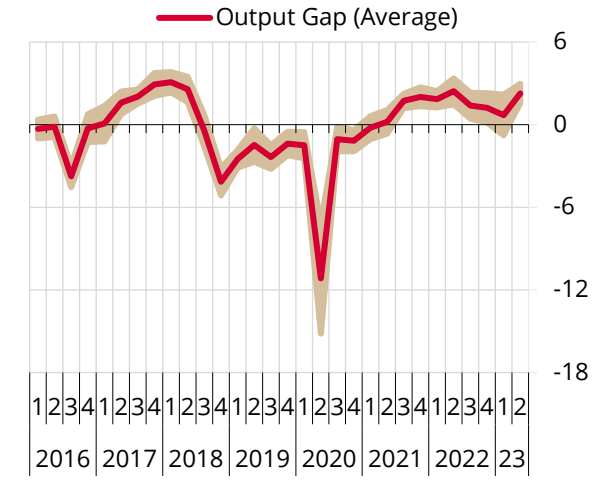
Chart 2.4.19: Manufacturing Prices Excluding Petroleum and Base Metals



Source: CBRT, TURKSTAT.

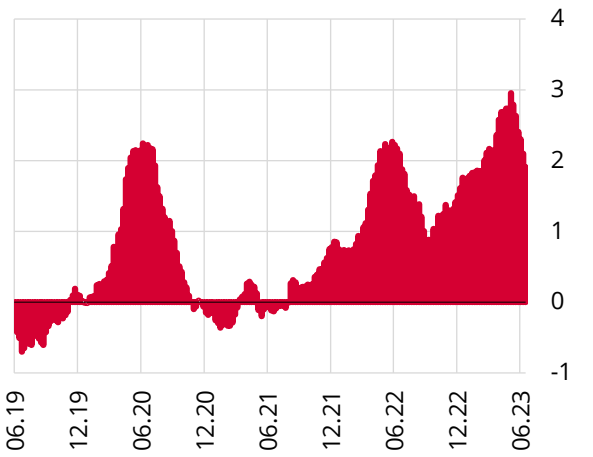
Demand conditions became stronger in the second quarter. The indicator derived from the average of different output gap series monitored by the CBRT, which has been on a downtrend since mid-2022, picked up in the second quarter of 2023 (Chart 2.4.20). Industrial production and retail sales volume indicators confirmed this outlook by maintaining their uptrend in the second quarter (Chart 2.3.5 and Chart 2.3.6). While buoyant domestic demand was the key driver of this development, the rise in the number of visitors and tourism activity also supported demand. Employment gains, higher wage levels and transfers to households supported domestic demand, while the rapid elimination of production disruptions in the disaster zone and public expenditures directed towards the region were other factors that bolstered domestic demand. In addition to these developments, credit conditions were supportive of domestic demand throughout the quarter (Chart 2.4.21). Due to the strong course of aggregate demand conditions and credit conditions, exchange rate and cost-driven pressures were reflected on final prices quickly and strongly, having a negative impact on the inflation outlook.

Chart 2.4.20: Output Gap Indicators* (%)



Source: CBRT.
* The average of the output gap indicators, calculated by eight different methods, is shown with 95% confidence interval.

Chart 2.4.21: 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.

In the second quarter of the year, administered prices had a downward impact on headline inflation, while the tax measures announced in July will push inflation upwards in the upcoming period. In the current reporting period, the most significant development with respect to administered prices was that in May, natural gas was supplied to households entirely free of charge and it was announced that the first 25 cubic meters of household natural gas consumption would be free for the next 11 months (Zoom-in 2.3). Price increases in municipal water, which have been closely indexed to past inflation, continued in the last quarter, albeit at a slower pace. Tea prices increased in June following the announcement of fresh tea purchase prices. Average flour prices provided to producers have been on the rise since the Turkish Grain Board ended its regulation. While this has led to an increase in bread and cereal prices, the effect is expected to be mostly observed in the second half of the year. Prices of alcoholic beverages and tobacco products increased in July as the producer price hikes in the first six months of the year were reflected on specific and minimum specific taxes. Moreover, tax adjustments introduced to increase public revenues and administered price hikes announced in early July are expected to have an adverse impact on the inflation outlook (Zoom-In 2.2).

Zoom-in 2.2

Impact of Tax and Administered Price Adjustments on Inflation

The earthquake disasters in February 2023 caused additional financing needs and various regulations were introduced to generate additional revenues. With the decisions promulgated in the Official Gazette on 7 July 2023, VAT amounts were increased, lump-sum fees were revised and tax on games of chance was increased. As of 16 July, SCT amounts on fuels were revised and the lump-sum SCT amounts for gasoline and diesel were increased by TL 5 and those for LPG by TL 4.

Contributions from the VAT and fuel tax revisions stand out among the effects of the recent tax adjustments on consumer inflation. Assuming a one-to-one pass-through, the direct contribution of the VAT adjustment to monthly consumer inflation is estimated to be 1.78 points, while its contribution to annual inflation is estimated to be 2.37 points on average (Table 1). The tax increments on some cleaning products from 8% to 20% and the fiscal multiplier effects of the tax revision in tobacco products played a significant role in this development. The direct effect of the revision in lump-sum SCT in fuels on monthly and annual CPI inflation is calculated as 0.84 and 1.12 points, respectively. The indirect effects of fuel prices on monthly and annual inflation through items such as food, transportation services and transportation fees are estimated to be 1.26 and 1.68 points, respectively.[2] Alcohol-tobacco products' fixed SCT was updated with the 6-month D-PPI inflation, which contributed 0.16 and 0.21 points to monthly and annual inflation, respectively. Among other adjustments, a relatively small contribution is expected from the revision in fees, while the impact of the revision in games of chance tax on inflation is limited. The total contribution of adjustments mentioned in the table to monthly consumer inflation is 4.14 points, while their contribution to annual inflation is 5.51 points on average.

Table 1. Contribution of Various Tax and Administered Price Adjustments on the CPI (Points)

	Description	Contribution to CPI (Monthly)	Contribution to CPI* (Annual)
VAT	Increased from 8% and 18% to 10% and 20%, from 8% to 20% in most cleaning products	1.78	2.37
Fuels (Direct Impact)	Rise in lump-sum SCT	0.84	1.12
Fuels (Indirect Impact)	Rise in lump-sum SCT	1.26	1.68
Tobacco (Lump-sum Tax)	14.82% automatic rise based on D-PPI	0.13	0.17
Alcohol (Lump-sum Tax)	14.82% automatic rise based on D-PPI	0.03	0.04
Charges	50% rise	0.07	0.09
Natural Gas	Rise in SCT in household natural gas	0.03	0.04
Tax on Games of Chance	Rise by 5.7 or 10 points	0.002	0.002
Total		**4.14**	**5.51**

* The contribution to annual inflation column reflects the estimated impact. The estimated impact is calculated using a case in which the full effects of these regulations are realized in June and shows how many points annual inflation in June rose as a result. The impact of the regulation on annual inflation in the coming months varies from month to month and will be shaped by the pace of pass-through and inflation realizations in the coming months.

[2] The analysis conducted at the CBRT indicate that the indirect effect of fuel price hikes on consumer inflation can reach up to 1.5 times the direct effect (Inflation Report 2018-II, Box 3.1). When this analysis was re updated with the latest data, similar findings have been obtained.

Zoom-in 2.3

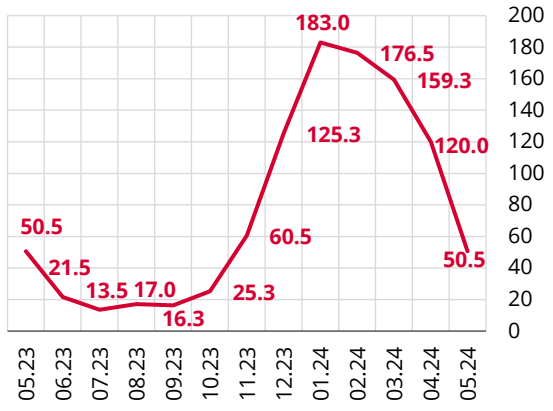
Impact of Free Residential Natural Gas on Inflation

In May, free natural gas was provided for all residences in Turkey, leading to a significant slowdown in the rise in consumer prices and a decrease in inflation of 2.38 points. In addition, residential natural gas utilization of up to 25 m^3 will be free, thus, in the upcoming months, an incremental pricing method will be used for 1 m^3 of natural gas based on the average household consumption that will vary from month to month. In this zoom-in box, in order to calculate the estimated impact of the regulation on the CPI in the coming months, a monthly average natural gas consumption assumption per household across Turkey has been constructed using household natural gas consumption prices for the last four years obtained from the Natural Gas Distribution Companies Association of Turkey (GAZBIR) (Chart 1).

Calculations suggest that the downward effect on inflation will be reversed in the last two months of the year, unless additional support is provided. According to the aforementioned data, unit natural gas consumption per household in Turkey falls below 25 m^3 in July, August and September due to the increase in temperature, and hovers above this value in other months due to the decrease. The estimated impact on consumer inflation is calculated against this background (Chart 2). According to TURKSTAT data for June, natural gas prices added 0.09 points to the CPI due to regional natural gas consumption exceeding 25 m^3. The downward effect observed in May will reverse in the last quarter of the year as the weather gets colder and energy consumption for heating purposes increases, and will push inflation up, unless additional support is provided. The data suggest that the highest inflationary effect will be 1.69 points in November. By the end of the year, the natural gas support will have no overall effect on inflation. In terms of total contributions, in May 2024, the natural gas regulation will have an increasing effect by around 0.52 points.

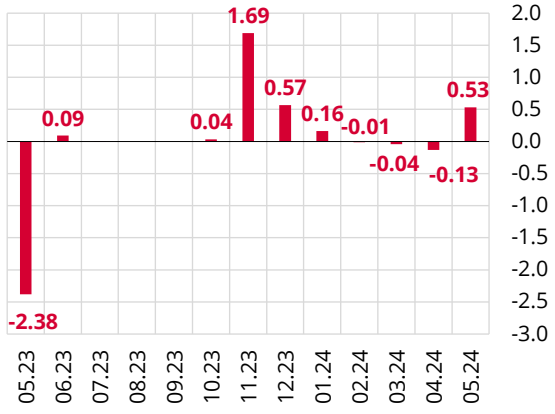
It should be noted that these estimates are based on average figures across the country and the final impact may vary according to regional data. Moreover, increases in natural gas unit prices by distributors may pose an upside risk to natural gas prices.

