

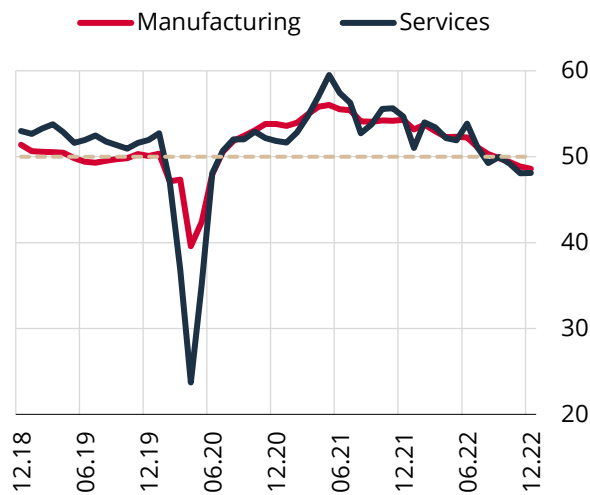
2. Economic Outlook

2.1 Global Economy

Growth forecasts for Türkiye's main trading partners for 2022 have been revised slightly upwards.

Although the Purchasing Managers' Index (PMI), a leading indicator of growth, hinted at a persisting slowdown in the last quarter (Chart 2.1.1), global growth forecasts were revised slightly upwards compared to the October Inflation Report period due to the improved growth expectations for end-2022 across Türkiye's main export countries (Table 2.1.1). Accordingly, across subcategories, the contribution of the euro area to external demand is estimated to have increased (Chart 2.1.2). On the other hand, the effects of uncertainties caused by geopolitical risks and the tight monetary policies implemented by major central banks were reflected mostly in 2023 projections (Table 2.1.1). In fact, compared to the previous period, contributions of Türkiye's main trading partners to external demand are expected to decline in general (Chart 2.1.2). Meanwhile, global interest rate expectations and the easing of pandemic policies in China have led to a slight increase in growth forecasts since November.

Chart 2.1.1: Global PMI Indices (Level)



Source: S&P Global.

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

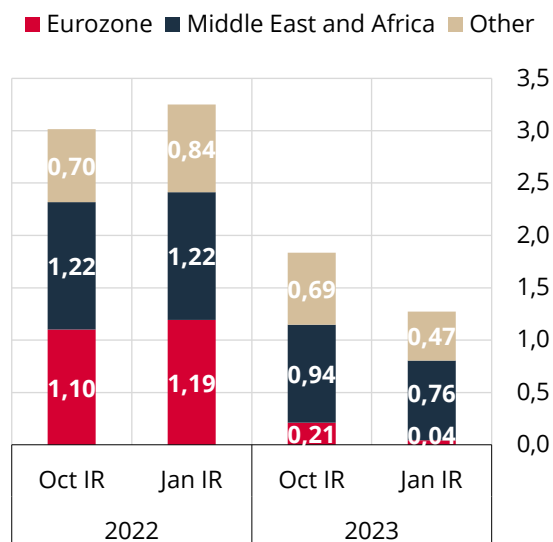
	2021	Forecast for 2022		Forecast for 2023	
	Realization	October 2022	January 2023	October 2022	January 2023
Eurozone	5.3	3.0	3.3	0.0	0.0
Germany	2.6	1.4	1.8	-0.9	-0.5
US	5.9	1.7	2.0	0.2	0.3
UK	7.5	4.1	4.2	-0.3	-1.0
Italy	6.7	3.3	3.7	-0.1	0.0
Iraq	2.8	9.0	9.2	5.1	4.5
Spain	5.5	4.4	4.7	1.2	0.9
France	6.8	2.5	2.5	0.3	0.2
Netherlands	4.9	4.6	4.2	0.7	0.2
Israel	8.6	5.3	6.1	3.2	3.0
Russia	4.7	-4.6	-3.1	-3.1	-2.6
UAE	3.9	5.3	6.3	3.8	2.7
Romania	5.1	5.6	4.7	2.4	2.5
Belgium	6.1	2.4	2.7	0.8	0.0
Poland	6.8	4.1	4.9	1.1	0.8
Egypt	3.3	6.0	6.3	4.2	3.7
Bulgaria	7.6	2.9	3.2	1.6	1.1
China	8.1	3.2	2.9	4.8	4.6

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 and strategic measures continue to shape commodity prices, while indicators of supply chain disruptions remain on the decline. The headline commodity index has declined on the back of falling energy prices, chiefly natural gas prices, since the previous reporting period. The significant build-up in European natural gas stocks and mild weather conditions were the main drivers of the decline in natural gas prices. Although the Organization of the Petroleum Exporting Countries (OPEC+) countries continue to produce below their capacities and reduce production, recent demand-driven developments have led to a decline in oil prices. The ongoing grain corridor initiative, on the other hand, sustains the fall in agricultural commodity prices, primarily wheat. Industrial commodity prices, which have historically followed a course consistent with the global growth outlook and especially China's growth, have recently increased due to the easing of pandemic measures in China (Table 2.1.2). The fall in demand, the rise in freight capacities and the lifting of restrictions in China have recently eased supply chain disruptions.

Chart 2.1.2: Contributions to Export-Weighted Global Growth Index for 2022
(% Points)



Source: Consensus Economics, S&P Global, CBRT.

Table 2.1.2: Commodity Price Changes (%)

	Oct	Nov	Dec	Jan	12- Month Change	Since the 2022 October IR*
Commodity Headline Index	0.9	-1.0	-5.8	0.1	-0.1	-3.9
Energy	1.9	-2.6	-9.9	-0.8	0.2	-9.4
Agricultural Com.	-1.0	-1.3	-2.0	0.1	0.7	-1.8
Industrial Metals	-0.6	6.0	4.7	3.3	-8.9	17.7
Precious Metals	-0.7	4.5	4.6	4.6	4.2	17.2
Non-Energy	-0.8	1.8	0.9	1.5	-0.6	5.8
Brent Oil	3.3	-2.2	-11.2	1.6	-3.9	-8.5
Natural Gas (USA)	-22.0	6.3	-11.3	-36.1	-13.9	-33.5
Natural Gas (Europe)	-34.1	-10.9	-3.5	-42.4	-21.8	-42.3
Coal	-11.1	-10.7	15.0	-5.4	80.9	-6.6
Aluminium	1.2	4.4	1.9	2.4	-18.0	14.4
Copper	-1.2	6.6	4.3	6.7	-8.3	20.9
Iron	-4.2	-4.9	21.8	9.2	-6.3	32.7
Wheat	2.0	-6.7	-7.6	-0.5	-3.2	-14.1
Soy Beans	-5.6	4.4	2.3	2.4	8.0	7.8
Rice	-4.7	6.7	-2.0	2.7	22.2	13.8
Corn	0.7	-2.6	-2.5	2.5	9.7	-2.3
Cotton	-17.8	1.6	-0.9	0.4	-29.7	16.3
Sugar	0.6	6.0	3.4	-2.1	6.4	11.2

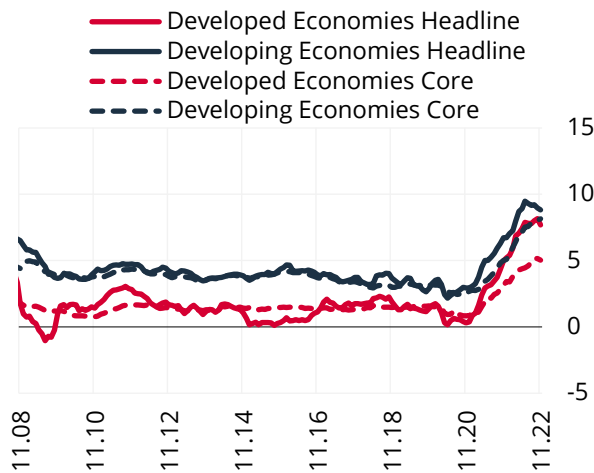
Source: Bloomberg.

* Percentage changes on between 27 October and 23 January.

Global inflation remains high, albeit with a slight slowdown. In the last quarter, inflation dropped somewhat in both advanced and emerging economies (Chart 2.1.3). The decline in inflation was mainly attributed to the fall in commodity prices, chiefly energy prices, the partial improvement in supply problems and the fall in transportation costs. In addition, the energy price ceiling regulation was one of the factors limiting price increases in the UK and the euro area.

The divergence in central banks' monetary policy actions persisted due to the differing economic outlook among countries. At its December meeting, the US Federal Reserve (Fed) slackened the pace of rate hikes due to the slowdown in inflation and raised the policy rate by 50 basis points, while communicating that the balance sheet downsizing would continue as planned. The European Central Bank (ECB), on the other hand, raised the policy rate further by 50 basis points at its November meeting and gave guidance for future hikes. In its account of the meeting, the Bank kept the statements regarding the Transmission Protection Mechanism intact and declared a reduction in the asset purchase program at a measured and predictable pace starting from March 2023. Meanwhile, in 2022, the Fed raised its policy rate by 425 basis points to 4.50%, while the ECB raised its policy rate by 250 basis points to 2.50% (Chart 2.1.4). The Bank of Japan kept its policy rate unchanged to achieve the medium-term inflation target of 2%, while maintaining its bond-buying programs. The People's Bank of China, on the other hand, did not reduce the lending rate in the last quarter and implemented targeted policies to support the real economy and financial stability by lowering the interest rate for the first-time home buyers and the reserve requirement ratio for financial institutions. Moreover, in the first three quarters of 2022, central banks of many advanced and emerging economies intervened in the FX market to support their currencies and ensure financial stability, while FX reserves increased across countries in the last quarter of the year due to the easing in financial conditions.

Chart 2.1.3: Global Inflation*(Annual % Change)

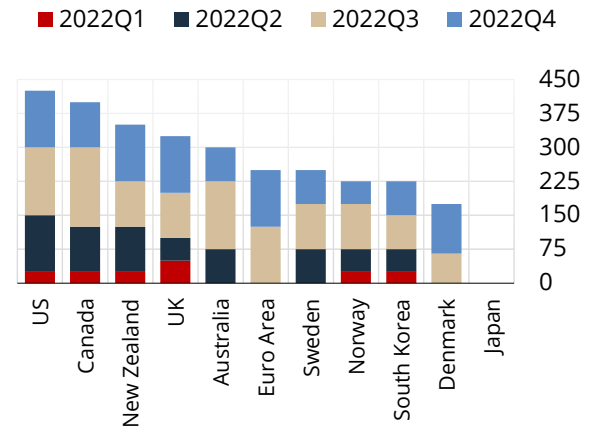


Source: Bloomberg.

* Advanced Economies: The US, the euro area, Japan, the UK, Canada, South Korea, Switzerland, Sweden, Norway and Israel.

Emerging Economies: Brazil, Mexico, Poland, Indonesia, South Africa, Thailand, Czechia, Colombia, Hungary, Romania and the Philippines.

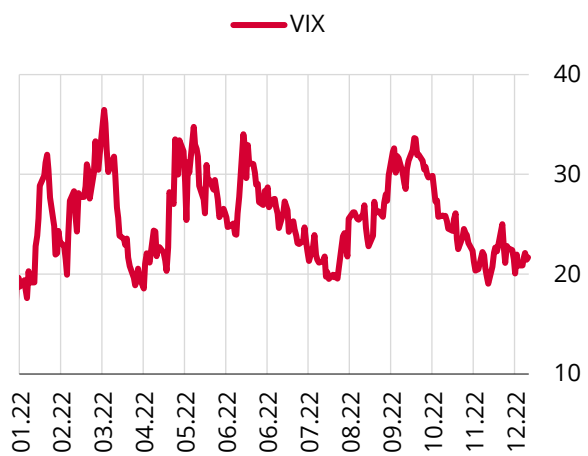
Chart 2.1.4: Policy Rate Changes in Advanced Economies (Basis Points)



Source: Bloomberg.

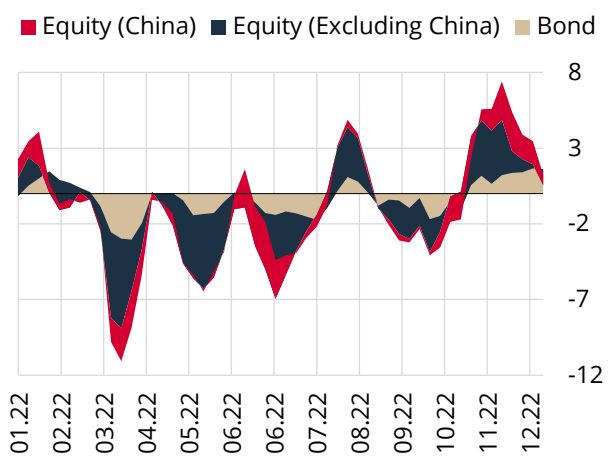
In the last quarter, emerging economies recorded portfolio inflows, chiefly in equity markets. In the last quarter of the year, the VIX index, which measures the volatility in equity markets, declined, while inflows to emerging economies' equity markets strengthened (Charts 2.1.5 and 2.1.6). This is attributed to the expectation that major central banks, chiefly the Fed, will end their rate hike cycles against the mounting risk of recession and the easing in China's anti-pandemic policy. On the other hand, inflows to emerging market debt securities funds were limited compared to equity markets (Chart 2.1.6). In the upcoming period, the course of the pandemic and geopolitical developments as well as expectations regarding the monetary policies of major central banks will further shape the global risk appetite and portfolio movements.

Chart 2.1.5: Risk Appetite Indicator



Source: Bloomberg.

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

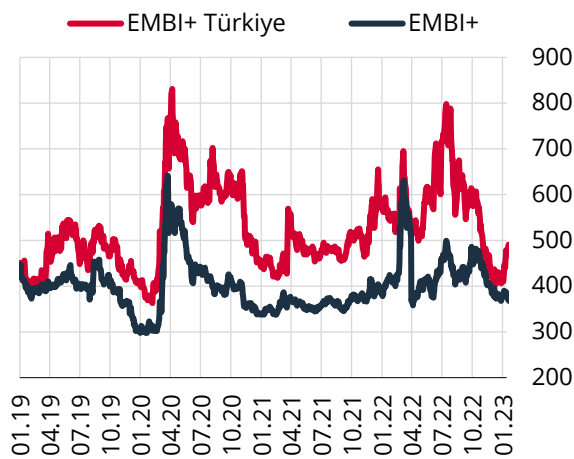


Source: IIF.

2.2 Financial Conditions

Amid the weakening trend in global economic activity and persisting geopolitical risks, the relative improvement in global financial conditions helped a partial recovery in risk appetite. The decline in the inflation rate in the US fueled expectations that the end of Fed's monetary policy tightening process was close, leading to a depreciation in the value of the US dollar against other currencies. Türkiye's risk premium decreased significantly in tandem with those of emerging economies (Chart 2.2.1). In the current reporting period, there was a limited net outflow of USD 0.01 billion from the Turkish GDDS market and a net outflow of USD 0.6 billion from the Turkish equity market (Chart 2.2.2).