Chart 1: Monthly Average Natural Gas Consumption Assumption (m^3)



Source: CBRT, GAZBIR.

Chart 2: The Estimated Contribution of Natural Gas Price Adjustments to CPI (% Points)



Source: CBRT, GAZBIR.

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 April-June 2023 period.

Demand conditions in the second quarter of the year were buoyant compared to the previous quarter. In this period, production activities accompanied the positive outlook in domestic demand conditions, while prudence in investment stance of firms was notable. Cost pressure on firms eased due to the course of energy and other commodity prices compared to the previous quarter. However, there was an increase in the proportion of firms that indicated cost increases as of the end of the quarter due to exchange rate movements.

Information from the interviews indicates that aggregate demand conditions in the second quarter of the year were more buoyant compared to the previous quarter, mainly due to domestic demand. It was observed that domestic demand was strong mainly on the back of campaigns and expectations for price hikes that supported domestic sales. In exports, the buoyant course in the previous quarter was maintained as the decrease in energy costs supported the competitive power of Turkish firms, and the exchange rate developments had a positive impact on profitability. It was noted that the decline and disruptions in economic activity in the first quarter caused by the earthquake disaster were mostly recovered.

It was observed that domestic demand, which started to improve in March amid the easing of the negative effects of the earthquake, strengthened in the second quarter.

In the second quarter, it was observed that demand brought forward ahead of expected price hikes, campaigns offered by firms, and the realization of the consumption postponed due to the earthquake remained as important factors supporting domestic sales. In this period, it was mentioned that the end of the uncertainty caused by the elections and the start of the tourism season created an additional demand in the domestic market. Accordingly, it was seen that the sales of non-durable and semi-durable goods remained buoyant, while the sales of durable goods maintained their strength.

It was stated that the payments within the early retirement package (EYT) regulation and feast bonus payments supported sales of food and fast-moving consumer goods sectors throughout the second quarter. In personal care products, it was mentioned that consumers follow the campaigns and buy goods to maintain their stocks. It was highlighted that apparel sales remained resilient throughout the second quarter with the easing of adverse effects of the earthquake, and purchases by tourists supported sales further. It was observed that while the effect of the demand brought forward against possible price hikes in white goods, small household appliances and consumer electronics continued, this effect proved more limited in the furniture sector. It was also stated that the campaigns supported sales in both white goods and furniture sectors, while the weakness in new house sales was a limiting factor in these sectors. It was observed that despite the partially restrictive effects of high prices and loan limits, the demand for automobiles remained strong in this quarter, where supply shortages continued to shape the sales figures. It was noted that while price levels and credit conditions continued to suppress the demand in the housing sector, foreign demand also decreased.

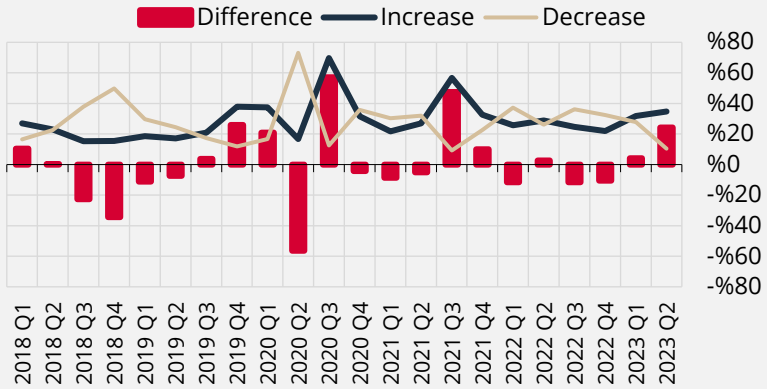
It was observed that exports displayed a positive outlook similar to the first quarter.

The rebound in foreign demand with eased concerns over recession in Europe stood out as the main factor of the positive outlook.

[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.

On a sectoral basis, firms in the **apparel and textile** sectors stated that the decrease in energy costs supported export orders and the recent exchange rate developments had a positive effect on pricing. In the apparel sector, it was also observed that the increasing activity of Turkish firms in the Russian market due to the war continued. It was stated that the quality and delivery speed advantage of Turkish firms in **furniture** and related sectors continued, and positive effects of the restored relations with neighboring countries started to be seen. It was mentioned that the exports of **white goods** slowed down due to the fall in foreign demand, while the firms still searched for new markets and customers. It was reported that exports in the **automotive** sector maintained their buoyant outlook, and the **tourism** sector hovered around normal seasonal levels. It is predicted that the summer season, identified as the high season for this sector, will be positive in terms of occupancy rates and revenues.

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 series denotes 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.

In the second quarter of the year, production activity was more robust than the previous quarter.

Driven by exporting firms in the first quarter, the production activity maintained a more balanced course in the second quarter with the uptick in domestic demand. On the exports front, production remained buoyant as a result of the additional improvement in the competitive power of Turkish firms and especially the recovery in European Union (EU) demand.

On a sectoral basis, in the **automotive sector**, production activities continue in line with the strong growth targets set at the beginning of the year. In **white goods and consumer electronics**, the normalization in foreign demand was balanced by buoyant domestic demand, and production was similar to that of the previous quarter. In **textiles and apparel**, the positive outlook in the domestic market and the recovery of the EU demand coupled with the falling energy costs and exchange rate developments had a positive impact on production activities. In the **chemicals** industry, construction and automotive-related areas maintained their positive outlook, and additional demand was observed for the segments that provide input to the textile industry. In the **furniture** sector, the expectations that the recovery in demand, which started in April, will continue in the third quarter, were mirrored positively on production. In the **machinery-equipment sector,** expectations for the postponed investments that will be made after the elections supported production activities in the domestic market. Regarding exports, the value-added production and the ability of firms to find alternative markets have underpinned production activities. In **basic metal**, the realization of the expected acceleration in the domestic market following the earthquake disaster fueled production. Lastly, in **construction**, the expectations that demand might recover due to exchange rate developments and

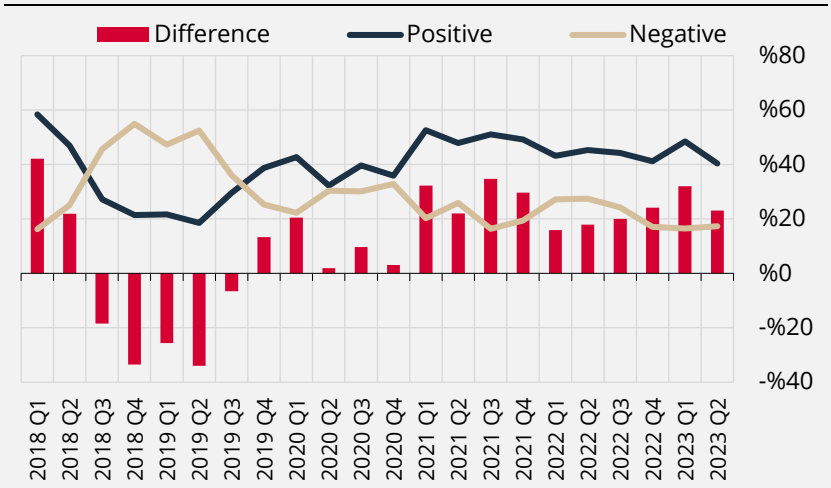
the motivation to complete existing projects quickly in order to avoid cost increases supported production.

The investment stance for the next twelve months remained prudent in the second quarter of the year.

In the first quarter of 2023, improved prospects for exports led by alleviated concerns over the energy crisis and recession in Europe coupled with the sustained financing facilities provided by targeted loan policies enhanced investment motivation. In the second quarter of the year, uncertainties regarding the outcome of the elections and the tightening in credit conditions and standards were the main factors limiting the investment stance of the firms.

While the investment stance of export-oriented firms is more positive, these firms remain more prudent compared to those operating in the domestic market. Uncertainties regarding foreign demand due to the ongoing Russian-Ukrainian War, the decline in international freight prices, the supply of products by North African and Far Eastern countries to the European market with more competitive prices, and difficulties in pricing were highlighted as factors that negatively affected the investment appetite of exporting firms in this period.

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 series denotes 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 and energy investments remained at the top of firms' investment plans. Mechanization and automation investments were accelerated to reduce costs and improve production efficiency. On the energy front, renewable energy investments remained strong to control costs and reduce carbon footprint, but edged down compared to the previous quarter. Among the reasons for the decrease, the recent fall in energy prices and the financing conditions were mentioned. From a sectoral point of view, it is noteworthy that the investment stance in the manufacturing sector is relatively positive in the food, chemistry, rubber and plastic, machinery and electrical equipment sub-sectors. In addition, it is expected that the investment stance of construction-related sectors may improve in the upcoming period due to the concentration on reconstruction activities in the disaster area under the coordination of public authorities.

Positive outlooks for investment and production remained supportive of firms' employment plans for the next six months.

There is a limited growth in the rate of firms that plan increasing their capacity and employment levels in the next six months, yet most of the firms maintained their tendency to preserve employment in the future. It is observed that the problems of firms in new hiring continued to increase. High employee turnover and difficulties in finding new employees create additional upward pressure on wages. It was

stated that the EYT regulation did not cause a significant loss of employment, and that most of employees who opted to claim retirement under the EYT scheme continue to work.

In the second quarter of the year, firms' financing needs remained high, but dropped slightly compared to the previous quarter.

Decrease in financing needs in the quarter were attributed to the fall in energy costs and commodity prices. On the other hand, the high level of working capital needs was associated with severance pay of workers under the EYT scheme, exchange rate developments and disruptions in cash flows. It was observed that financing needs of the firms for ongoing or new investments continued. In this context, there was a consequent emphasis on long-term financing needs proceeded.