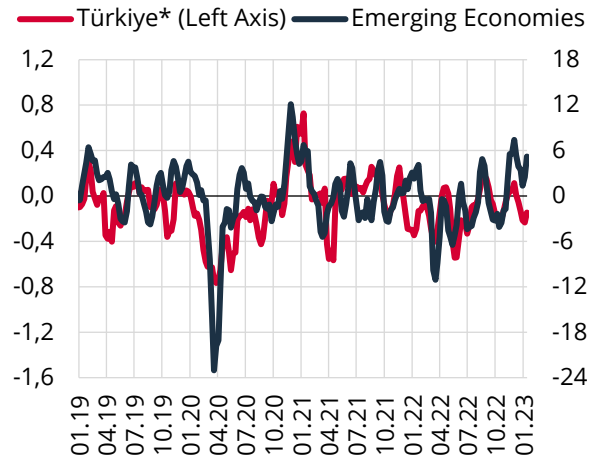
Chart 2.2.1: Risk Premium of Türkiye and Emerging Economies* (EMBI+ Indices, Basis Points)



Source: Bloomberg.

* The JP Morgan Emerging Market Bond Index+ (EMBI+) is calculated as the difference between the average yield of USD-denominated bonds of emerging economies and the US Treasury bond yield. EMBI+ Türkiye is calculated by using Turkish Eurobonds instead of all emerging market bonds.

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

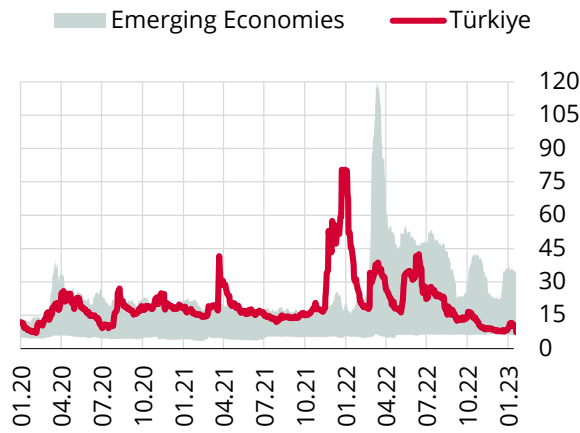


Source: CBRT, IIF.

* Includes portfolio flows to equity and GDDS markets. Repo is included in the GDDS data.

The exchange rate volatility of the Turkish lira remained low, while the decline in GDDS yields continued on the back of the policies implemented and the fall in inflation expectations. As the rapid appreciation of the US dollar was reversed, exchange rate volatility in emerging economies declined, while the Turkish lira maintained its stable course. In the current reporting period, exchange rate volatility continued to ease and performed relatively better than peer countries (Chart 2.2.3). GDDS yields continued to decrease across all maturities due to lower inflation expectations and the CBRT's implementations regarding securities maintenance, liquidity and collateral management (Chart 2.2.4).

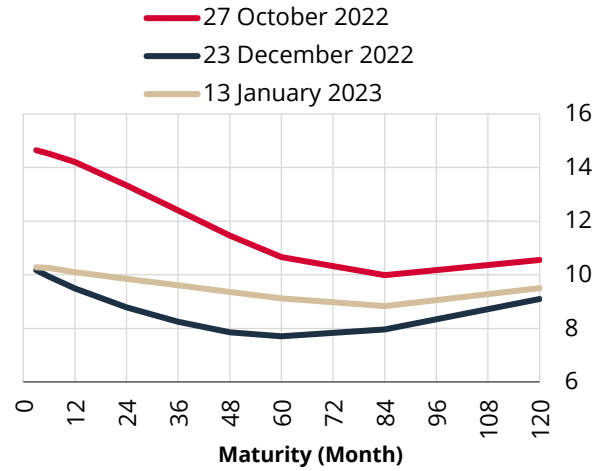
Chart 2.2.3: Exchange Rate Volatility Implied by Options* (against USD, 1-Month-Ahead, %)



Source: Bloomberg.

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

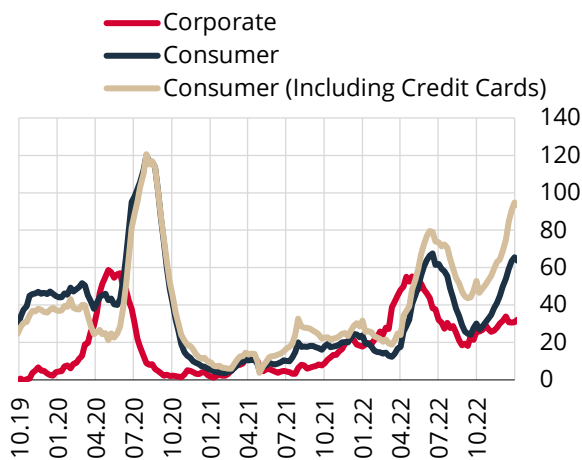
Chart 2.2.4: GDDS Yield Curve (%)



Source: Bloomberg.

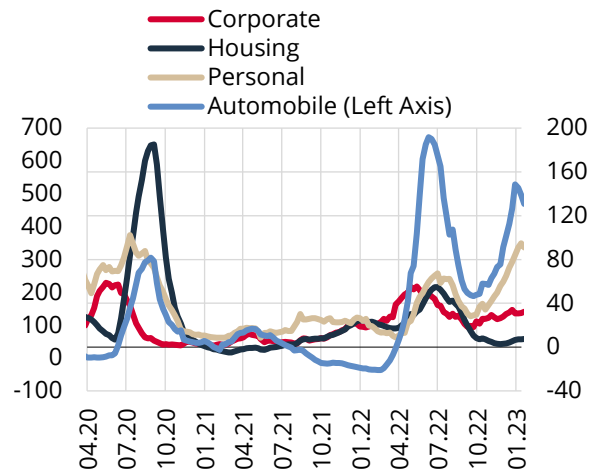
Personal loans increased in the final quarter of the year. Commercial loan growth, which posted a rapid acceleration in the second quarter of 2022, decelerated in the third quarter on the back of the macroprudential measures taken. In the current Report period, while FX loans continued to decline, TL-denominated commercial loans maintained their moderate course, albeit with a slight increase meanwhile the uptrend in personal loan growth continued led by general-purpose loans and personal credit cards (Charts 2.2.5 and 2.2.6). An analysis of inflation-adjusted loan changes reveals that the 4-week average change in corporate loans stood 0.4 standard deviations above the long-term average in the last quarter, while respective ratios for consumer loans and consumer loans including credit cards were 2.7 and 3.7, respectively (Chart 2.2.7). Meanwhile, according to the results of the Bank Loans Tendency Survey, credit standards are expected to remain broadly unchanged and demand for commercial loans is expected to increase in the first quarter of 2023 (Chart 2.2.8).

Chart 2.2.5: Loan Growth (13-Week Annualized Growth, Adjusted for Exchange Rates, %)



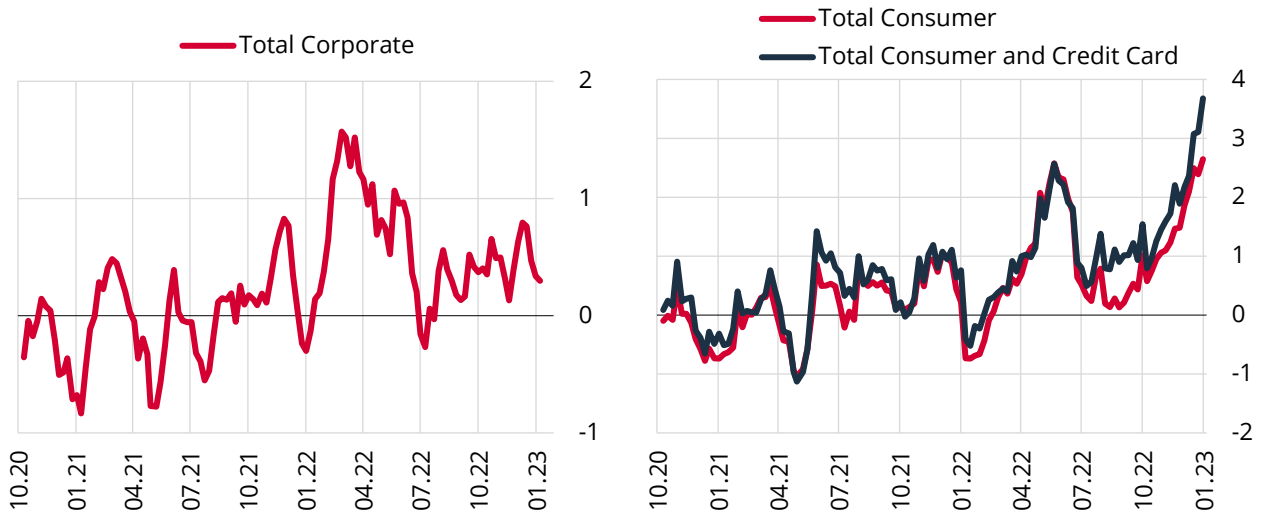
Source: CBRT.

Chart 2.2.6: Loan Growth by Types of Loans (13-Week Annualized Growth, Adjusted for Exchange Rates, %)



Source: CBRT.

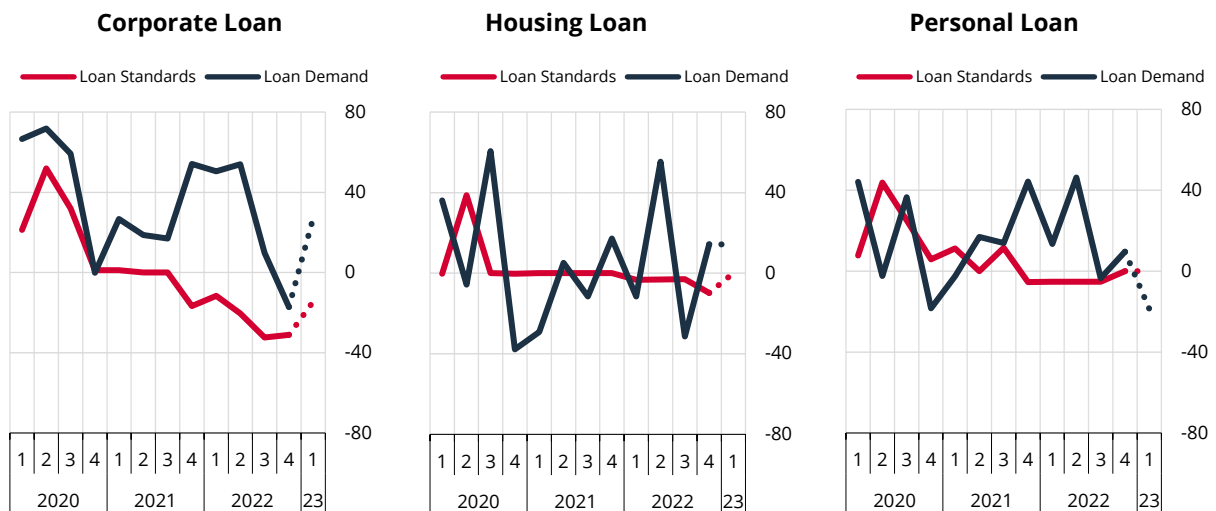
Chart 2.2.7: Credit Change* (4-Week Average, Adjusted for Exchange Rates, Real, Standard Value)



Source: CBRT.

* Weekly credit changes adjusted for exchange rates are deflated by D-PPI for commercial loans and by CPI for consumer loans. The 4-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.

Chart 2.2.8: Loan Standards and Loan Demand*

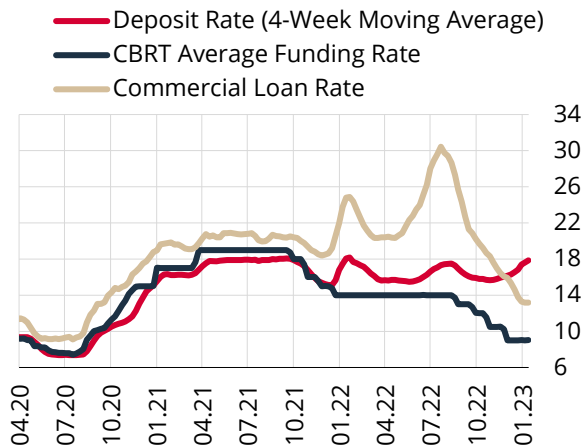


Source: CBRT.

* 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).

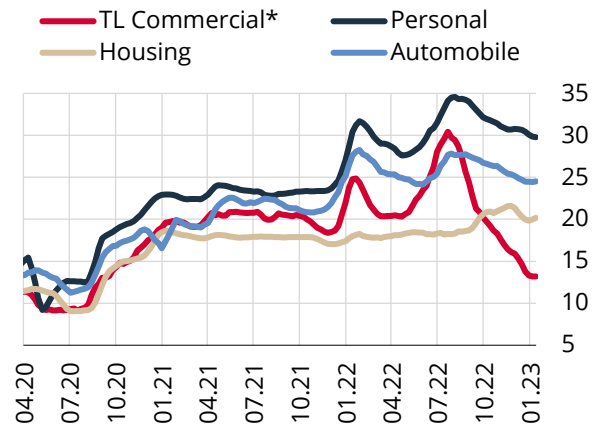
Loan rates continued to decline, more remarkably in TL-denominated commercial loan rates, meanwhile the share of export and investment loans, and SME loans in TL commercial loans increased due to targeted loan policy steps. In the last quarter, the decline in loan rates continued, being more pronounced in TL commercial loan rates (Charts 2.2.9 and 2.2.10). After loan rates diverged from the policy rate in the second quarter, commercial loan rates significantly converged to the policy rate as a result of the steps taken to support the effectiveness of the monetary transmission mechanism (Chart 2.2.11). Meanwhile, as a result of the targeted loan policy steps implemented by the CBRT to support potential growth and the current account balance within the Liraization Strategy, its integrated policy framework, the share of investment and export loans and SME loans in total TL commercial loans increased significantly in 2022.

Chart 2.2.9: Banks' Domestic Funding Costs (%)



Source: CBRT.

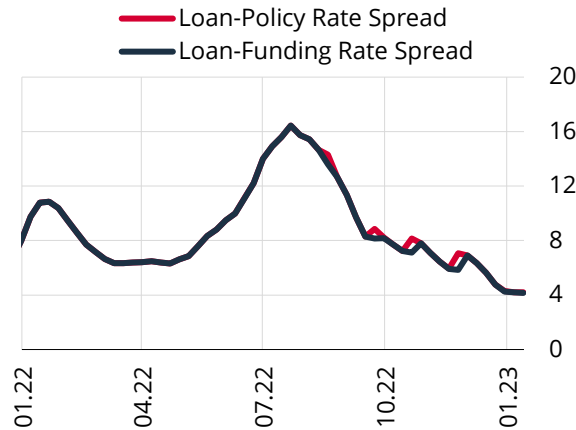
Chart 2.2.10: Interest Rates by Types of Loans (Flow Data, Annual, 4-Week Moving Average, %)



Source: Bloomberg, CBRT.

* Overdraft accounts and credit cards excluded.

Chart 2.2.11: Loan-Policy Rate Spread (%)



Source: CBRT.

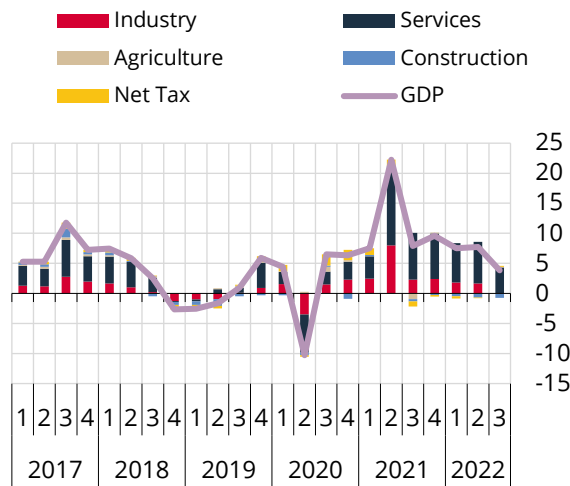
2.3 Economic Activity

Supply and Demand Developments

Economic activity lost momentum in the third quarter of 2022 due in part to the weakening foreign demand, but growth was strong in the first three quarters of the year.

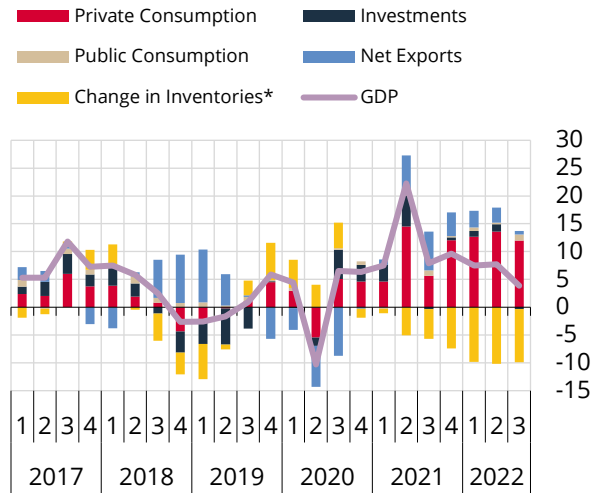
In the third quarter, GDP increased by 3.9% on an annual basis, and rose by 6.2% year-on-year in the first three quarters (Chart 2.3.1). On the production side, the services sector was the main driver of annual growth in the third quarter, while the contribution of the industrial sector to growth remained limited due to the weakening foreign demand. On the expenditures side, domestic demand contributed positively by 3.2 points to annual growth whereas the contribution of net exports to annual growth decreased compared to previous quarter to 0.7 points in line with the weakening foreign demand (Chart 2.3.2). The annual growth in machinery-equipment investments extended continuously into the twelfth quarter. Thus, while the share of sustainable components in the composition of growth increased, the share of the contribution from machinery-equipment investments and net exports accounted for approximately two thirds of the average annual growth in the first three quarters of the year. On the other hand, the ongoing weak course of construction investments limited the contribution of total investments to growth.

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)

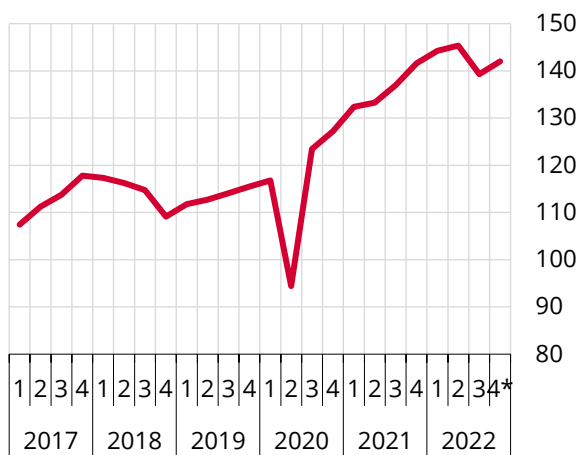


Source: CBRT, TURKSTAT.

* Includes change in stocks and statistical discrepancy due to chain-linking.

Data for the final quarter of 2022 suggest that despite the relatively strong domestic demand, the slowdown in growth continued due to the weakness in foreign demand. Having contracted quarterly by 4.2% in the third quarter of the year, industrial production points to a 1.9% quarterly increase as of November (Chart 2.3.3). Notwithstanding the persisting restrictive impact of weak foreign demand on production indicators, domestic demand remained relatively stronger (Box 2.1). As a matter of fact, the Retail Sales Volume Index maintained its upward trend in the last quarter of the year as of November, increasing by 4.5% on a quarterly basis (Chart 2.3.4). In this period, items covering electronics, furniture and online shopping rose more than the general index. Likewise, real spending via domestic cards surged by around 11.5% in the last quarter compared to the previous quarter. In this period, the course of confidence indices for services, retail trade and construction sectors as well as the registered domestic and external market orders of manufacturing industry firms also suggested a stronger outlook for domestic demand than for foreign demand. In the final quarter, the weak course in manufacturing firms' expectations for future export orders continued whereas expectations for domestic market orders increased.

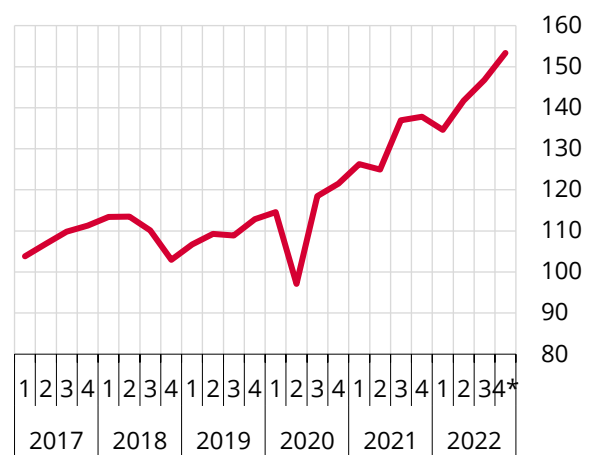
Chart 2.3.3: Industrial Production Index
(Seasonally and Calendar Adjusted, 2015=100)



Source: TURKSTAT.

* Average of October-November.

Chart 2.3.4: Retail Sales Volume Indices
(Seasonally and Calendar Adjusted, 2015=100)

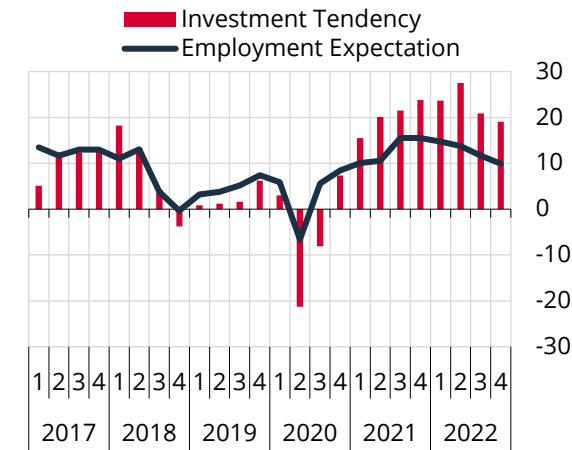


Source: CBRT, TURKSTAT.

* Average of October-November.

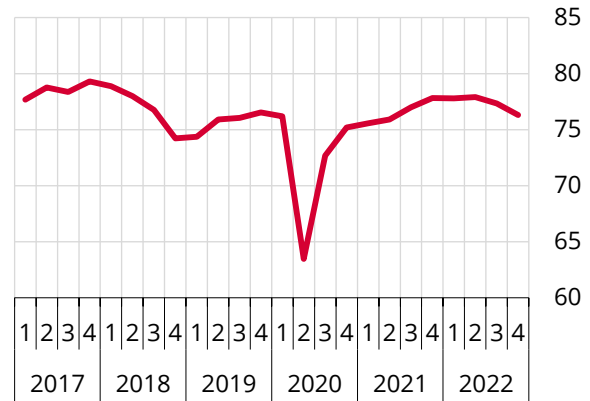
According to the Business Tendency Survey (BTS), although the investment tendency of manufacturing industry firms remained relatively high in the last quarter of 2022, it declined slightly compared to the previous quarter (Chart 2.3.5). In this period, consistent with investment tendency developments, the seasonally adjusted capacity utilization rate also decreased slightly (Chart 2.3.6). As of November, production of capital goods rose quarterly by 10.5% in the fourth quarter while imports of capital goods decreased by 5% on a quarterly basis.

Chart 2.3.5: BTS Expectations for Fixed Capital Investment Spending and Employment (Up-Down, Seasonally Adjusted, %)



Source: CBRT.

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

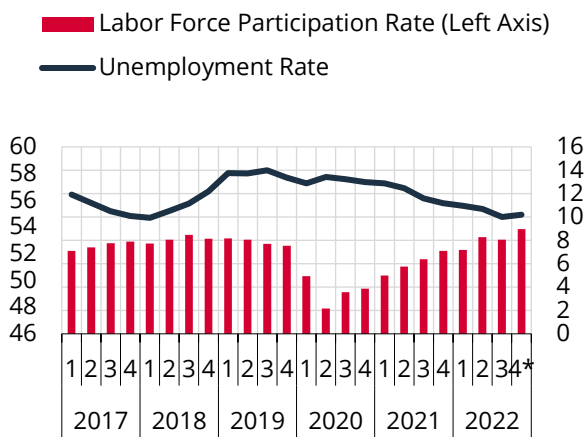


Source: CBRT.

Labor Market Developments

Despite the loss of momentum in economic activity, employment growth remained robust in the last quarter of 2022. After having decelerated quarterly in the third quarter, employment growth continued to increase year-on-year as of November in the last quarter, while the quarter-on-quarter increase was 1.6%. The seasonally adjusted labor force participation rate moved up by 0.8 points compared to the previous quarter to 53.9% (Chart 2.3.7). Thus, in the last quarter of the year, the unemployment rate edged up by 0.2 points quarter-on-quarter to 10.2%. While employment developments limited the rise in unemployment rate in this period, the increase in the participation rate had an upward effect (Charts 2.3.8 and 2.3.9).

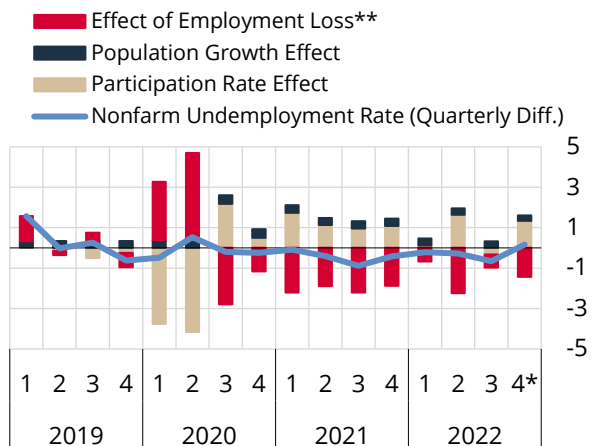
Chart 2.3.7: Total Unemployment Rate and Labor Force Participation Rate (Seasonally Adjusted, %)



Source: TURKSTAT.

* Average of October-November.

Chart 2.3.8: Contributions to Change in Total Unemployment Rate (Seasonally Adjusted, % Points)



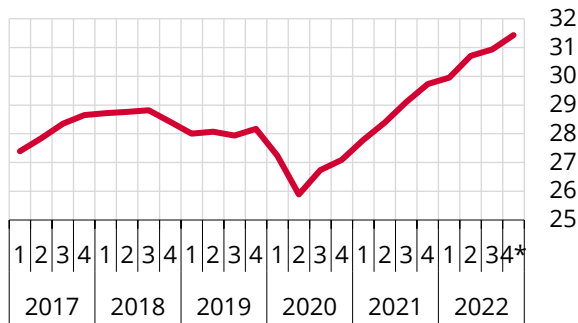
Source: CBRT, TURKSTAT.

* Average of October-November.

** Negative value indicates an increase in employment.

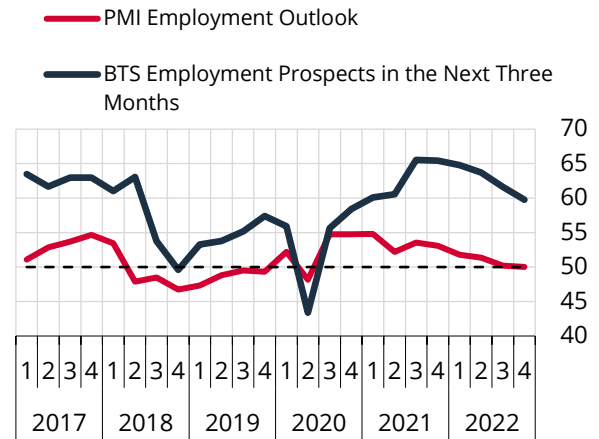
Leading indicators and high-frequency data indicate that the upward trend in employment is maintained (Chart 2.3.10). On the other hand, tightening policy steps of global central banks, the Russia-Ukraine War, and various geopolitical risks continue to weigh on the global growth outlook. While these developments lead to a weak course in exports via the foreign demand channel, they cause the industrial sector employment to remain moderate. On the other hand, BTS indicators show that the decline in employment expectations for the next three months has spread across sectors. Against this background, the ongoing slowdown in growth driven by weak foreign demand keeps the downside risks to the employment growth rate alive.

Chart 2.3.9: Total Employment (Seasonally Adjusted, Million People)



Source: TURKSTAT.
* Average of October-November.

Chart 2.3.10: Employment Outlook and Expectation in the Industrial Sector* (Seasonally Adjusted, Up-Down)



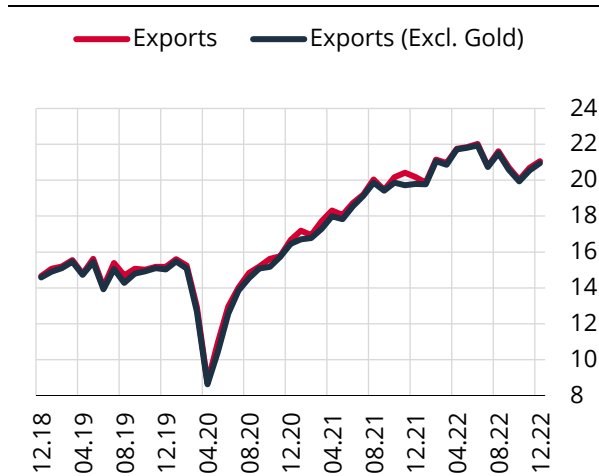
Source: S&P Global, CBRT.
* BTS indicator is adjusted so that its neutral level will be 50 in line with the PMI.