It was stated that credit conditions and standards tightened slightly in the second half of the quarter, which was mainly reflected in shorter loan maturities and loan disbursement limits as of June. Some firms also stated that the cost of loans offered increased in the last month of the quarter. The emphasis on the supportive role of the CBRT's export loans continued.

In the second quarter, as the impact of the fall in energy prices became more evident and labor costs remained steady, the cost pressure on firms eased compared to the previous quarter. However, there was an increase in the proportion of firms that reported cost increases as of the end of the quarter due to exchange rate movements.

Reductions in electricity and natural gas prices since the beginning of the year had a greater impact on energy-intensive industries, such as metal, glass and ceramics manufacturing. Although severance payments made under the EYT scheme and wage increases in the construction sector were the prominent points mentioned in the second quarter, the cost-increasing effect of labor expenses decreased significantly compared to the previous quarter. On the other hand, the relationship between the recent exchange rate movements and costs and the limiting effect of the decline in global commodity prices on domestic prices were emphasized.

Box 2.2

Recent Regulations and Supplementary Budget Law

The developments in the first half of the year increased budget expenditures. In particular, public expenditures in order to reduce the effects of the earthquake on economic and social life and to compensate for the damage caused a significant cost in the budget. Due to the arising financing need, the supplementary budget law was enacted on 15 July 2023, and the expenditure allowances were updated. In addition, income targets were also raised, thus indicating a determined stance to maintain fiscal discipline, which serves as an important anchor in the fight against inflation.

In addition to the cost of the earthquake, some arrangements were made which increased budget expenditures in the first half of 2023. In January, the salaries and pensions of public employees and retirees were increased by 30% including an additional welfare share; feast bonus payments to retirees were increased to TL 2,000 and the lowest pension to TL 7,500. Similarly, regulations to improve the conditions of employees and retirees continued in July. The law submitted to the Presidency of the Grand National Assembly of Türkiye on 5 July 2023 and published in the Official Gazette on 15 July 2023 increased the salaries of civil servants by a net TL 8,077 in addition to the increase made in accordance with the collective agreement and the inflation compensation. In addition, pensions were increased by 25% in the second half of the year. It is planned that the minimum wage support provided to employers since 2016 will be increased to TL 500 in the rest of 2023. It should be noted that since the aforementioned support is covered by the Unemployment Insurance Fund, it will not have a direct impact on the central government budget. Another regulation regarding public expenditures was the transfer of the entire system of FX-protected deposits to the CBRT. Thus, the cost of FX-protected deposits in the second half of the year will not be reflected in the central government budget. At the same time, the law includes a regulation to increase the net debt utilization amount determined within the scope of the Central Government Budget Law of 2023, in order to meet the additional financing needs arising from the earthquake disasters in February and to keep the Treasury cash reserve at a strong level.[1]

In 2023, the president was given the authority to add appropriations to the relevant articles of the public administrations' budgets within the scope of the central government, in order to meet the need for appropriations arising from the personnel expenditures and state premium expenditures to the Social Security Institution due to the increases in the financial and social rights of public employees within the scope of the central government budget. In addition, the president was authorized to add allowances to the relevant articles of the budgets of the Ministry of Treasury and Finance, the Ministry of Family and Social Services and the Ministry of Labor and Social Security in 2023, limited to the needs that may arise within the scope of pensions and bonuses, feast bonuses and health insurance payments.

There are also some measures to increase budget revenues in the mentioned law. There will be a one-time-only additional motor vehicle tax equal to the amount of motor vehicle tax accrued in 2023, with the exception of the places declared force majeure in the earthquake zone. The corporate tax rate on corporate income is increased from 20% to 25% and the rate on the earnings of the financial sector, including the banks, is increased from 25% to 30%. In addition, some exemptions applied in corporate tax collection have been reduced. It has been stated that the last six-month D-PPI increase will be taken as a basis in the determination of the fixed SCT amounts on fuel products, similar to the practice in tobacco and alcohol products. In addition, the President's authority to determine the fixed SCT amounts taken from fuel products has been changed, and he has been given the authority to increase it up to five times the highest tax amount that has been re-determined for each commodity and to reduce it to zero.[2] With the President's decision published in the Official Gazette dated 16 July 2023, the fixed SCT amounts of the relevant products were increased.

[1] The net debt utilization amount will be increased by three times the net debt utilization amount increased by the Minister and the President for 2023.

With the Presidential Decision published in the Official Gazette dated 7 July 2023, measures to increase budget revenues continued and some regulations were made regarding VAT, banking and insurance transactions tax (BITT), fees and gambling tax. While the general rate of VAT was increased from 18% to 20%, the 8% rate applied for some goods and services was increased to 10%. Cleaning products, which were included in the list of products for which VAT was charged at the rate of 8% before, were removed from the list and subjected to a general VAT rate of 20%. On the other hand, the 1% VAT rate applied for basic food products remained unchanged. The BITT on consumer loans was increased from 10% to 15%. Fixed fees applied in 2023 (excluding driver's license fees) have been increased by 50%. Gambling tax rates were also doubled from 5% to 10% in joint bets based on sports events, from 7% to 14% in horse races and from 10% to 20% in other gambling.

Although the current regulations support the continuation of fiscal discipline by limiting the budget deficit, they are expected to have an upward effect on inflation in the short term (Zoom-in 2.2). While the increase in the motor vehicle tax and BITT will not have an impact on the CPI inflation in 2023, it is thought that the possible impact of the increase in the fees and gambling tax rates will be limited. The corporate tax increase is expected to indirectly push inflation somewhat higher. Also, the fixed SCT regulation on fuel is expected to have direct and indirect effects on CPI. Although the VAT increase has a relatively high impact, the fact that the VAT rate applied to basic foodstuffs has not been changed and kept at 1% is considered positive.

Due to the need for resources resulting from the expenditures made to reduce the economic and social effects of the earthquake disasters that occurred in February, the Proposal on the Amendment of the Central Government Budget Law for the Year 2023 was submitted to the Presidency of the Grand National Assembly of Turkey on 7 July 2023 and enacted in the General Assembly of the Turkish Grand National Assembly on 15 July 2023. Accordingly, it has been proposed to add an appropriation of TL 1.1 trillion for expenditures. It is foreseen that the financing need resulting from the additional budget appropriations will be met entirely by the increase in the budget revenues, and it is stated that the revenues will increase by TL 1.1 trillion.

When the details of the budget expenditure items are analyzed, the highest increase is anticipated to be capital transfers with TL 483.7 billion. The total appropriations needed for the elimination of earthquake damage are TL 527.3 billion, and most of this is reserved for capital transfers. The capital transfers item is followed by current transfers with TL 258.9 billion and purchase of goods and services with TL 100.8 billion. A more limited appropriation increase is envisaged for reserve appropriations, capital expenditures and lending items. No additional allowance has been made for personnel expenses and state premium expenses to the SSI (Table 1). The central government budget revenues to be used in the financing of public expenditures have been updated upwards considering the positive effect of the 2022 revenues above the expectations on the 2023 revenues, the expected changes in macroeconomic indicators, collections within the scope of Law No. 7440 on Restructuring Some Receivables and Amending Some Laws and budget revenue realizations for the first six months. In this framework, it is foreseen that 95.7% of the TL 1.1 trillion increase in budget revenues will consist of tax revenues and 4.3% will consist of non-tax revenues. With the additional budget revenues, the total budget revenue target for 2023 has increased to TL 4.3 trillion. The items subject to major revisions can be listed as SCT, internal VAT and income tax (Table 1).

In the first half of 2023, the major role in the rapid increase in the central government budget deficit was played by the high amount of expenditures due to the earthquake, while the regulations made to improve the financial and social conditions of public employees and retirees were also an important cost factor. The recent regulations and the supplementary budget law are important in terms of maintaining the fiscal discipline. In this framework, although upside effects on inflation are expected in the short term, it is expected that in the medium term, public finances will continue to support the disinflationary process in an environment where fiscal discipline will be preserved.

[2] Prior to this regulation, the President was authorized to increase up to half of the highest tax amount and reduce it to zero for each property.

Table 1. 2023 Central Government Initial and Supplementary Budget (TL Billion)

	Initial Budget	Supplementary Budget	Revised Budget (Initial + Supplementary)
Expenditures	**4469.6**	**1119.5**	**5589.1**
Primary Expenditures	**3904.0**	**1039.0**	**4943.0**
Compensation of Employees	952.3	-	952.3
Social Security Contributions	150.4	-	150.4
Good and Service Purchases	318.7	100.8	419.5
Current Transfers	1682.0	258.9	1940.9
Capital Expenditures	315.8	67.4	383.2
Capital Transfers	37.3	483.7	521.0
Lending	359.2	51.2	410.4
Reserve Appropriations	88.2	77.0	165.2
Interest Payments	**565.6**	**80.5**	**646.1**
Revenues	**3810.1**	**1119.5**	**4929.6**
Tax Revenues	**3199.5**	**1071.1**	**4270.6**
Income Tax	495.0	201.4	696.4
Corporation Tax	619.1	163.1	782.2
Special Consumption Tax	510.6	306.6	817.2
Domestic VAT	203.6	237.3	440.9
VAT on Imports	931.4	-	931.4
Other Taxes	439.8	162.7	602.5
Non-Tax Revenues	**610.6**	**48.4**	**659.0**

Source: Ministry of Treasury and Finance.

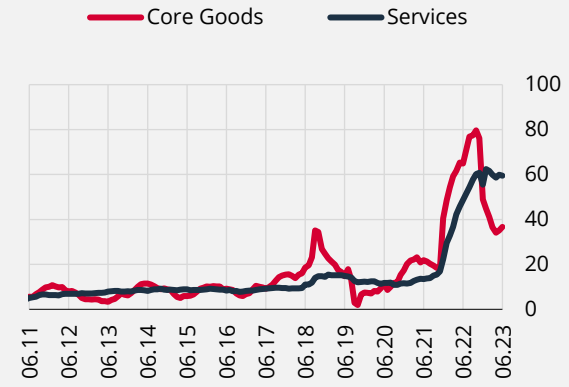
Box 2.3

Persistence of Services Inflation

Services and core goods groups, the two main components of core inflation, differ in terms of price dynamics. While the openness of the core goods group to foreign competition exerts pressure on final prices, it also encourages the use of foreign inputs and increases the importance of the exchange rate on the group's price developments. Core goods are more conducive to technological developments and positively affected by productivity gains. On the other hand, services prices are more sensitive to domestic factors, in particular wages. In services, where productivity gains are more limited, co-movement of wages across sectors increases unit costs and strengthens the course of price increases. Although both sectors are affected by demand developments, aggregate demand conditions are more important in the services sector, and the sensitivity to credit is more evident in core goods, primarily the durable goods.[1] In addition, time-dependent price setting and backward indexation are more prevalent in the services sector. As a result of these structural differences discussed briefly, the services sector index is approximately 43% higher than that of core goods as of mid-2023.