The non-farm gross wage and payroll index increased in the third quarter of 2022. Likewise, the seasonally adjusted real earnings index surged by 21.5% over the previous quarter. The minimum wage hike and inflation developments are expected to be influential in the course of wages in 2023. The minimum wage level was set at TRY 10,008 in gross terms and TRY 8,506.8 in net terms. Thus, the minimum wage increased by approximately 55% compared to the last quarter of 2022. Additionally, the government announced that the state-offered minimum wage support to employers (TRY 400 for small enterprises) would continue in 2023.

Foreign Trade and Balance of Payments Outlook

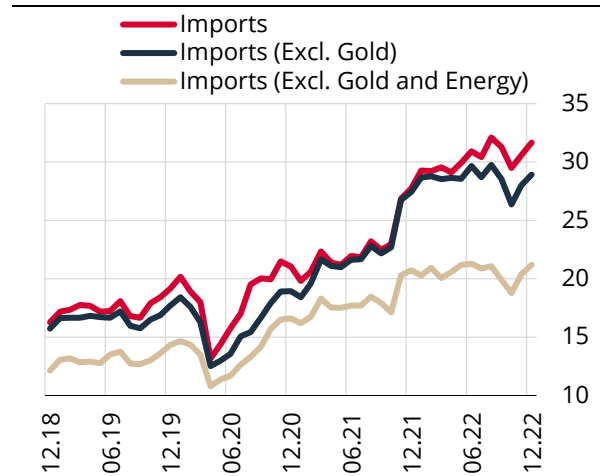
Having declined in the third quarter due to the weakening of foreign demand, exports posted a partial recovery in November and December. As the decline in exports registered in the third quarter was replaced by an increase after October, the downtrend in exports lost momentum in quarterly terms (Chart 2.3.11). In this period, foreign demand was affected unfavorably by geopolitical risks, policies of major central banks and economic activity developments particularly in the EU, Türkiye's main export market. Nevertheless, total exports recovered on the back of large increases in exports to the Commonwealth of Independent States (CIS) countries and the relatively high level of exports to Middle Eastern, North American and Asian countries. The rise in exports that started in November is attributed to the ending or reversal of the downtrend in sectors such as iron-steel, textiles, clothing, and motor vehicles.

Chart 2.3.11: Exports* (Seasonally and Calendar Adjusted, Billion USD)



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

Chart 2.3.12: Imports* (Seasonally and Calendar Adjusted, Billion USD)

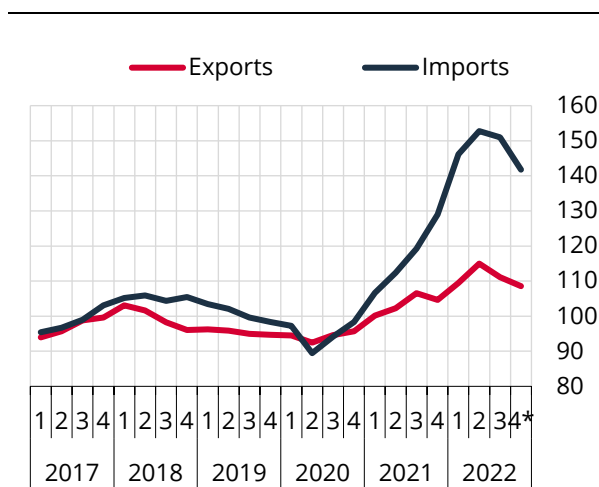


Source: CBRT, Ministry of Trade, TURKSTAT.
* Provisional data for December.

While energy imports declined in the last quarter of the year due to the fall in energy prices, gold imports increased whereas imports excluding energy and gold decreased. Seasonally and calendar adjusted imports excluding gold and energy rose in November and December, but remained below the level of the previous quarter in the last quarter of the year (Chart 2.3.12). A similar pattern was evident in both gold-excluded and total imports in this period. While imports of intermediate goods decreased in the last quarter consistent with a demand composition of relatively mild domestic demand against weak foreign demand, imports of consumption goods increased. Against this background, the foreign trade deficit declined slightly in the fourth quarter compared to the previous quarter, while the seasonally adjusted export-import coverage ratio posted a limited increase and remained at around 67%. The export-import coverage ratio excluding gold and energy rose by 1.7 points quarter-on-quarter to 96%.

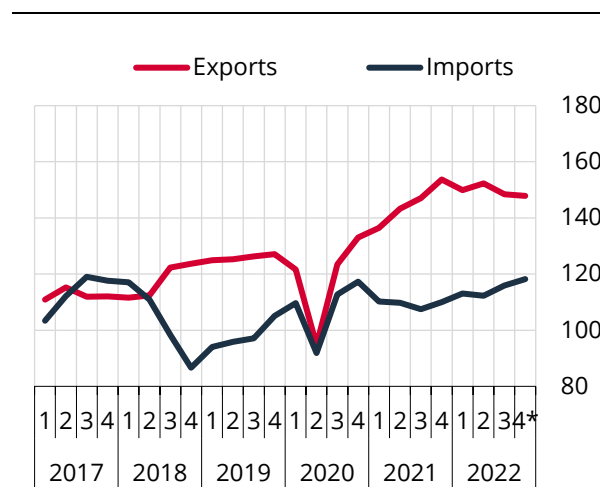
On the back of continued decline in energy prices and relatively low levels of other commodity prices in the last quarter, export and import prices went down on a quarterly basis. As the fall in import prices outpaced the fall in export prices, terms of trade increased (Chart 2.3.13). On the other hand, the volume of exports edged down in the last quarter, whereas that of imports went up due to the rise in gold imports (Chart 2.3.14). The fall in the volume of exports lost momentum in the last quarter of the year, while the volume of imports excluding gold remained almost flat.

Chart 2.3.13: Foreign Trade Unit Value Indices (2015=100)



Source: TURKSTAT.
* Average of October-November.

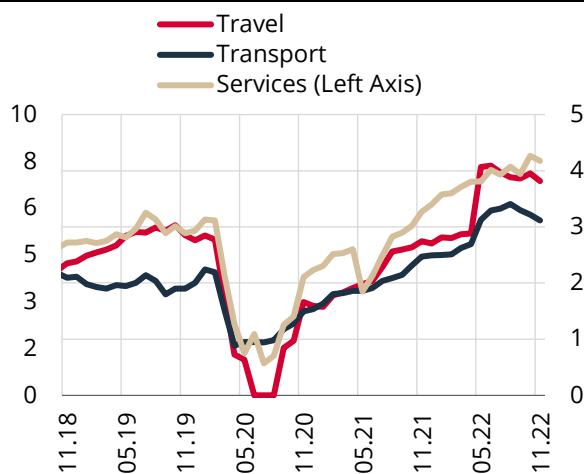
Chart 2.3.14: Foreign Trade Volume Indices (Excl. Gold, Seasonally Adjusted, 2015=100)



Source: TURKSTAT.
* Average of October-November.

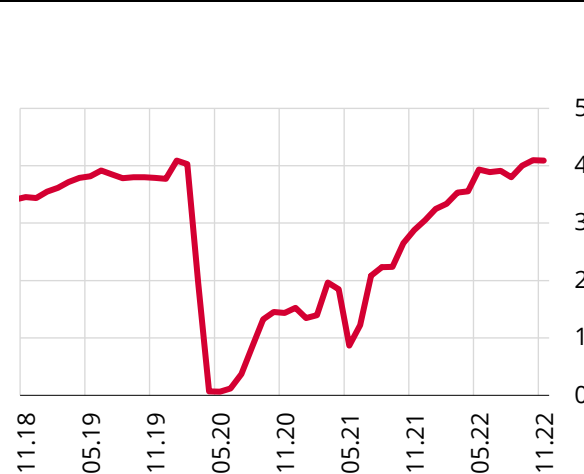
The strong contribution of the services balance to the current account balance continues. In the last quarter, seasonally and calendar adjusted travel and transport revenues remained high, and services revenues continued to rise (Chart 2.3.15). The number of visitors, which had exceeded its pre-pandemic level in October, also increased in November and continued to be the driver of the growth in travel revenues (Chart 2.3.16). The number of visitors is expected to remain high and contribute positively to travel and transport revenues, and thus to the current account balance, in the last month of the year.

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



Source: CBRT.

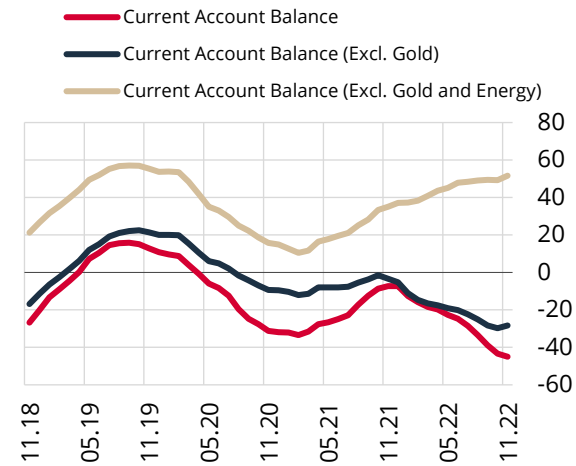
Chart 2.3.16: Number of Tourists (Seasonally and Calendar Adjusted, Million People)



Source: CBRT.

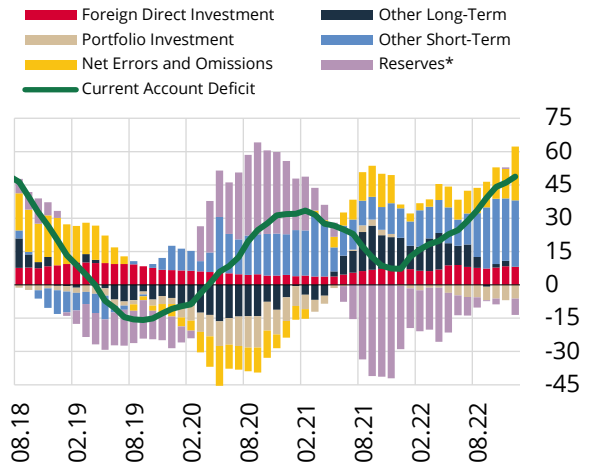
While the increase in the services balance and the foreign trade balance excluding gold and energy supported the current account balance, the rise in gold and energy imports caused the annualized current account deficit to widen further. Accordingly, the annualized current account surplus excluding gold and energy stood at USD 51.6 billion in November, while the annualized headline current account deficit remained on the rise and reached USD 45 billion (Chart 2.3.17). The persistently high levels of energy prices despite some decline and the increase in gold imports were the main drivers of the widening in the current account deficit. In fact, in price and cyclically adjusted terms, the current account balance continued to run a surplus (Zoom-In 2.1). The current account deficit is expected to narrow considerably and turn into a surplus with the normalization of international commodity prices, especially energy and the effects of energy policies (Box 2.2). The annualized current account deficit in the said period was predominantly financed through short-term channels such as deposits of non-residents at domestic banks and commercial loans (Chart 2.3.18). While net inflows of foreign direct investments continued steadily, portfolio investments recorded net outflows. On the credits front, banks continued to reduce their debts with a long-term debt rollover ratio of 82.3% in annualized terms, while the long-term debt rollover ratio of other companies stood at 189.4%. Thus, there have been net capital inflows also through credits. As a result of the use of new data sources in current account balance statistics and the revisions to improve data processing, downward revisions occurred in the net errors and omissions item. In light of the latest data, inflows through annualized net errors and omissions decreased, while total reserves increased slightly. In particular, the recent rise in official reserves reflects the effects of the integrated policy framework that involves policies to strengthen reserves and diversify reserve sources (Box 2.3).

Chart 2.3.17: Current Account Balance
(12-Month Cumulative, Billion USD)



Source: CBRT.

Chart 2.3.18: Financing of the Current Account Deficit
(12-Month Cumulative, Billion USD)



Source: CBRT.

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

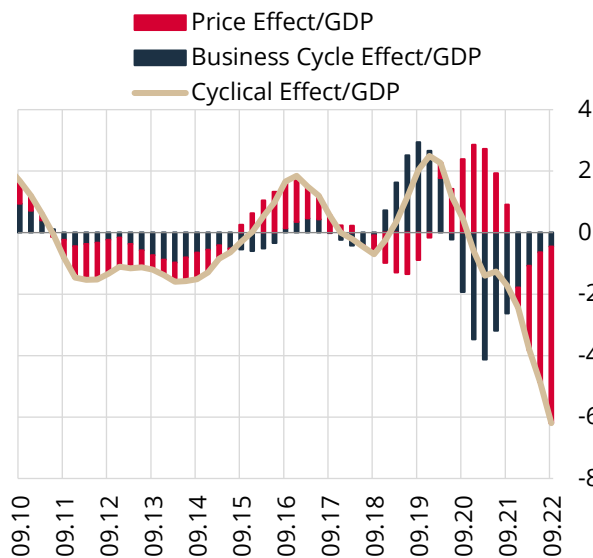
Budget expenditures posted a limited increase in the last quarter of the year, and the budget deficit was lower than those of the previous two years. In 2022, total expenditures and primary expenditures rose on an annual basis by 83.4% and 84.9%, respectively, while total revenues grew by 99.9%. Accordingly, the central government budget ran a deficit of TRY 139.1 billion and a primary surplus of TRY 171.8 billion in 2022. Thus, the budget deficit remained considerably smaller than both the targets revised in June and the Medium-Term Program (MTP) projections announced in September. The annualized budget deficit and primary surplus to GDP ratios for the year-end are estimated to have been 0.9% and 1.2% (Zoom-In 2.2). Moreover, a significant improvement was recorded in the domestic borrowing structure in 2022 starting from May, in view of the market conditions. The CBRT's recent policies that have strengthened monetary transmission have also positively affected this structural development and contributed to predictability (Box 2.4).