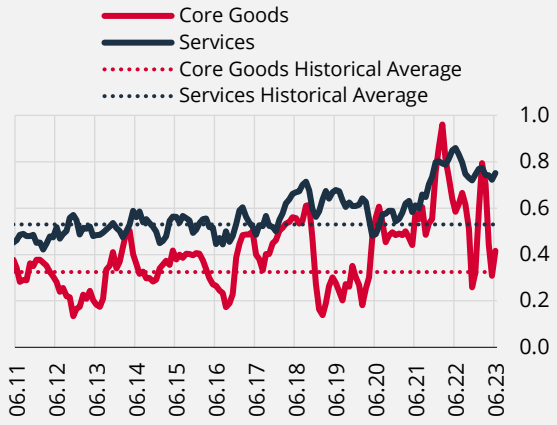
The historical course of diffusion indices as well as the annual inflation rates reveal the differences in price setting behavior between the main groups. Import prices in terms of TL are highly determinant in the dynamics of core goods inflation, which is largely composed of tradable goods, and inflation can rapidly fall to low levels in periods when the effects of shocks weaken. On the other hand, inflation displays persistence in the wage-sensitive services sector, which is not subject to foreign trade and where backward-indexation behavior as well as time-dependent price setting are predominant (Chart 1 and Chart 2).

Chart 1: Core Goods and Services Prices (Annual % Change)



Source: CBRT, TURKSTAT.

Chart 2: Diffusion Indices of Main Expenditure Groups* (Seasonally Adjusted, 3-Month Average)



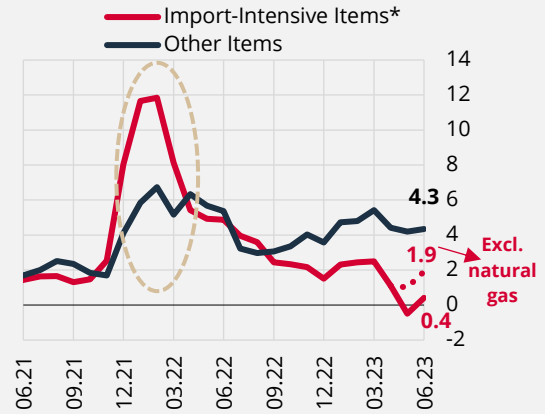
Source: CBRT, TURKSTAT.
* Calculated as the ratio of the difference between the number of items with increasing prices and the number of items with decreasing prices to the total number of items.

The divergence between the price setting behavior of the groups has recently gained importance again in parallel with the macroeconomic developments. With this respect, the CPI sub-items were classified according to the imported input intensity[2] and separate price indices are calculated for items with intensity of more than 15% and the remainder.

[1] CBRT (2020).
[2] CBRT (2022).

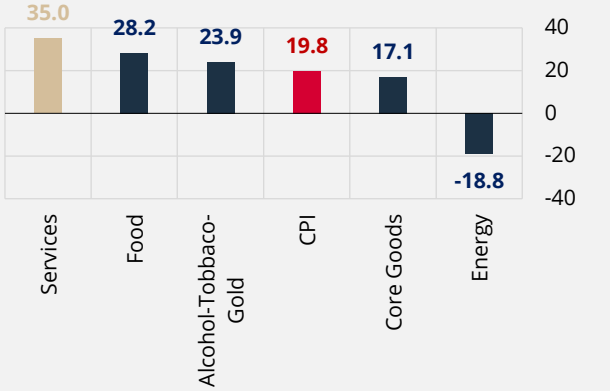
When consumer inflation is analyzed in terms of imported input intensity, it is observed that the course diverged significantly between these two main groups after the exchange rate increase at the end of 2021, and the rise in inflation in the following period was driven by items with high imported input intensity. In 2023, the course slows down in items that are highly sensitive to exchange rate and import prices, yet it remains high in items where the impact of domestic developments is more evident, particularly in services (Chart 3). In fact, the cumulative changes in the first half of 2023 suggest that the highest increase is in the services sector and is significantly above the headline inflation. On the other hand, the cumulative increase in core goods is more moderate (Chart 4).

Chart 3: Inflation by Import Intensity
(Seasonally Adjusted, 3-Month Average, %)



Source: CBRT, TURKSTAT.
* Composed of items with higher than 15% import input intensity. Share within the CPI basket is 58.4%.

Chart 4: Cumulative Inflation of CPI and Main Groups (First Half of 2023, %)

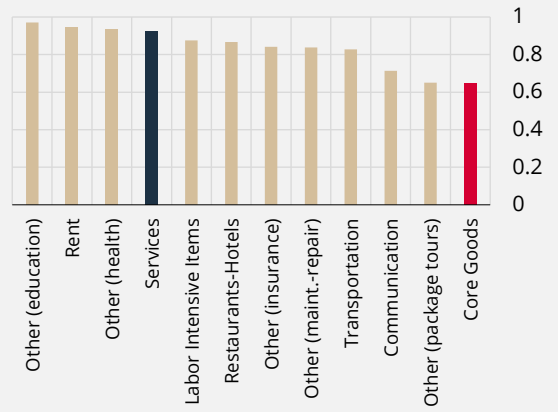


Source: CBRT, TURKSTAT.

Similar to the divergence between core goods and services, there is also heterogeneity within the services sector. There are noticeable differences among services sector subgroups in terms of price setting behavior (time-dependent price setting, backward indexation), labor intensity and input use, and sector-specific imbalances in certain periods can gain importance.

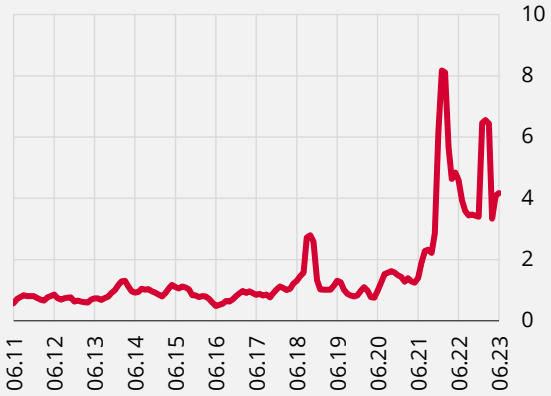
The analysis conducted with quarterly data on annual inflation of services and its subgroups reveals that persistence is evident in the services sector (Chart 5). Within the services group, items such as education services, health services and rent, where time-dependent price setting is common and past inflation is of great importance in the formation of new prices, exhibit higher inflation persistence. On the other hand, persistence is weaker in items such as package tours, where the sensitivity to variables such as input cost and exchange rate is higher, and communication services. A similar outlook emerges when we compare the services and core goods main groups, and we find that persistence is higher in the services sector.

Chart 5: Persistence in Services Inflation[3] (Quarterly, Annual Inflation, 2010-19)



Source: CBRT.

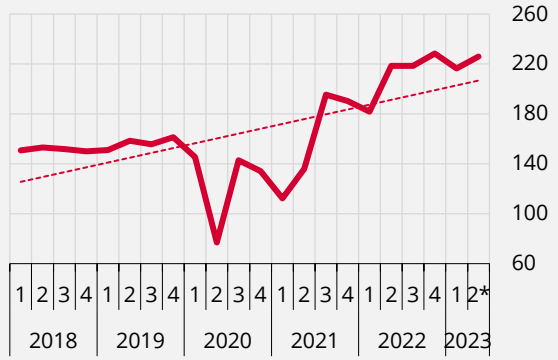
Chart 6: Labor Intensive Services Price Index[4] (Seasonally Adjusted Monthly Change, 3-Month Average)



Source: CBRT, TURKSTAT.

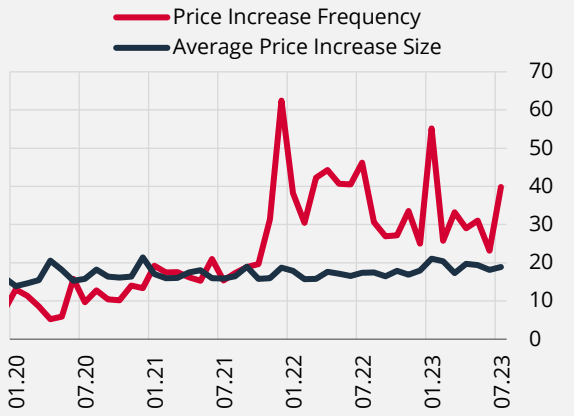
Due to its labor-intensive structure, the service sector is more significantly affected by wage developments (CBRT, 2023). Restaurants-hotels and various maintenance-repair items are the subgroups within the services group that respond most quickly to wage adjustments. In line with the recent developments, the underlying trend of the labor-intensive price index, which is composed of the aforementioned items, hovers above the long-term average. In parallel with the minimum wage increases in the recent period, the mentioned index has displayed significant increases (Chart 6). In times of high inflation, the compensation of wages with past inflation in order to protect the purchasing power of employees is one of the important factors that strengthens the persistency in the services sector.

Chart 7: Food and Beverage Services Turnover Index (Real, Seasonally and Calendar Adjusted)



Source: TURKSTAT.
* As of May.