Zoom-In 2.1

Recent Developments in the Current Account Balance Adjusted for Cyclical Effects

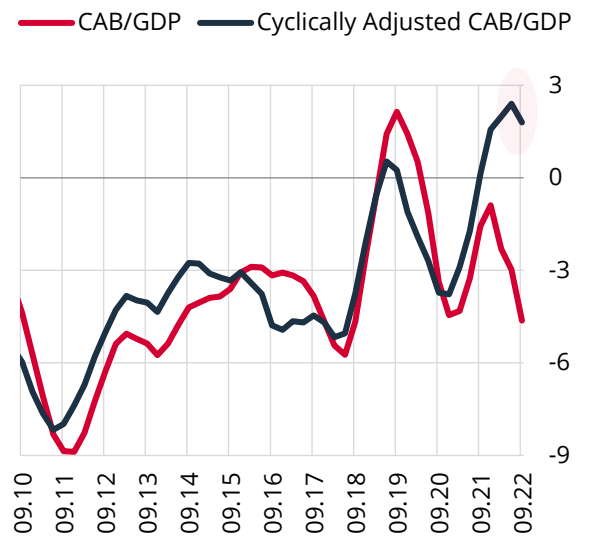
Adjusted for price and cyclical effects, the current account balance ran a surplus as of the third quarter. As price and cycle effects normalize, the capacity of the current account to produce a surplus will become more evident. Since supply failed to meet the increased demand adequately and rapidly during the exit from the pandemic, prices of commodities, which Türkiye mostly imports, increased globally. In 2022, the Russia-Ukraine War also played a major role in the rising commodity prices, agriculture and energy in particular. Accordingly, import prices, which hover above their long-term trends, have recently had a narrowing effect on the current account balance (Chart 1). However, the negative contribution of business cycles to the current account balance continues to decline. The current account balance, which has been in surplus for four quarters in cyclically adjusted terms, is expected to be positive after the normalization of business cycle and price cycle effects (Chart 2). It is assessed that as global commodity and energy prices normalize and the impact of temporary shocks on foreign trade prices and economic activity wanes, the pressure on the current account deficit may ease, thereby leading to a more apparent capacity to run a current account surplus.

Chart 1: Contributions to Cyclical Effects
(Ratio to GDP, %)



Source: CBRT.

Chart 2: Annualized Current Account Balance* (Ratio to GDP, %)



Source: CBRT.

* CAB: Current Account Balance.

Zoom-In 2.2

2022 Budget Realizations

In 2022, the central government budget ran a deficit of TRY 139.1 billion, and the primary surplus was TRY 171.8 billion. At the end of the year, budget deficit and primary surplus to the GDP ratios were estimated to be 0.9% and 1.2%, respectively. Thus, budget indicators considerably outperformed the MTP projections for 2023-2025.

Economic developments in 2022 required a review of budget appropriations and targets determined in the last quarter of 2021, and the 2022 budget targets were revised via the supplementary budget law enacted in June. However, the MTP published in September estimated that both revenues and expenditures in 2022 would be even higher than the revised targets. As a matter of fact, both revenues and expenditures remained above the targets at the end of the year. While primary expenditures were TRY 128.8 billion higher than appropriations, revenue collection exceeded the target by TRY 249.3 billion (Table 1). Thus, the actual year-end budget deficit was below the target (TRY 278.4 billion). A comparison of 2022 realizations with the MTP projections indicates that primary expenditures were lower, while revenues were higher than the forecasts, resulting in a budget deficit, which came out TRY 332.1 billion lower than the MTP projection of TRY 461.2 billion (Table 2).

Table 1: Central Government Budget Realizations and Budget Appropriations
(Billion TRY)

	2021	2022	2022 Budget Targets	Rate of Increase (%)	Realization/Budget Target (%)	Difference
Expenditures	1,603.5	2,941.4	2,831.5	83.4	103.9	109.9
Primary Expenditures	1,422.7	2,630.5	2,501.7	84.9	105.2	128.8
Personnel Expenditures	346.3	615.3	613.6	77.7	100.3	1.6
Social Security Institution Government Contributions	57.4	96.8	97.2	68.8	99.7	-0.3
Goods and Services Procurement Expenditures	133.5	257.1	214.8	92.6	119.7	42.3
Current Transfers	626.8	1,126.2	1,078.3	79.7	104.4	47.9
Capital Expenditures	131.3	276.4	206.3	110.5	133.9	70.1
Capital Transfers	25.5	48.8	23.6	91.5	206.6	25.2
Lending	102.0	209.9	201.6	105.9	104.1	8.3
Interest Expenditures	180.9	310.9	329.8	71.9	94.3	-18.9
Revenues	1,402.0	2,802.4	2,553.1	99.9	109.8	249.3
Taxes	1,165.0	2,353.3	2,186.0	102.0	107.7	167.3
Income Tax	219.7	356.5	308.5	62.3	115.6	48.0
Corporate Tax	178.0	507.5	487.8	185.1	104.0	19.7
Domestic Value Added Tax (VAT)	123.5	175.1	138.1	41.9	126.8	37.1
Special Consumption Tax	205.4	419.8	375.9	104.4	111.7	43.9
VAT on Imports	261.9	579.0	574.9	121.1	100.7	4.1
Other Taxes	176.6	315.5	300.9	78.6	104.8	14.5
Non-Tax Revenues	237.0	449.1	367.1	89.4	122.3	81.9
Budget Balance	-201.5	-139.1	-278.4	-	-	139.3
Primary Balance	-20.7	171.8	51.4	-	-	120.4

Source: Ministry of Treasury and Finance.

In 2022, current transfers, capital expenditures and lending were the major items that drove primary expenditures above appropriations. To contain the adverse effects of cyclical developments that took place in the second half of 2022, some state-owned enterprises were financed through both lending and current transfers. Transfers to BOTAS (Petroleum and Pipeline Corporation) and TCDD (Turkish State Railways) in 2022 of TRY 121.4 billion and 34.2 billion, respectively, had an effect on the deviation in lending. The divergence in the goods and services procurement expenditures is attributed to the rise in inflation, while payments for major infrastructure investments were effective in the increase of capital expenditures. The MTP projections indicate a framework in which fiscal discipline will continue and expenditures will see an uptick relative to GDP in 2023.

In 2022, tax and non-tax revenues surpassed both budget targets and MTP projections. Corporate tax and VAT on imports were the largest contributors to tax revenues throughout the year. In 2023, tax revenues are expected to remain on a positive course.

Table 2: Central Government Budget Realizations and MTP Forecasts for 2022 (Billion TRY)

	2021	2022	2022 Budget ^(*)	2022 ^(RE)	2023 ^(P)	2024 ^(P)	2025 ^(P)
Expenditures	1,603.5	2,941.4	2,831.5	3,133.7	4,469.6	5361	6,003.5
Primary Expenditures	1,422.7	2,630.5	2,501.7	2,803.9	3,904	4,663.1	5229
Interest Payments	180.9	310.9	329.8	329.8	565.6	697.8	774.5
Revenues	1,402	2,802.4	2,553.1	2,672.5	3,810.1	4,778.3	5,594.5
Tax Revenues	1,165	2,353.3	2,186.0	2,269.6	3,199.5	4,031.3	4,719.7
Non-Tax Revenues	237	449.1	367.1	402.9	610.6	747	874.8
Budget Balance	-201.5	-139.1	-278.4	-461.2	-659.4	-582.7	-409
Primary Budget Balance	-20.7	171.8	51.4	-131.4	-93.8	115.2	365.5

Source: Ministry of Treasury and Finance.

* Provisional, RE: Realization Estimate, P: Program.

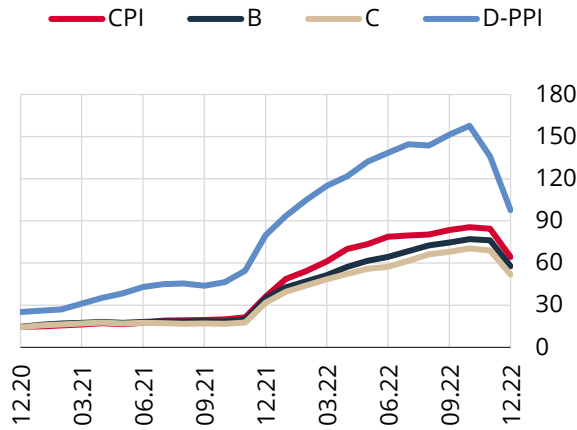
In sum, both expenditures and revenues increased in nominal terms in 2022 due to economic developments, and realizations remained above budget targets. The budget deficit to GDP ratio for 2022, projected at 3.4%, remained 2.5 points below the MTP's realization projections, revealing the positive course of the budget performance throughout the year. In light of these developments, it can be concluded that Türkiye entered 2023 with strong cash reserves, and fiscal discipline will continue.

2.4 Inflation

At the end of 2022, consumer inflation and B inflation stood at 64.27% and 57.68%, respectively, below the mid-point of the forecast range presented in the October Inflation Report (Chart 2.4.1). In response to the continued decline in the underlying inflation in the last quarter, headline inflation assumed a downtrend. As of December, underlying trend indicators hovered around 32 points below headline inflation (Box 2.5). In the fourth quarter, the decline in international commodity prices excluding industrial metals continued, while the ongoing decrease in global transportation costs and the normalization in domestic suppliers' delivery times implied an improvement in supply constraints. The effects of the decline in international energy prices, particularly oil and natural gas, were felt strongly in domestic energy prices. The grain corridor and favorable supply conditions for some products were reflected in agricultural commodity prices, while international wheat and food prices also declined. This outlook for commodity prices, accompanied by the drop in natural gas prices, led to a decline in the import unit value index. Moreover, data for the fourth quarter of 2022 pointed to some weakening in aggregate demand conditions amid weaker external demand. In light of these developments, pressure from producer prices continued to fade and the deceleration in inflation expectations that started in September continued. In this period, the base adjustment in the Special Consumption Tax (SCT) for automobiles affected automobile prices positively. Despite the increase in the administered prices such as pharmaceuticals, raw milk and municipal water, the effect of administered prices and tax adjustments on inflation eased compared to the previous quarter. On the other hand, the rise in food prices was more pronounced compared to the previous quarter, and food prices continued to make a high contribution to consumer inflation (Table 2.4.1 and Chart 2.4.2). Against

this background, the seasonally adjusted quarterly increase in consumer prices decelerated further at 6.23%.

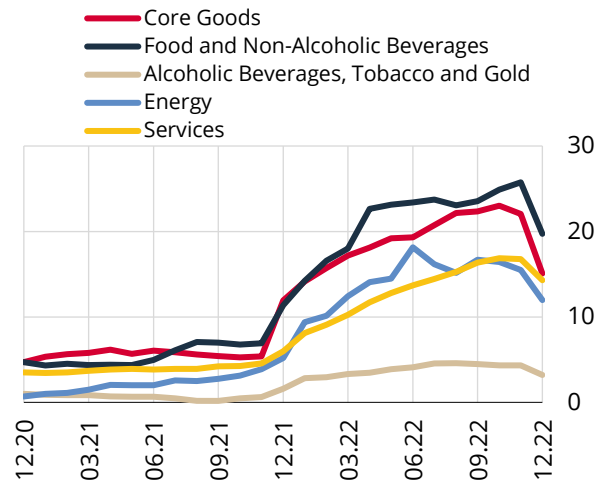
Chart 2.4.1: CPI, D-PPI, B Index and C Index*
(Annual % Change)



Source: 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.

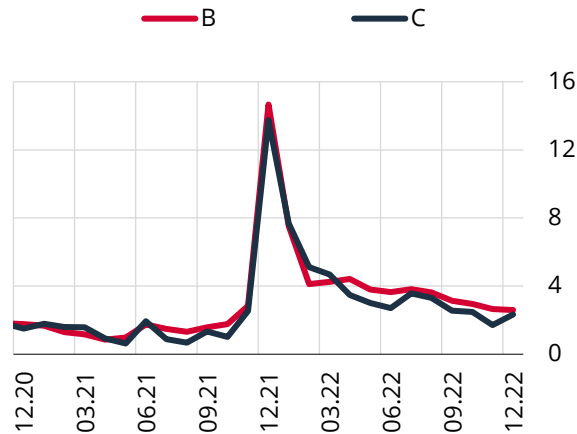
Chart 2.4.2: Contributions to Annual CPI
(% Points)



Source: CBRT, TURKSTAT.

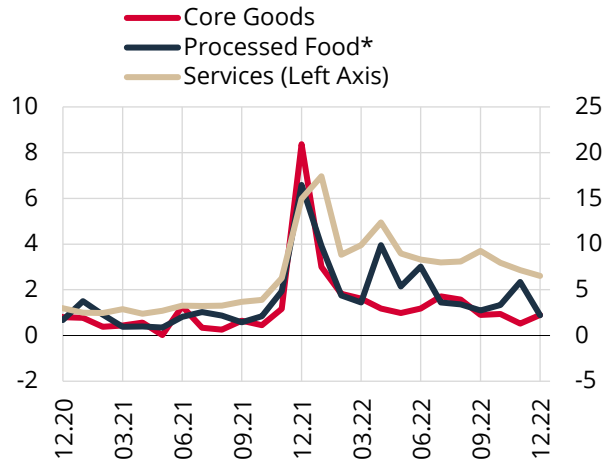
Monthly rates of increase in core indicators decelerated further in the last quarter, and their annual inflation rates declined significantly compared to the previous quarter (Chart 2.4.3). Seasonally adjusted data indicated that the deceleration in the monthly increases of B and C indices continued. Alternative indicators also confirmed the improvement in the underlying trend of inflation (Box 2.5). An analysis of B index subgroups suggests that the monthly price increases lost pace across all subgroups (Chart 2.4.4). In core goods, price increases slowed down across all subgroups (Table 2.4.1). While the effects of import prices and exchange rates on durable goods weakened compared to the previous quarter, domestic demand-driven effects continued to be felt. Across subitems of durable goods, price increases in automobiles slowed down in the last quarter due to the tax base adjustment, while those in furniture and white goods accelerated quarter-on-quarter. In durable goods, the strong uptrend in producer prices almost fully reflected in consumer prices within a short period due to the relatively favorable course of domestic demand conditions. In this period, processed food prices increased considerably, reflecting the impact of the raw milk reference price adjustment and cumulative input costs. In the services group with strong inertia, price increases, which have strengthened since the end of 2021, lost some pace in the fourth quarter. The decline in fuel prices affected transport prices favorably. Despite showing a quarter-on-quarter deceleration, rent increases remained high. In line with the outlook for food inflation, price increases in the restaurants-hotels group, which were driven by catering services, strengthened slightly in this period (Table 2.4.1).

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



Source: CBRT, TURKSTAT.

Chart 2.4.4: Subgroups of Index B
(Seasonally Adjusted, Monthly % Change)

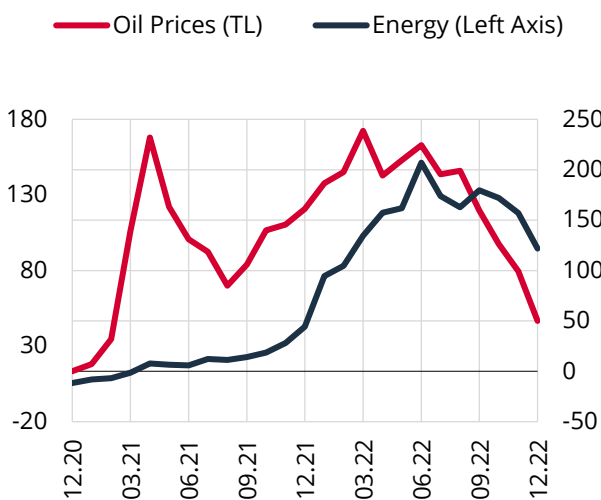


Source: CBRT, TURKSTAT.