Chart 8: Food Services Price Increase Frequency and Size* (% Points)

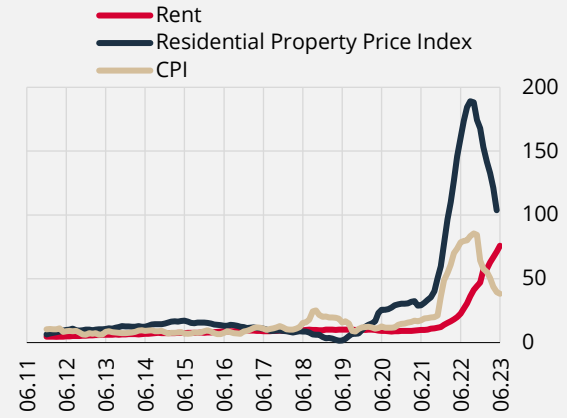


Source: CBRT, Authors' calculations.
* Frequency is obtained by dividing the number of price increases seen in the prices of the products monitored during the month by the total number of products.

[3] The coefficient of inertia was obtained from the following equation estimation $\pi_{i,t} = c + \rho * \pi_{i,t-1} + \varepsilon_t$.
[4] The above-mentioned sectors are maintenance-repair (personal transportation vehicles, household goods, household appliances, photo-data processing tools, shoe and clothing repair and dry cleaning), household services, photography services, food and beverage services, hotels-pension, men-women hairdressing and similar services.

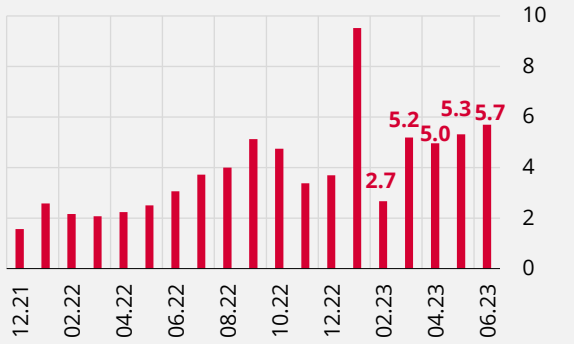
In addition to its labor-intensive structure, the service group also includes items that are significantly affected by input prices such as food and fuel. For example, while restaurants and hotels are one of the subgroups that are heavily impacted by minimum wage developments, the developments in food prices, especially red meat, tea, soft drinks and bread, which are the subject of catering services, are of great importance for the prices of the subgroup. The results of the estimated equations for the price dynamics of catering services also point to the importance of food developments. According to the estimation results, catering services inflation is also highly sensitive to developments in real unit wages, following food prices.[5] In addition, demand indicators for catering services indicate that demand conditions have remained strong after the 2020 pandemic, staying above the long-term trend since the second half of 2021 (Chart 7). On the accommodation services side, which is another component of the restaurant-hotel group, the effects of the revival in tourism have been observed recently. Restaurant data provides useful information on price-setting behavior in catering services and the timely determination of the change therein. Analyzes made with micro data show that there is no change in the average rate of increase in firms' prices, and that the rise in inflation in this group is driven by the changes in the number of firms that update their prices (Chart 8). Historically, the price increase frequency is sensitive to minimum wage, exchange rate developments and price developments especially in food items such as red meat, oil, flour and bread.

Chart 9: CPI, Rent Sub-Index and Residential Property Price Index (Annual % Change)



Source: CBRT, TURKSTAT.

Chart 10: Rent (Seasonally Adjusted, Monthly % Change)



Source: CBRT, TURKSTAT.

It is noteworthy that the imbalances prevailing in the housing market in recent years (Chart 9) also played an important role in the increases in the rent subgroup, where backward indexation behavior is common. Although the annual increase in residential property prices is on a downward trend, it remained above the headline inflation rate, and rent inflation has shown a marked upward trend in the last year. In seasonally adjusted terms, the last three months' increase in rent corresponds to 84.4% on an annualized basis (Chart 10). While rent inflation and changes in residential property prices imply that the amortization periods have decreased, current trends suggest that the risks on headline inflation due to the rent group are alive. While legal regulations regarding rent increase do not have sufficient effect, it is important to eliminate the imbalances in the housing market and to break the backward indexation behavior.

Another factor that strengthens the persistence in services inflation is that the services sector includes sub-items with high administered and backward indexation behavior such as transportation (municipal urban passenger transportation, train, highway and bridge toll rates, etc.) and various public services

[5] In the equations estimated for the 2010Q1-2023Q1 period, catering services are included as the dependent variable. As explanatory variables, food prices excluding fresh fruits and vegetables, food expenditures by card, wages (minimum wage or real unit wage), output gap and dummy variables are used. In the equations, the coefficient of the food group was estimated in the range of 0.55-0.66 according to different food definitions. Similarly, the coefficient estimates for wages are in the range of 0.18-0.22.

(driving license, notary, passport fees, etc.). On the other hand, inflation exhibits relatively lower persistence in sectors such as package tours, which is sensitive to exchange rate and significantly affected by domestic demand, and communication, where competition, technological development and efficiency are important.

In summary, the divergence between the price setting behavior in the subgroups of core inflation in the consumer basket have become evident in line with recent macroeconomic developments. Inflation declined in items that are strongly influenced by external prices, in the inflation outlook, the effect of back- indexation behavior and items affected by domestic price dynamics became prominent. This causes the effects of macroeconomic shocks to spread via the services group over time and adds persistency to inflation. The pressures on inflation due to exchange rate increases in recent months as well as wage developments and tax adjustments may cause the negative outlook in service sector inflation to continue.

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CBRT (2020). An Evaluation of the Effect of Demand Conditions on Inflation, Inflation Report, 2020-IV, Box 2.3.

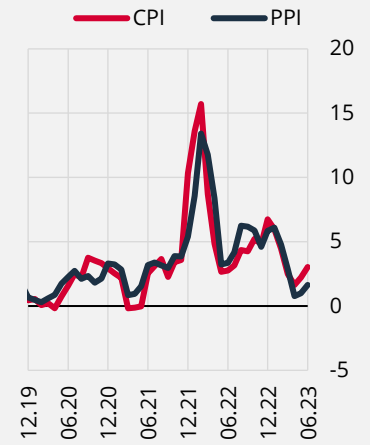
Box 2.4

Inflation Risks in Durable Goods

The main determinants of consumer inflation throughout 2022 were the ongoing supply shocks and TL-denominated international commodity prices. As of the second half of the year, these factors improved significantly. TL-denominated international commodity prices were more optimistic, and supply chain problems such as supplier delivery times and transportation costs eased. A similar picture continued throughout the first half of 2023, with the exception of TL depreciation in June. These developments have played an influential role particularly in the prices of durable goods, which can be sizably and rapidly affected by supply shocks and TL-denominated international commodity prices. The recent demand outlook also highlights the rapid increase in demand for durable goods in the first half of the year. Against this backdrop, the year-on-year inflation of durable goods excluding gold was 43.3% in June 2023. Among the sub-items of this group, annual inflation in white goods, automobiles and furniture was 61.8%, 46.6% and 37.5%, respectively. This box discusses sub-items of durable goods in more detail, and examines their pricing behavior in terms of producer costs and demand dynamics.

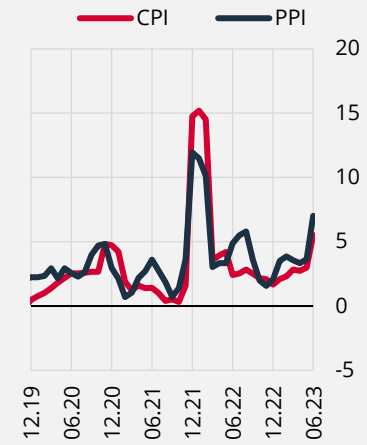
In order to evaluate the effects of producer costs on the pricing dynamics of the prominent items in the durable goods group, PPI indicators harmonized with CPI's scope and weights are examined. Indicators suggest that although consumer and producer prices may diverge in the short term due to factors such as taxes and the position in the supply chain, they act in harmony in the long term (Chart 1, Chart 2 and Chart 3). Matched data suggest a similar picture in the recent period as well, with the increases in producer prices being rapidly reflected on consumer prices and only slight differences are observed between the price increases.

Chart 1: White Goods CPI and Adjusted PPI (Seasonally Adjusted, 3-Month Average % Change)



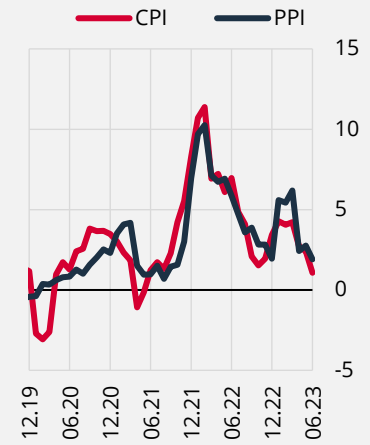
Source: CBRT, TURKSTAT.

Chart 2: Automobiles CPI and Adjusted PPI (Seasonally Adjusted, 3-Month Average % Change)



Source CBRT, TURKSTAT.

Chart 3: Furniture CPI and Adjusted PPI (Seasonally Adjusted, 3-Month Average % Change)



Source: CBRT, TURKSTAT.

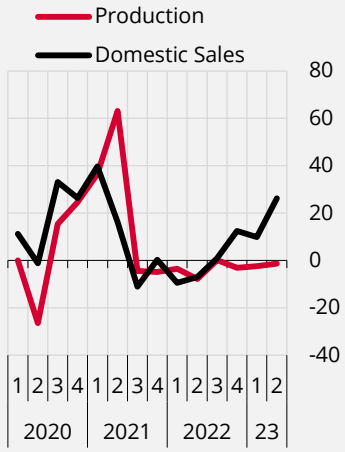
When the demand dynamics in durable goods are considered within the framework of production, imports, domestic sales and exports, domestic demand is relatively stronger compared to production as of the first half of 2023, and there are signs of partial slowdown in foreign demand in line with the global growth outlook. A closer examination of the outlook for white goods, automobiles, and furniture items, which are among the main sub-items of durable consumer goods, reveals that the main trend confirms the differentiation between demand and production, although there are partial differentiations on a sectoral basis.

Total domestic sales in the white goods sector continued to increase in the second quarter of the year compared to the previous quarter, and the annual rate of increase reached 26.2% compared to the same period of the previous year (Chart 4). Similarly, credit card spending data also confirms the strong demand in the sector. On the other hand, due to the slowdown in foreign demand, total white goods production remained almost flat compared to the same period of the previous year.