* No seasonality detected for processed food.

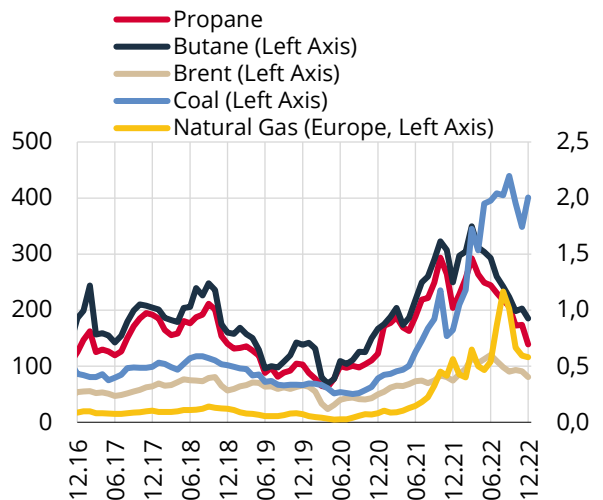
In the fourth quarter, annual energy inflation continued to slow down led by fuel prices, following the decline in international crude oil prices (Chart 2.4.5). Having decelerated considerably in the third quarter, energy price increases were modest in the last quarter as well (Table 2.4.1). International Brent crude oil prices, which were around USD 90 on average at the end of the third quarter, ended December at around USD 81 on average. The Turkish lira was on a steady course against the US dollar in this period. Following these developments, fuel prices declined further in this quarter. In the fourth quarter, international energy prices returned to their levels before the Russian-Ukrainian War. The global slump in natural gas prices, which was more visible in Europe, caused by the course of stocks and mild weather conditions, was the main driver of this decline, and was followed by international propane and butane prices (Chart 2.4.6). The impact of the fall in energy prices was closely felt on producer prices as well as consumer prices in this period. Meanwhile, the surge in municipal water prices limited a more favorable outlook for energy prices. Against this background, annual energy inflation ended the year at 94.43% as a result of the strong increases during the first two quarters (Chart 2.4.5).

Chart 2.4.5: Energy Prices (Annual % Change)



Source: Bloomberg, CBRT, TURKSTAT.

Chart 2.4.6: Energy Commodity Prices*
(USD, Euro)



Source: Bloomberg.

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

Table 2.4.1: Consumer Prices

	Quarterly % Change (Seasonally Adjusted)				Annual % Change			
	2022				2022			
	I	II	III	IV	I	II	III	IV
CPI	24.62	15.70	7.12	6.23	61.14	78.62	83.45	64.27
B	16.74	12.33	10.97	8.43	51.34	64.42	74.63	57.68
C	18.48	9.48	9.75	6.65	48.39	57.26	68.09	51.93
1. Goods	24.58	16.53	7.86	6.87	70.38	89.94	93.07	67.31
Energy*	47.10	28.65	1.24	1.48	102.94	151.33	132.98	94.43
Food and Non-Alcoholic Beverages	20.36	22.36	8.66	11.14	70.33	93.93	93.05	77.87
Unprocessed Food	23.09	21.13	6.38	9.22	77.52	91.65	82.39	73.25
Processed Food*	18.77	24.49	10.07	11.83	63.64	96.04	102.90	82.00
Core Goods	16.97	8.56	10.80	5.99	59.19	64.86	77.49	48.96
Clothing and Footwear	7.11	4.13	8.76	3.59	26.54	26.35	39.62	25.01
Durable Goods (Excl. Gold)	15.46	10.91	8.99	6.18	68.54	77.90	89.96	48.13
Furniture	25.72	22.23	4.90	8.74	70.29	101.79	100.53	75.44
Automobile	11.04	7.20	6.51	3.15	69.13	75.43	93.07	31.17
Electrical and Non-Electrical Appliances*	20.72	6.44	10.32	13.57	66.64	68.91	79.40	61.01
Other Durable Goods*	16.70	10.13	9.39	7.71	57.50	64.71	73.98	51.43
Other Core Goods*	23.85	9.21	12.60	8.94	65.85	70.64	82.74	65.91
Alcoholic Beverages, Tobacco Products and Gold*	24.39	12.94	5.81	6.90	59.40	74.36	85.19	58.90
2. Services	15.12	12.32	10.47	8.90	36.72	48.69	57.76	55.49
Rent	6.98	7.99	13.50	12.11	16.70	22.80	36.18	47.07
Restaurants and Hotels	18.24	17.99	9.59	10.44	60.40	79.55	81.34	68.48
Transport	33.87	18.25	12.21	6.39	60.35	81.83	97.98	88.70
Communication	5.35	7.24	6.72	6.87	9.77	17.64	23.44	30.13
Other Services	13.70	9.10	10.60	7.95	35.65	42.84	52.85	48.05

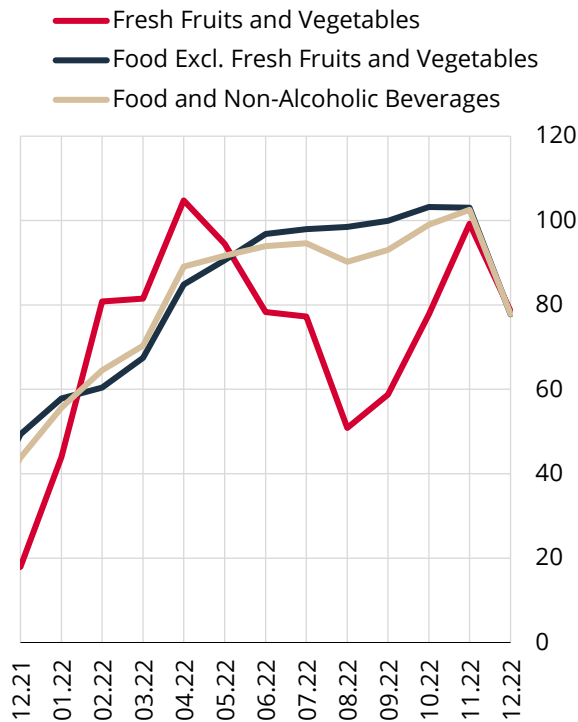
Source: CBRT, TURKSTAT.

*No seasonality detected.

After rising substantially in the last quarter, food prices are expected to moderate on the back of price-fixing campaigns announced by retail chain markets. Having remained relatively steady in the third quarter, annual food inflation increased again in October and November, mainly due to irregularities during transitions to the greenhouse season in fresh fruits and vegetables, as well as the raw milk reference price adjustment (Chart 2.4.7). On the other hand, prices of fresh fruits and vegetables declined in December as irregularities during season transitions disappeared and temperatures above seasonal norms affected greenhouse production favorably. Thus, while seasonally adjusted data point to a quarter-on-quarter acceleration in food prices, subgroups diverged, reflecting a slowdown in fresh fruits and vegetables, and an acceleration in other food groups. The effects of the October hike in the reference price of raw milk on the prices of milk and dairy products prevailed throughout the fourth quarter, while rice prices rose further, and milk and dairy products stood out with high increases throughout the year (Chart 2.4.8). In the last quarter, widespread price increases were seen across subgroups. Customs duties on paddy and rice were zeroed in December¹, and feed prices were reduced in January in view of high feed costs. In this period, international agricultural commodity and food prices continued to decline thanks to the grain corridor and favorable conditions for some products, yet domestic food prices diverged from external prices. In the meantime, the price-fixing campaigns launched by domestic retail chain markets in January for staple goods are assessed to have a dampening effect on the first-quarter food price increases.

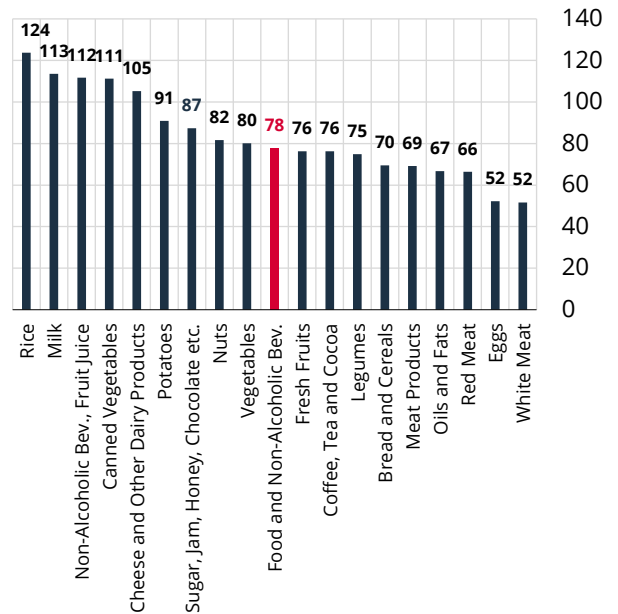
¹ With the Presidential Decision No. 6539 on the Amendment of the Import Regime Decree published in the Official Gazette of 13 December 2022 and No. 32042, customs duties on paddy, brown and white rice imports have been zeroed until 31 August 2023.

Chart 2.4.7: Food Prices (Annual % Change)



Source: CBRT, TURKSTAT.

Chart 2.4.8: Prices of the Food Group and Subitems (December 2022, Annual % Change)

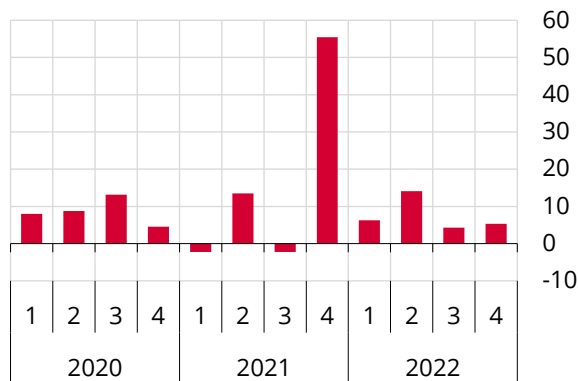


Source: CBRT, TURKSTAT.

Determinants of Inflation

The stable outlook in the Turkish lira was maintained. The nominal currency basket posted a moderate increase of 5.3% against the Turkish lira in the last quarter of the year (Chart 2.4.9). The stable course of the exchange rate led to slower price increases and less frequent price changes in highly exchange rate-sensitive groups such as core goods.

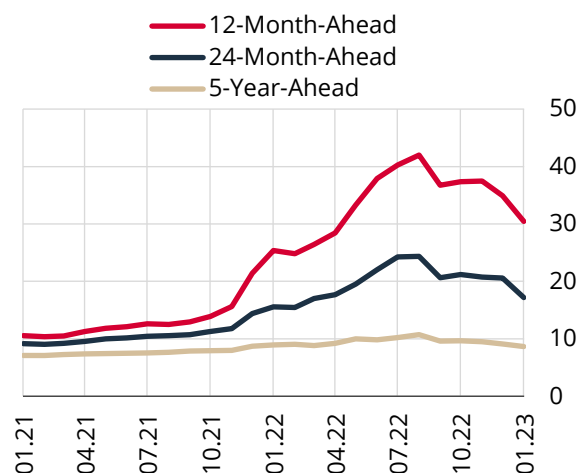
Chart 2.4.9: Currency Basket* (Quarterly % Change)



Source: CBRT.

*US dollar and euro have equal weights.

Chart 2.4.10: Consumer Inflation Expectations* (%)

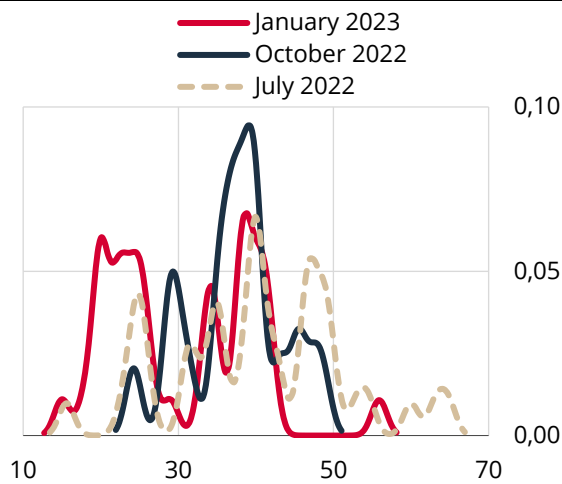


Source: CBRT.

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

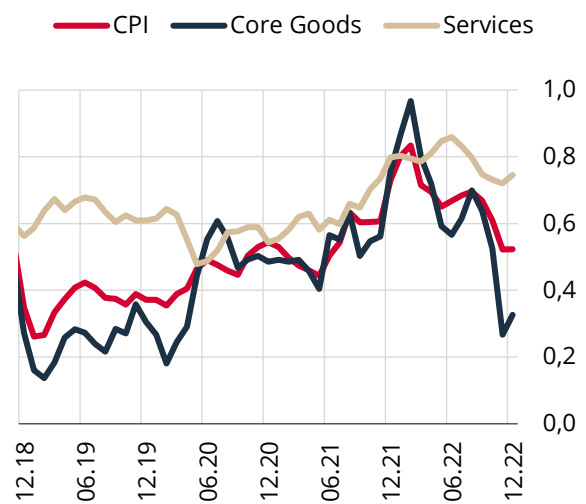
Inflation expectations declined across all horizons. There were sharp declines at the lower percentiles of the distribution of expectations. According to the January Survey of Market Participants, 12-month-ahead inflation expectations dropped by 6.90 points to 30.44% compared to the previous reporting period. The 24-month-ahead inflation expectation fell by 3.99 points to 17.18%, while the 5-year-ahead inflation expectation decreased by 0.99 points to 8.67% (Chart 2.4.10). The distribution of responses to the 12-month-ahead CPI inflation expectation indicates that the uncertainty in inflation forecasts remained high, albeit at a lower level compared to July. The lower percentiles of the distribution of expectations recorded apparent decreases (Chart 2.4.11). In the last quarter of the year, the downtrend in the core goods diffusion index continued due to the weakening of shocks that had been high and successive for some time through the energy, other commodity and exchange rate channels. On the other hand, the diffusion index for services, which is characterized by backward indexation and time-dependent pricing behavior, followed almost a flat course and remained high (Chart 2.4.12).

Chart 2.4.11: Distribution of Survey of Market Participants (12-Month-Ahead CPI Expectation)



Source: CBRT.