In the automobile sector, the strong course of domestic sales stands out especially in the first half of the year. As of the second quarter, total automobile sales recorded a marked increase on an annual basis (Chart 5). On the production side, a more limited annual increase was registered due to the loss of momentum stemming from foreign demand.

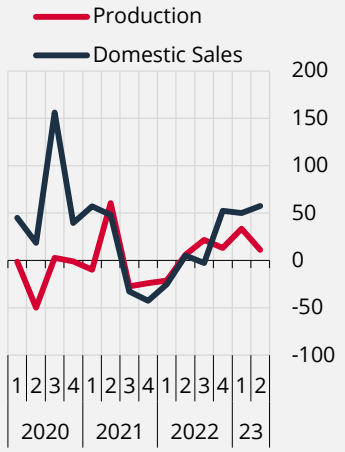
In the furniture sector, since there is no direct source of data showing production and domestic sales, alternative indicators are used to represent production and domestic demand. According to survey-based indicators and card expenditure data, domestic demand follows a more positive course, while production displays a relatively more balanced outlook compared to demand (Chart 6).

Chart 4: White Goods Production and Domestic Sales (Annual % Change)



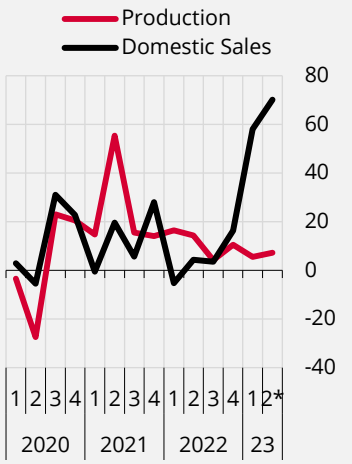
Source: TURKBESD.

Chart 5: Automobile Production and Domestic Sales (Annual % Change)



Source: ODMD, OSD.

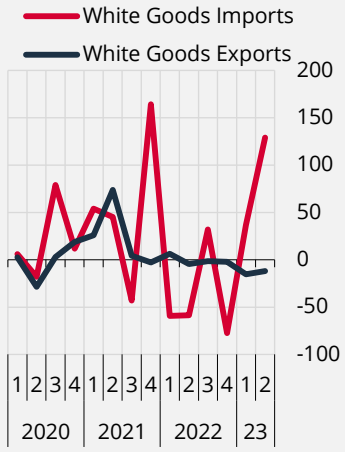
Chart 6: Furniture Production and Domestic Sales* (Annual % Change)



Source: CBRT, TURKSTAT.
* The average of April and May for production. The industrial production index of the furniture sector was used to represent the production, and real domestic card expenditures on furniture were used to represent the domestic sales.

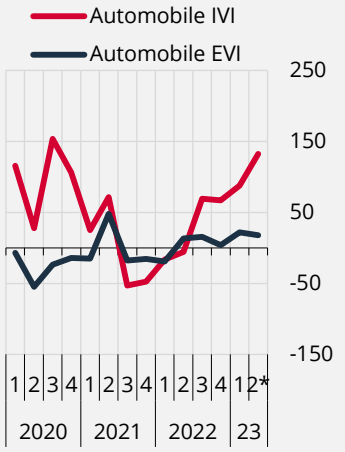
Foreign trade developments in these sub-groups of goods also confirm a similar outlook. While exports followed a more balanced course due to the slowdown in foreign demand, imports in these groups increased significantly compared to the same period of the previous year due to the strong domestic demand (Chart 7, Chart 8 and Chart 9).

Chart 7: White Goods Exports and Imports (Annual % Change)



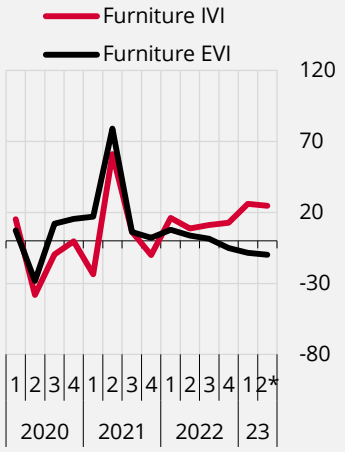
Source: TURKBESD.

Chart 8: Automobile Exports and Imports** (Annual % Change)



Source: CBRT, TURKSTAT.
* The average of April and May.
** EVI: Export Volume Index, IVI: Import Volume Index

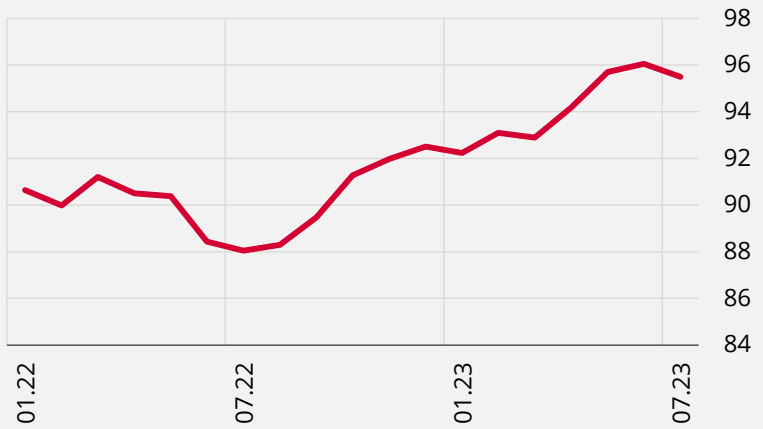
Chart 9: Furniture Exports and Imports** (Annual % Change)



Source: CBRT, TURKSTAT.
* The average of April and May
** EVI: Export Volume Index, IVI: Import Volume Index

Regarding the upcoming period, survey-based indicators show that consumers' tendency to spend on durable goods remains high, albeit with some loss of momentum (Chart 10).

Chart 10: TURKSTAT Consumer Confidence Index-Assessment of Spending on Durable Goods (Seasonally Adjusted, 3-Month Moving Average)



Source: TURKSTAT.

To conclude, supply-side effects are rapidly and largely reflected on prices in the main sub-items of the durable goods group. When the recent exchange rate developments are evaluated together with the strong demand for durable consumer goods, they point to risks on pricing behavior. On the other hand, selective credit tightening decisions, which strengthen the monetary tightening process, are expected to alleviate both cost and demand-side pressures in the upcoming period.

Box 2.5

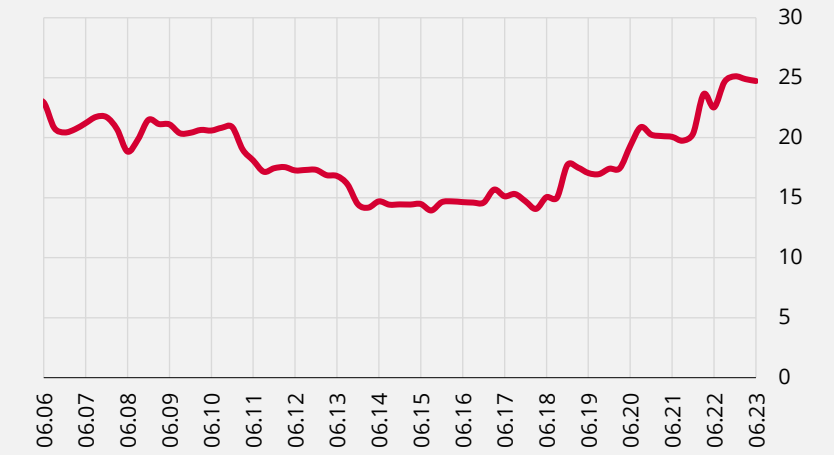
Exchange Rate Pass-Through to Consumer Prices: Size, Course over Time, Impact Channels and Sectoral Differentiation

The exchange rate is one of the important determinants of inflation in emerging countries. Determining the size of the inflationary pressure caused by exchange rate movements, the speed of pass-through, its course over time, the channels of impact and which sectors are sensitive to exchange rate movements is important for a sound analysis of pricing dynamics. Therefore, in this box, the pass-through from exchange rates to consumer prices, which is an important factor in inflation dynamics, is analyzed in terms of these dimensions.

Size of the Pass-Through and Its Course over Time

At the CBRT, the size of the exchange rate pass-through is monitored through models ranging from the standard vector autoregression (VAR) model, to Bayesian VAR and time-varying parameter (TVP) models. This box first analyses the pass-through effect through a reduced-form Phillips curve TVP model (Chart 1), as it is considered to better reflect the course of the pass-through over time. Recent estimations indicate that the pass-through effect from the exchange rate to consumer prices, which started to slow down after the transition to a floating exchange rate regime in Türkiye, started to increase again in 2018 and accelerated especially in 2020. They further suggest that the pass-through effect, which was spread over time in the past, has been reflected on consumer prices at a faster pace in recent years. The model results signal that the pass-through effect from the cost channel is around 25% for the last one-year period. In other words, controlling for the role of inflation expectations, the cost-push impact of a 10% increase in the exchange rate basket on consumer prices is estimated to be around 2.5% points over a one-year period.[1] This figure is an average estimate and the pass-through from exchange rates to inflation in any given period may vary depending on cyclical factors. In fact, studies on the subject indicate that factors such as the cyclical state of the economy, exchange rate expectations (the perception that movements are permanent/temporary) and the size of the exchange rate shock can significantly affect the size of the pass-through.[2]

Chart 1: Exchange Rate Pass-Through from the Cost Channel in the Phillips Curve TVP Model (%)



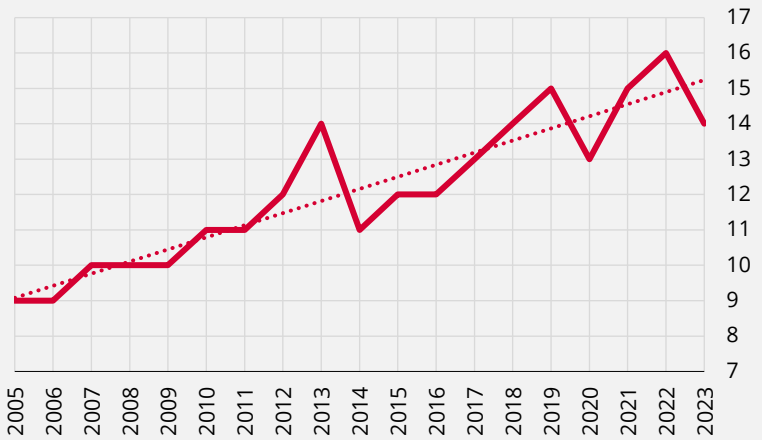
Source: Authors' calculations.

[1] The pass-through effect is measured higher when the role of inflation expectations is not taken into account. In specifications where the impact channels are decomposed separately (when a separate channel for inflation expectations is defined), the pass-through coefficient from the cost channel is estimated to be around 25%. In the literature on Türkiye, when shocks to inflation are not well-identified in the model (demand, expectations, wage, commodity and other supply shocks, etc.), the effect of exchange rate shocks tends to be overestimated. For an assessment of the TVP model and the role of inflation expectations, see Koç et al. (2021).

[2] See Kara et al. (2017).

When the sources of the increase in exchange rate pass-through are analyzed, one of the striking factors is the changes in consumption patterns. Analyses show that the weights of items in the basket of consumer prices with relatively high exchange rate pass-through have tended to increase over time. For instance, the weight of durable goods, one of the groups with high exchange rate pass-through, almost doubled compared to 2005 due to the increase in the number of households in line with the changes in the demographic structure (Chart 2).

Chart 2: The Weight of Durable Goods in the CPI Basket (%)



Source: TURKSTAT.

Impact Channels

Besides cost channel, the pass-through of exchange rate developments to inflation also happens through expectations and balance sheet channels. Although the most prominent of these channels is the cost channel, Ertuğ et al. (2020) show that exchange rate pass-through in Türkiye can be higher than the cost increases implied by the rate of imported input utilization and that other possible channels should also be considered.

The cost channel mainly affects prices through imported inputs used in production and directly imported products in consumption. While exchange rate developments directly affect the prices of imported goods, they also affect the prices of domestically produced goods through foreign inputs such as imported intermediate goods and energy. The higher the share of imported goods and import-intensive products in the consumption basket, the higher the exchange rate pass-through of the consumer price index.

The balance sheet channel comes into play as firms with high foreign currency indebtedness come under pressure during periods of depreciation of the local currency. This pressure through the balance sheet channel adversely affects firms' sales and investments and firms may raise prices to alleviate this pressure. Fendoğlu et al. (2019) show that sectors with high foreign currency indebtedness increase producer prices more after an exchange rate shock.

The effect of exchange rate developments through the expectations channel arises as a result of the inclusion of expectations for the period until the next price update in pricing behavior during price setting. Through this channel, the inflationary environment and deterioration in expectations caused by exchange rate developments affect items that are not directly affected by exchange rate developments through backward indexation. This movement, which emerges especially in services items, causes backward-indexation-intensive items such as rent, education and health to be indirectly affected by the exchange rate-driven inflationary environment.

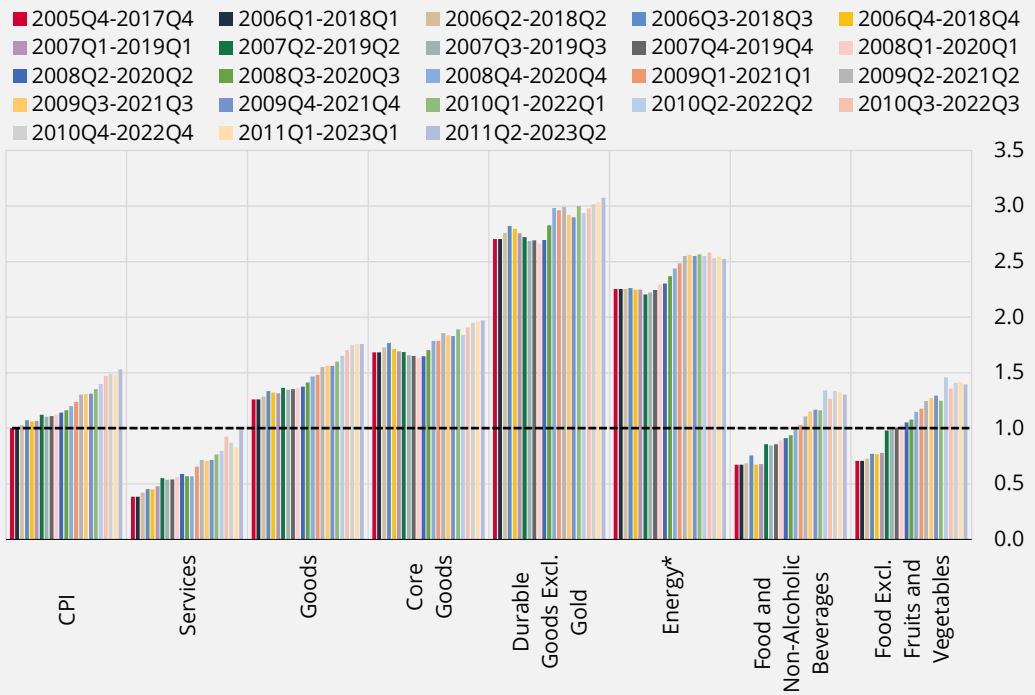
The pass-through of exchange rate developments to consumer prices through these channels varies from period to period and from country to country. The size of pass-through may vary depending on factors such as the level and persistence of inflation, the share of imported inputs in production, the

share of imported products in consumption, the extent of foreign currency indebtedness, market structure, and the nature of exchange rate shocks.[3] Kazdal and Yılmaz (2021) indicate that increases in external vulnerabilities such as high dollarization, high current account deficit, high foreign currency indebtedness and a high-risk premium increase exchange rate pass-through. In addition to demographic effects, exchange rate pass-through may change over time due to changes in the structure of these channels.

Sectoral Differentiation

The distribution of this effect across sectors is as important as the average effect itself. In this context, a strategy based on sub-item modeling has been adopted, as in the study of Özmen and Topaloğlu (2017), in order to look at the differing effects of exchange rate movements on CPI sub-items. In order to obtain sectoral exchange rate pass-through coefficients, customized fixed-parameter equations are estimated for 144 sub-item prices in the CPI at the 5-digit level.[4] The resulting exchange rate pass-through coefficients are aggregated with respective item weights to achieve the exchange rate pass-through estimates of the main groups. In order to test robustness, seven models are estimated under different specifications, and the average values of the pass-through estimates of these models are reported. In addition, the change in the magnitude of the pass-through over time were also examined using the rolling estimations with 10-year window size (Chart 3). In order to make the size of sectoral differentiation and its changes over time comparable, the pass-throughs relative to the CPI are reported instead of the direct exchange rate pass-through coefficients.

Chart 3: Exchange Rate Pass-through Into Inflation Under Different Samples
(2005Q4-2017Q4=1)



Source: Authors' calculations.
* Excluding electricity and natural gas. In order to better capture the internal dynamics of sub-groups, exchange rate pass-through of LPG, fuel oil and diesel oil items are calculated separately.

[3] For an assessment of why exchange rate pass-through differs across countries based on these factors, see CBRT (2021).

[4] In the modeling of sub-items, a general model including all selected variables was first established, and then variables with insignificant or negative coefficients for each sub-item were deleted one by one and the necessary outliers were assigned and variables were selected using the general to specific method. Lagged values of the relevant price variable, basket exchange rate, import prices, output gap, wages and Brent oil prices are used as explanatory variables.

As expected, the main groups with relatively high exchange rate pass-through are tradable core goods and energy. An analysis of the source of the high exchange rate pass-through in core goods reveals that durable consumption goods with high import intensity stand out, while the main determinant in this group is automobile prices. As for the energy group, the high external dependence of its components increases the exchange rate pass-through. As expected, exchange rate pass-through is more limited in the services group, which is highly sensitive to domestic developments and has a limited capacity to be subject to international trade. Although the level of exchange rate pass-through varies across subgroups, exchange rate pass-through has increased over time in all subgroups, including groups with low exchange rate sensitivity such as services. Especially when the level of inflation rises and inflation expectations are not anchored, the pass-through effect may also increase in non-tradable goods through the backward indexation mechanism or deterioration in pricing setting behavior.

In sum, the pass-through from exchange rates to consumer prices has increased in recent years. In periods of high inflation, exchange rate pass-through may increase, especially as the backward-indexation tendency in inflation strengthens. Current estimates suggest that the pass-through effect through the cost channel is around 25% over a one-year period, but the pass-through effect may vary depending on underlying economic environment such as the course of economic activity or exchange rate expectations.

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Box 2.6

An Assessment of the Effect of Minimum Wage Increase on Inflation

The interim regulation on 1 July 2023, raised the minimum wage by 34% to a net TL 11,402.3 (January 2023 – 8,506.8), and a gross TL 13,414.5 (January 2023 – 10,008.0). While the practice of not receiving income and stamp tax from the minimum wage continues, it has been decided to increase the support given to employers per worker to TL 500. The cost of the minimum wage to the employer also increased by 34% and reached TL 15,762 (January 2023 – 11,759.4). This box discusses the possible impact of the minimum wage increase in July on the basis of sectors with high sensitivity to minimum wage.