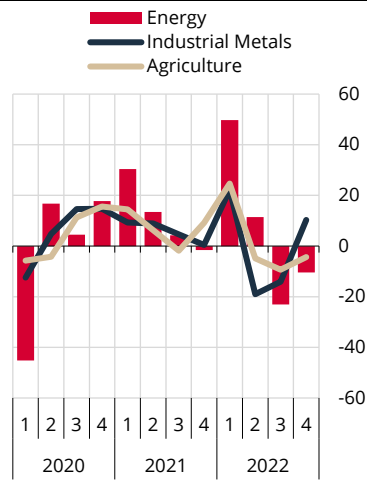
Chart 2.4.12: Diffusion Indices of CPI and Main Expenditure Groups (Seasonally Adjusted, 3-Month Average)



Source: CBRT, TURKSTAT.

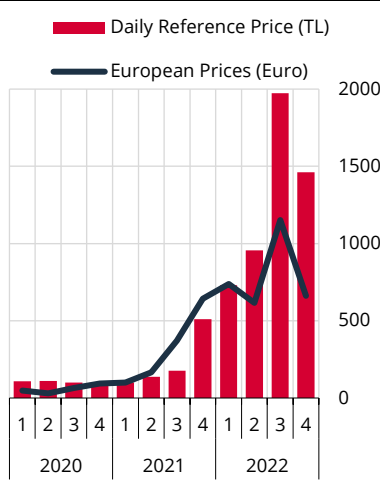
Global commodity prices continued to decline in the last quarter. Energy prices stood out in this development with the normalization in natural gas prices and the decline in crude oil prices. In addition to the deceleration in global economic activity, the lockdown measures implemented in China due to the rising number of cases brought about a quarterly decline in commodity prices in the last three months of the year. Industrial metal prices, on the other hand, diverged from the general outlook with a quarterly increase (Chart 2.4.13). Natural gas prices, which had risen sharply in the third quarter due to geopolitical problems and intensive efforts to increase stocks, declined significantly in the last quarter with access to alternative sources and the attainment of high stock levels. This favorable development was also evident in domestic prices, easing cost pressures on the producer side (Chart 2.4.14). Temperatures above seasonal normal further accentuated the decline in natural gas prices in early 2023. Against this background, the import unit value index, which remained relatively flat in the third quarter of 2022, declined as the fall in commodity prices was accompanied by the downward movement in natural gas prices (Chart 2.4.15).

Chart 2.4.13: Commodity Price Indices (Quarterly % Change)



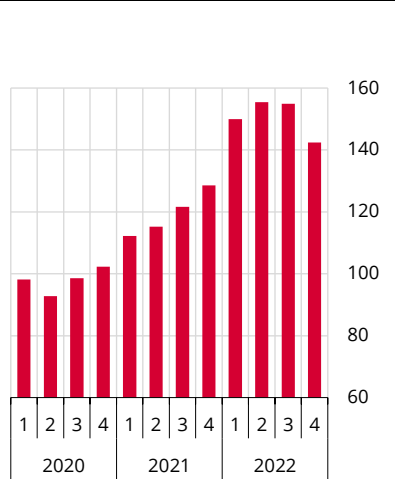
Source: Goldman Sachs.

Chart 2.4.14: Natural Gas Prices (2021Q1=100)



Source: Bloomberg, EXIST.

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

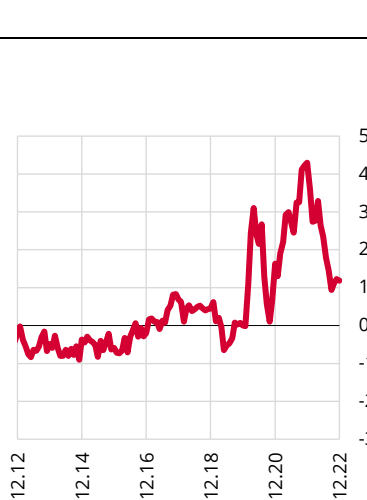


Source: TURKSTAT.

* Quarterly data are composed of data for the last month of the related period. The fourth quarter data is as of November.

Producer price increases weakened further, with the energy group in the lead. The Global Supply Chain Pressure Index corrects survey data on supply problems with demand conditions, allowing for a more reliable tracking of developments in this area. While the index did not record an apparent change in the last quarter, setbacks in certain Asian countries stood out as the factor that prevented a return to historical averages (Chart 2.4.16). In the last quarter of the year, international transportation costs continued to decline on the back of significantly less supply chain disruptions, weaker global demand and falling energy prices. Meanwhile, labor costs, another important factor for producer prices, increased significantly in the third quarter of 2022. The real unit wage per hour worked surged as the additional mid-year increase in the minimum wage was accompanied by increases in other wages. Since the upward movement in the real unit wage was mainly driven by wage increases, a similar pattern was observed in both the industrial and services sectors (Chart 2.4.17). Leading indicators suggest that the real unit wage remained almost flat in the last quarter of the year. As a result, the underlying trend of producer prices continued to decelerate gradually and converged further to historical average rates of increase (Chart 2.4.18). The headline producer price increase, which slowed considerably in November, was replaced by a decline in December, as the favorable outlook in energy markets retained.

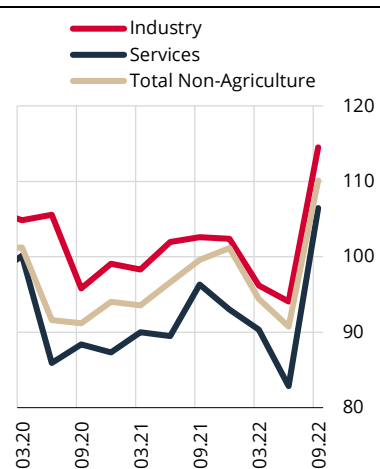
Chart 2.4.16: Global Supply Chain Pressure Index *



Source: New York Fed.

* Standard deviations from the average index value.

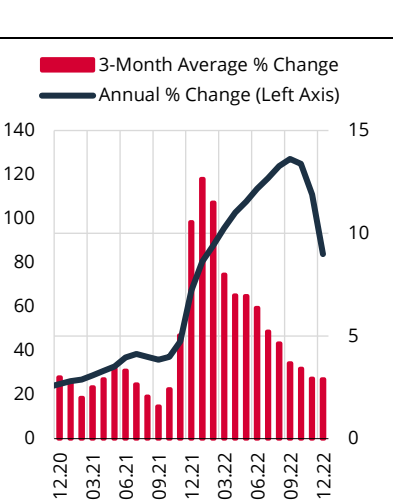
Chart 2.4.17: Real Unit Wage per Hours Worked* (Value Added, 2015=100, Seasonally Adjusted)



Source: CBRT, TURKSTAT.

* Deflated by the CPI. Real wage per hour/Productivity.

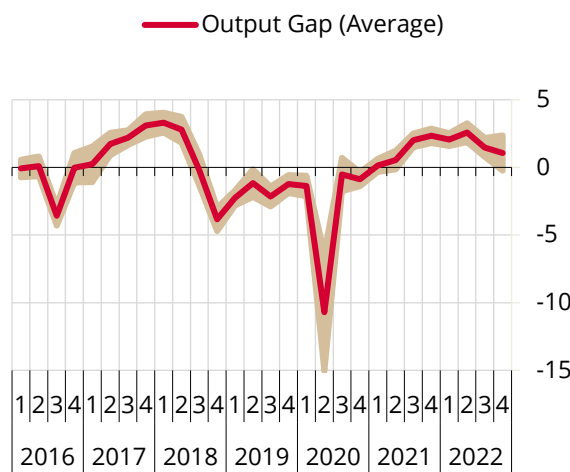
Chart 2.4.18: Manufacturing Prices Excl. Petroleum and Base Metals



Source: CBRT, TURKSTAT.

Amid the slowdown in global economic activity, aggregate demand conditions lost some strength in the last quarter. While the average of output gap indicators obtained by different methods edged down in the last quarter, the widening of the uncertainty band indicates that demand conditions are differing across sectors of the economy (Chart 2.4.19). Domestic and external demand stood as the main axis of this differentiation. Persisting geopolitical problems and global financial conditions weakened the growth outlook in key export markets, causing the record-breaking uptrend in exports to be replaced by a more horizontal course. Accordingly, after having hovered above historical averages, in the last quarter, the manufacturing industry capacity utilization rate sustained the slight decline that began in the third quarter (Chart 2.3.6). While the fall in external demand was not felt equally in all sectors, the stronger-than-expected tourism activity supports domestic spending, revenues and employment. Leading indicators for domestic demand suggest that the relatively buoyant course of domestic demand, particularly for durable goods, was maintained in the last quarter. Increased employment opportunities, sustained credit utilization and credit card spending, the expected income rise in the first quarter of 2023 and effects of public spending in the third-quarter have been supportive of domestic demand (Chart 2.4.20).

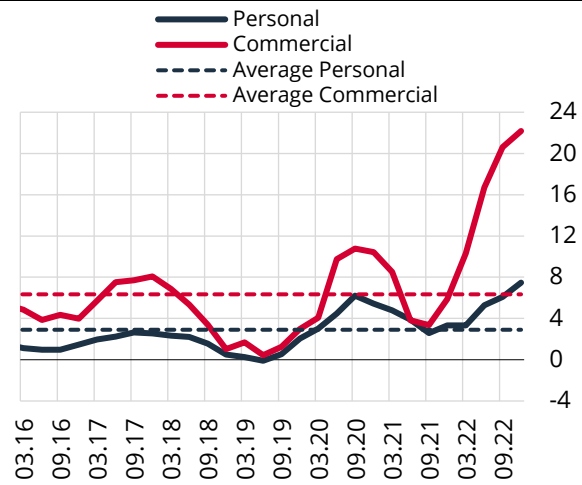
Chart 2.4.19: Output Gap Indicators* (%)



Source: CBRT.

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

Chart 2.4.20: Net Credit Utilization* (%)



Source: CBRT.

* Net credit utilization is calculated as the ratio of the annual change in the nominal loan stock to the annual GDP of previous four quarters. The historical average covers the period 2006Q1 to 2022Q4. Credit cards are included in utilization of personal loans. Corporate loan utilization is adjusted for exchange rate effects.

While the impact of administered prices on headline inflation receded in the last quarter of the year, prices of the items that are subject to time-dependent pricing increased with the start of the new year.

On the other hand, the support of the public sector's decisions and guidance concerning many sectors to the disinflation process has been growing. Effective from October, a tiered pricing system was introduced in natural gas tariffs applied to manufacturing industry firms and electricity producers, and the relation of tariffs and daily reference natural gas prices strengthened in industrial groups with intensive consumption. This caused an upsurge in real sector costs in October, which was replaced by a decline in the succeeding period as international prices were reflected in domestic prices. While this was also reflected on industrial electricity tariffs, tariff reductions at the end of the year and in the first month of the new year helped alleviate cost pressures on consumer prices. In addition, natural gas tariffs for households were reduced in January, but only in Istanbul. Increases observed in the last quarter of the year in municipal water tariffs also prevailed in January as energy costs have mounted and indexation to past inflation has strengthened. As supply problems became more pronounced, the euro reference rate, on which the pharmaceutical prices are based, was raised in mid-December. Pharmaceutical prices had a negative impact on prices in the other core goods subgroup in December, but since the revision was made in mid-December, about half of this effect is expected to be carried over to January. The increase in SCT bases had a downside effect on automobile prices in December, which had a favorable impact on the durable goods subgroup. In mid-October, producer-driven price hikes were seen in tobacco products, while the effect of the PPI increase in

the second half of 2022 appeared in lump sum taxes, leading to price hikes in alcoholic beverages and tobacco products again as of January 2023. The price changes were slightly higher than the price increases implied by tax adjustments. In the last quarter of the year, raw milk reference prices were raised due to rising costs, which was also felt in the related items of processed food and catering services. With the start of 2023, public transport fares increased sharply, especially in the three major cities. As bridge and highway tolls are kept unchanged in 2023, consumer prices will be positively affected both directly and indirectly through transportation costs.

Box 2.1

Findings from Interviews with Businesses

The CBRT holds face-to-face meetings with businesses as part of the studies conducted under “Economic Lens to the Real Sector” (ELRS).¹ This box summarizes the findings from the interviews conducted in the October-December 2022 period.

It is observed that the moderate outlook in demand and production conditions in the last quarter of the year was accompanied by a positive investment stance. While easing in cost pressure continues, the limiting effect of energy costs remains.

Information from the interviews indicated that improvement in domestic and foreign demand conditions was limited in the last quarter of the year compared to the third quarter. Improvement in domestic demand perception, decrease in financing costs and the easing in cost pressure stood out as the main reasons behind this outlook.

It was observed that the slowdown in the sales of non-durable and semi-durable goods was offset by the support of the campaigns, while the consumer demand for durable goods, especially in products such as white goods, electronics and furniture, was relatively buoyant.

Domestic sales showed a gradual recovery after slowing in the third quarter. With the expectations of an increase in wages and prices in the beginning of the new year, consumer demand, especially in durable goods, was brought forward, and sales were beyond expectations with the support of the campaigns. Sales continued to be relatively positive in regions where tourism activities were buoyant.

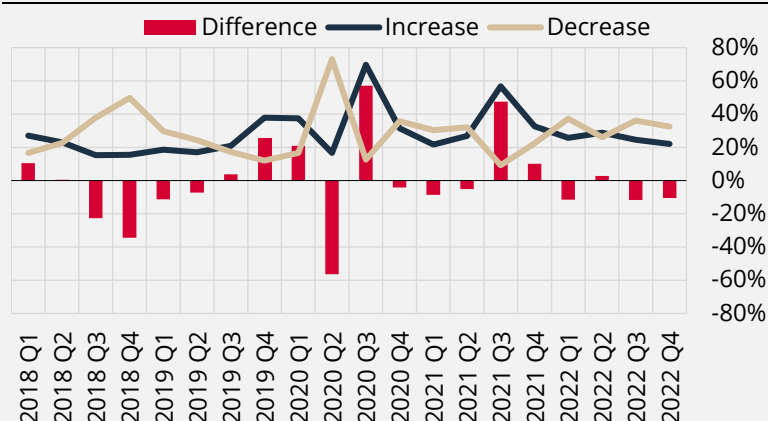
It was reported that while the sales of non-core foods were relatively weaker, sales to dealers in the fast-moving consumer goods segments such as cleaning and personal care products gained momentum in the last quarter. Apparel sales were above expectations, thanks to the purchases by tourists and non-residents and to year-end campaigns. It has been emphasized that sales in white goods firms were buoyant, and credit card facilities have had a positive impact on sales in the last period. High stock levels and the easing in cost pressure enable furniture firms to increase their sales by organizing campaigns. The SCT regulation, demand for fleet vehicles and the expectation of an increase in vehicle prices in the new year stimulated demand while light commercial vehicle sales, which have not been affected by supply-side constraints, remained strong. It was reported that the demand for housing was postponed due to the expectation that financing support for housing will increase in the new year.

It was observed that exports were above expectations.