Relation of Minimum Wage and Other Wages

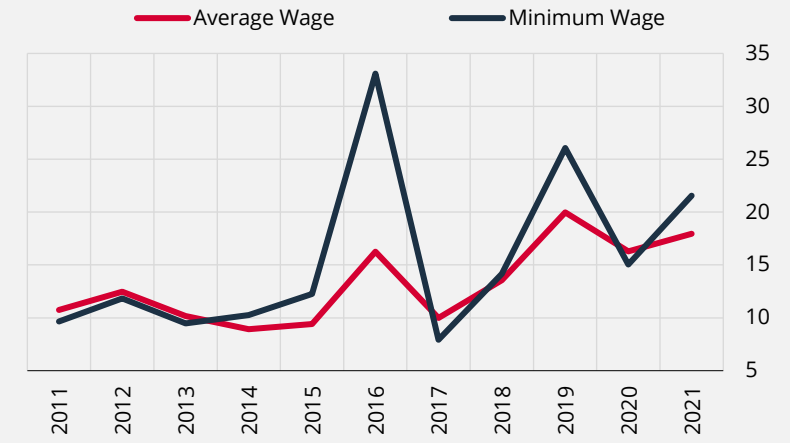
Table 1: Nominal Annual Rates of Increase in Various Wage Indicators (%)

	2018	2019	2020	2021	2022
Gross Minimum Wage	14.2	26.1	15.0	21.6	60.4
LII Non-Farm Hourly Labor Cost Index*	18.6	25.6	16.6	19.8	73.2
LII Non-Farm Hourly Earnings Index	18.3	26.2	18.0	19.3	73.2
LII Non-Farm Hourly Non-Earning Labor Cost Index	19.7	22.9	9.5	22.5	73.4
LII Gross Wage Salary Index	15.9	18.3	6.8	39.7	88.2
SSI Average Daily Earnings (Private Emp. Weighted)**	17.8	22.6	17.7	23.2	75.2

Source: CBRT, Ministry of Labor and Social Security, SSI TURKSTAT.
* LII: Labor input indices.
** For each sub-item, private earnings x private employment are aggregated and divided by total private employment data.

A significant share of regular or casual wage earners in Türkiye are entitled to the minimum wage or wages in the neighborhood of the minimum wage, and thus, minimum wage increases and past CPI outturns determine general wage rises (Table 1). In this respect, most of the nominal wage increases can be explained by the minimum wage, past inflation and output gap. An analysis of the annual average net income of wage earners and their minimum wage growth by years suggests that a 1-point minimum wage increase corresponds to an average wage rise of approximately 0.93 points (Chart 1).

Chart 1: Annual Course of Wages (Nominal % Change)



Source: CBRT, Ministry of Labor and Social Security, TURKSTAT Household Labor Force Survey (HLFS).

On Which Sectors Is the Minimum Wage Most Effective?

The micro data of the HLFS for 2021 indicate that approximately 43.1% of wage earners in non-agricultural sectors are composed of minimum wage and below-minimum wage earners (Table 2). The proportion of minimum wage and below workers is 50.4% in the industrial sector, 71.4% in construction and 37.9% in services. Although this rate appears to be lower in the service sector compared to other main sectors, it differs considerably across sub-items. While being in the public sector and financial services industry is a factor to limit the overall sensitivity to the minimum wage, the proportion of minimum-wage earners is high in non-public and non-financial services sectors. For example, the proportion of minimum wage and below minimum wage earners reaches 73% in accommodation and food services, while a high share is observed in the wholesale and retail trade sector with 64%. In the manufacturing industry, clothing (70.5%) and food (67.1%) stand out with their high proportion of minimum wage and below minimum wage earners.[1]

Table 2. Proportion of Minimum Wage and Below Employees by Selected Sectors
(%, 2021)

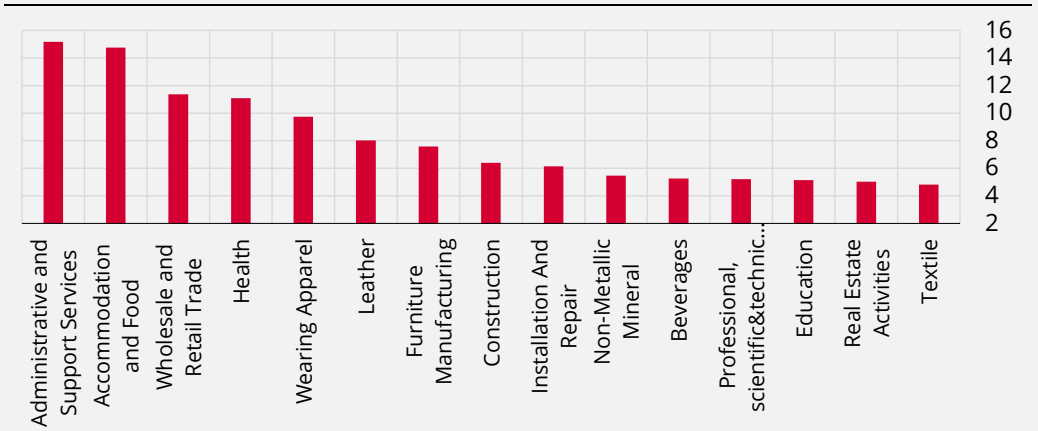
	Minimum Wage and Below Minimum Wage Earners*	Personnel Cost/Production Value
Non-Farm Total	**43.1**	**10.5**
Industry	**50.4**	**6.7**
Manufacturing Industry	52.0	7.2
Textile	57.4	8.4
Wearing Apparel	70.5	13.8
Leather	69.7	11.5
Furniture Manufacturing	57.8	13.1
Food	67.1	6.4
Petroleum**	19.9	-
Motor Vehicles, trailers etc.	26.3	6.5
Other Transportation	19.6	10.4
Construction	**71.4**	**9.0**
Services	**37.9**	**17.9**
Wholesale and Retail Trade	64.4	17.6
Transportation and Storage	47.3	9.7
Accommodation and Food Ser.	73.0	20.2
Public Administration**	5.8	-
Education	10.1	51.1
Finance Insurance**	13.3	-

Source: CBRT (2021), TURKSTAT HLFS Micro Data, Annual Industry and Service Statistics.
* Data are filtered by profession and sector. Those who work in the 10% lower and upper neighborhood of the minimum wage are accepted as minimum wage earners, and those who work below 10% lower neighborhood are accepted as below-minimum wage earners.
** Personnel cost/production value could not be calculated due to lack of data.

The degree of labor intensity of sectors is another indicator that should be considered when assessing the cost pressures stemming from wage developments. For this purpose, personnel cost/production ratio was calculated from TURKSTAT's Annual Industry and Service Statistics data (Table 2). When the share of the minimum wage earners and the share of personnel cost in the production value are evaluated together, it is observed that the sectors most sensitive to the increase in the minimum wage are administrative-support services, restaurants-hotels, wholesale-retail trade, human health, clothing, furniture, construction and maintenance-repair (Chart 2).

[1] Additionally, Başkaya and Özmen (2013) conclude that the increase in the employer cost of the minimum wage increases producer prices more in sectors with higher employment of unqualified workers.

Chart 2: Sensitivity to Minimum Wage*
(%, 2021)



Source: CBRT (2021), TURKSTAT HLFS Micro Data, Annual Industry and Service Statistics.
* Sensitivity to Minimum Wage is calculated by personnel cost/production x number of below minimum wage employees.

Possible Inflationary Effect of the July Minimum Wage Increase

Current econometric models (similar to the previous impulse-response findings from Bayesian VAR models) indicate that a 1% nominal increase in the minimum wage increases D inflation by 0.06-0.08 points in the first quarter, and by 0.08-0.12 points over a one-year period (Table 3).[2] These estimates imply a slight increase in the minimum wage effect in recent years compared to previous studies. Accordingly, considering the average elasticities presented in Table 3, the possible impact of the 34% minimum wage increase of July on consumer inflation is estimated to be between 2.7 and 4.1 percentage points. Equations estimated on the basis of goods and services subgroups indicate that the minimum wage has a significant effect on the prices of processed foods and selected service items. Similarly, Andıç et al. (2015) find that particularly the real unit labor cost measure, which is calculated based on the minimum wage, is closely related to services inflation. This seems plausible in the sense that the services sector utilizes a higher share of labor input and a lower share of imported inputs compared to non-service sectors.

Table 3: Inflation Equations

Dependent Variable: CPI Excluding Unprocessed Food and Alcohol-Tobacco (D Index) **Quarterly Inflation**[a] (Sample: 2010Q1- 2023Q1)

	Model 1[b]	Model 2[b]	Model 3[b]
Minimum Wage (t)	0.06***	0.08***	0.07***
Long-Term Minimum Wage Pass-Through[c]	0.08	0.12	0.12

a) Seasonally and tax-adjusted. *** denotes statistical significance at 1% level.
b) In Model 1, controlled parameters were the constant term, the first lag of quarterly inflation, output gap, exchange rate basket and its lagged values, import prices in USD, Brent oil prices (in USD) and exchange rate volatility, yet dummy variable was also used for 2018Q4. In addition to Model 1, Model 2 includes Goldman Sachs commodity index and dummy variables for 2018Q3-Q4 and 2021Q4, while excluding exchange rate volatility and import prices. In Model 3, the constant term, the first lag of quarterly inflation, exchange rate basket and its lagged values, import prices in US dollars and dummy variables for 2018Q3-Q4 and 2021Q4 are controlled.
c) When the effect from the lagged value of inflation is also considered.

[2] In 2021, the CBRT estimated Bayesian VAR models to evaluate the possible effects of wage increases on inflation. These analyses (according to median responses) indicate that, when the effects of variables that may affect the inflation rate such as import prices, the cyclical state of the economy, exchange rates, producer prices, and inflation expectations are controlled (for the period after 2005), the effect of a 1% increase in the minimum wage on consumer inflation falls within the range of 0.06-0.08%. In addition, according to the findings of the impulse-response analysis, the impact is mostly completed within two quarters, with the greater part realized in the first quarter.

The ability of companies to reflect wage increases in their prices may differ depending on demand conditions and level of competition, sectors, and industry or company-specific factors. In this context, the average effect estimated here is a kind of indicator to understand the effect of minimum wage increases on the rise of consumer prices. Moreover, there are some additional factors that may play a role in the differentiation of the effect of the minimum wage increase in the current conjuncture from what historical elasticities imply. The first point is that in the current inflationary environment with a forward-looking perspective, a minimum wage increase is expected to maintain purchasing power, and therefore, some of the wage-driven effect may have been reflected on prices in the past months. Another point is that since the rise in the minimum wage coincides not only with a period in which the price adjustment frequency is high and domestic demand is strong, but also with summer months marked with increased mobility, it may bring forward some expenditures, thereby affecting inflation in the short run more than the elasticities imply. On balance, the July Inflation Report is based on an outlook in which the impact of the minimum wage increase on consumer inflation will come out at a level closer to the upper band of the effect range presented above.

References

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