It was observed that the pressure on foreign demand caused by the uncertainties regarding global inflation, recession expectations and the Russia-Ukraine War continued throughout the quarter. However, the moderate demand conditions in Europe, the market advantages in favor of Türkiye due to the war, and the successful attempts of firms to diversify their markets have alleviated this pressure. Accordingly, exports in the last quarter were higher than expected at the beginning of the period.

On a sectoral basis, it was observed that automotive and machinery exports displayed a positive outlook, while exports of white goods and chemicals were flat throughout the year. On the other hand, it was stated that firms operating in textile, apparel, basic metal and construction-related sectors felt the slowdown in demand more. The positive outlook in the previous quarters was largely preserved in the tourism sector, and firms in the sector reported high occupancy rates in October and November thanks to the extension of the season.

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 businesses 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 businesses 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 graphics are produced by scoring the anecdotal information obtained from the firm interviews. This study includes evaluations and inferences based on interviews

Chart 1: Demand Perception of Firms* (Quarter-on-Quarter)

Source: CBRT ELRS.

* Demand perception shows the evaluation made by considering the current sales, orders and expectations of the firms. The series is stated as 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 last quarter of the year, demand conditions supported production.

Demand conditions had a positive impact on the production activities of firms working especially for the domestic market. The decrease in supply disruptions, tendency to compensate for production downtimes throughout the year and the strong demand for commercial vehicles supported production of the automotive industry, which is one of the sectors where production is relatively buoyant. In furniture sector, the demand brought forward due to the expectations of price and wage increases in the new year, was the highlighted factor driving production. It was stated that the impact of the EU's weak demand has been limited in machinery-equipment sector due to its value-added production structure and compensated by leaning towards other markets. Production in chemicals, especially in the paint and cleaning products sub-sectors, maintains its strength. In construction sector, recovery signals were received before the expected housing financing supports for the upcoming period. Textile, apparel, cement-ceramic and basic metal were the sectors where a slowdown in production was widely expressed.

As of fourth quarter of the year, firms' investment stance for the next twelve months continued to recover.

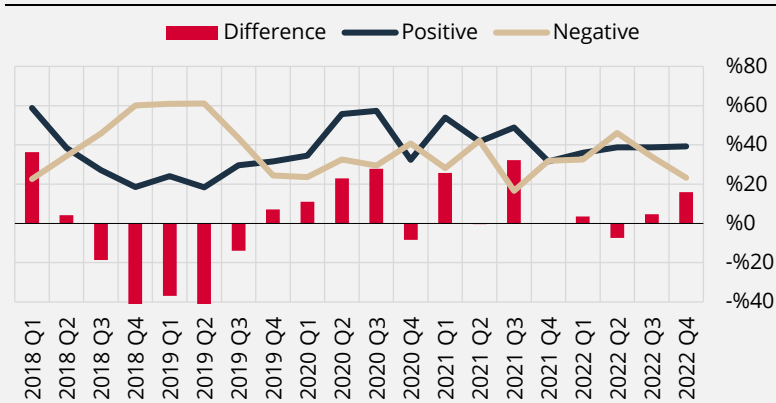
It is observed that the positive expectations of the firms for economic activity and the financing facilities provided through targeted loan policies improved their investment stances. In accordance with the targeted loan policies, the investment stance of exporting or export-related firms is more positive than that of firms operating in the domestic market.

Machinery-equipment, energy and production facility investments stand out among the investment plans of the firms. High energy costs were said to have increased the investment appetite for solar and wind energy systems. From a sectoral point of view, the appetite for investment to increase capacity is strong in the sub-sectors of manufacturing that have buoyant foreign demand. While warehouse and vehicle investments are at the forefront in the logistics sector, which is facing increasing demand from the service and trade sector after the pandemic, renovation investments in the accommodation sector are increasing. In the retail sector, it is noteworthy that some apparel and durable goods firms, whose demand conditions are favorable, are planning to open new stores. While the high land and production costs suppressed the investment appetite in the housing sector, it was observed that the investment stance of the firms improved with the expectation of new financing support for housing.

Firms continue their tendency to maintain their current employment levels in the next six months. Employment growth is limited except for the firms that plan to increase their capacity in the upcoming

period. The increase in automation in the production processes and the efforts to increase efficiency are stated as the main factors limiting an increase in employment. It is understood that increase in the minimum wage and the EYT regulation (early retirement package) will play a decisive role on employment plans, especially in labor-intensive sectors.

Chart 2: Investment Stance of Firms* (12-Month-Ahead, %)



Source: CBRT ELRS.

* Investment stance shows the evaluation made by considering the investment appetite of the firms for the next 12 months. The series is stated as 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.

The firms' need for working capital financing decreased slightly compared to the previous quarter due to declining raw material prices and cash flow improvements.

Despite falling raw material prices and the stability in the exchange rate, the high working capital requirement throughout the quarter was associated with increased energy expenses. While the improvement in cash flow was expressed as a factor that reduced the need for working capital, it was observed that the emphasis on long-term financing needs for investment continued.

With the latest regulations, the credit conditions and standards have loosened mainly due to the decline in commercial loan rates. Although firms pointed out the limit and maturity aspects throughout the quarter, it was observed that a significant number of the firms did not have any difficulty in accessing finance. The supportive role of export and investment loans of the CBRT continued to be emphasized.

The ease in cost pressure continued in the fourth quarter.

Both the firms' emphasis on exchange rate and labor costs as a source of increasing costs and the increase in input and supply-chain costs decreased significantly. The stability in commodity and freight rates and the opening of the grain corridor were influential in easing the input-based cost pressure on firms. On the other hand, energy was highlighted as main cost factor throughout the quarter, more prominently in the October and November.

Box 2.2

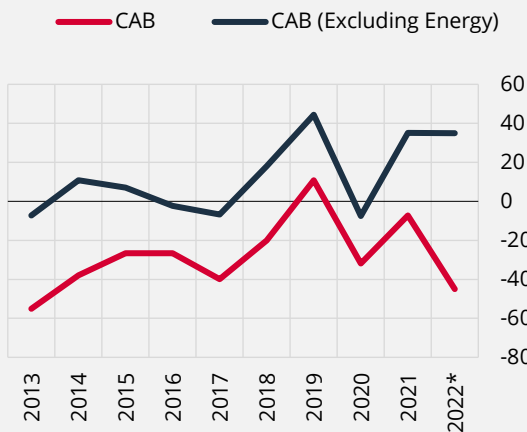
Recent Developments in Energy Imports and Diversification Policies for Energy Supply

It is important for price stability that the current account balance is maintained at sustainable levels. The rapid increase in energy imports in 2022 was the main factor behind the increase in the current account deficit. This box examines the developments in energy trade last year and discusses the possible impacts of energy supply diversification policies, which will be launched in the near term and planned to be implemented in the medium term, on the current account balance.

Looking at the last decade, it is seen that the current account balance posted a deficit except for 2019, while, excluding energy, it recorded a surplus in general, displaying a more positive outlook (Chart 1). Although this stylized fact is a natural consequence of Türkiye's being a net energy importer, 2022 marks a year in which the negative impact of the energy balance on the current account balance was much higher than it was in previous years. As of November 2022, the 12-month cumulative current account balance excluding energy stood at a level similar to the end of 2021, however including energy, the current account deficit rose from USD 7.2 billion in 2021 to USD 45 billion in November 2022. Therefore, it is important to understand the sudden rise in the energy trade deficit when evaluating the current account developments of 2022.

The energy trade deficit reached its historically highest level of USD 81.1 billion in 2022 up from USD 42.4 billion in 2021 (Chart 2). This increase in the energy deficit was a result of the almost doubling of energy imports, despite the significant increase in energy exports. While the ratio of energy imports to national income was 5% on average between 2013 and 2021, it rose to a historical high of 11% in annualized terms, as of the third quarter of 2022.

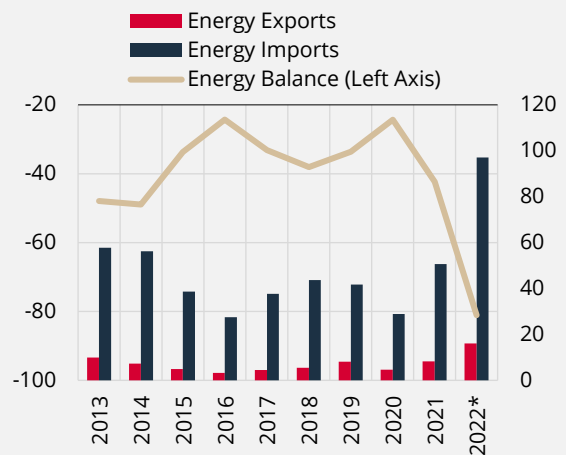
Chart 1: Current Account Balance
(USD Billion)



Source: CBRT.

* 12-month cumulative data as of November 2022.

Chart 2: Energy Trade Balance (USD Billion)



Source: TURKSTAT.

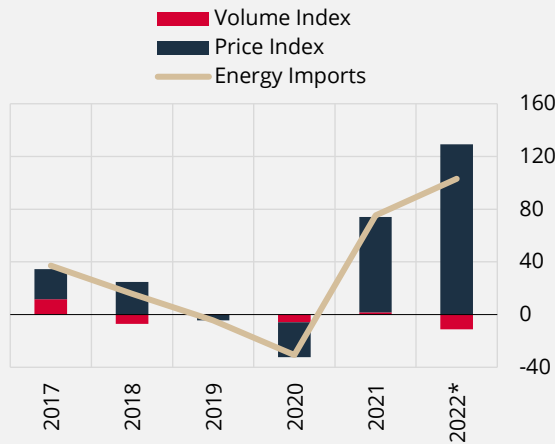
* Provisional data for December 2022.

A breakdown of import changes over the years into value and volume components suggests that volume changes are limited, and the changes in energy imports are mostly driven by price fluctuations (Chart 3). The reason for the rapid increase in energy imports in 2022 was the sudden increase in energy prices. In the January-November period of 2022, nominal energy imports increased by 103.1%, due to the surge in energy import price by 129.2%, despite the 11.2% decline in the energy import volume, when compared to the same period of the previous year.

In 2021 and 2022, there were rapid and consecutive increases in energy prices. Although these increases took place in successive periods, they differed from each other in terms of their drivers. While the base effect arising from low energy prices during the 2020 pandemic was the main source of

price increases in 2021, the 2022 price hikes were mostly due to geopolitical developments. This divergence between 2021 and 2022 was also reflected in the differences across subgroups of energy price changes (Chart 4). Energy prices in 2021, which recovered in the post-pandemic period, presented a more homogeneous outlook in oil, natural gas and coal, whereas the spike in natural gas prices at 310% in 2022, was well above the increase in oil and coal prices.

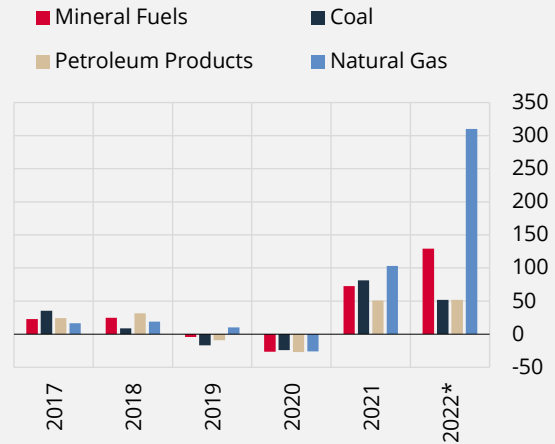
Chart 3: Price and Volume Changes in Energy Imports (Annual % Change)



Source: TURKSTAT.

* The year-on-year change in the January-November average of 2022.

Chart 4: Price Changes in Energy Imports (Annual % Change)

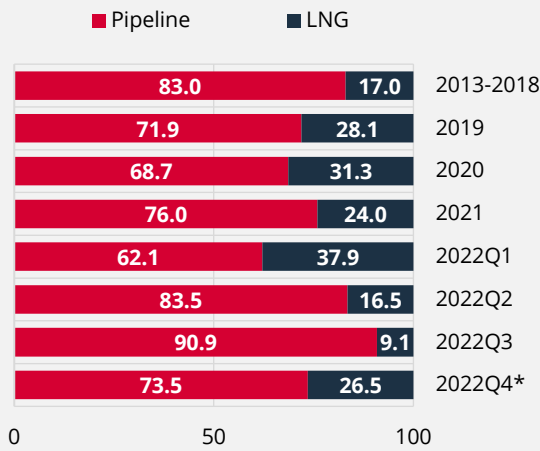


Source: TURKSTAT.

* The year-on-year change in the January-November average of 2022.

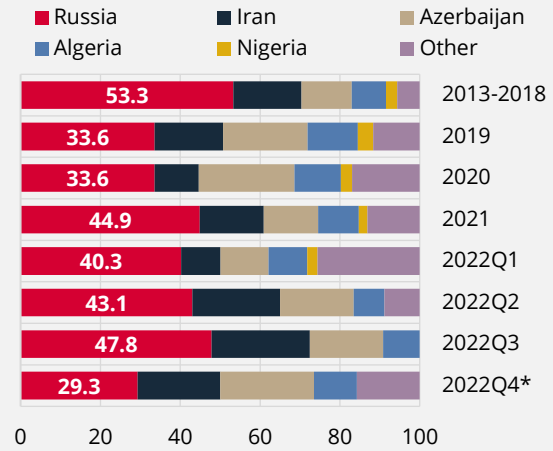
It is observed that the current account balance is significantly affected by the rapidly rising energy prices together with geopolitical risks. This reveals the importance of ensuring diversity of sources in energy imports and developing domestic sources of energy. An analysis of the distribution of natural gas imports by type over the past decade suggests that the share of liquefied natural gas (LNG), which was 17% on average between 2013 and 2018, has increased in recent years and reached 24.5% as of the last quarter of 2022 (Chart 5). The increase in the share of LNG in natural gas imports is also mirrored on the country distribution. Since natural gas imports in the form of LNG enable the supply of natural gas from alternative countries without a pipeline, the increase in the share of LNG in the last decade has also increased the diversification in terms of supplier countries. The share of Russia, the largest supplier of Türkiye's natural gas imports, which was 53.3% between 2013 and 2018, decreased significantly in the following years. With the diversification of energy supply, Russia's share decreased to 29.3% as of the last quarter of 2022, while the share of other countries increased significantly (Chart 6).

Chart 5: Natural Gas Import Shares by Type (%)



Source: Energy Market Regulatory Authority.
* As of October 2022.

Chart 6: Natural Gas Import Shares by Source Country (%)



Source: Energy Market Regulatory Authority.
* As of October 2022.

For the security of natural gas supply, in addition to increasing the type and country diversification, it is also important to provide time flexibility through storage. Ensuring time flexibility by means of storage can reduce the negative effects of price fluctuations, as well as creating a buffer against disruptions in energy supply. In this context, the capacity of the natural gas storage facility in Silivri, which was 3.2 billion cubic meters, was increased to 4.6 billion cubic meters last year, while the current storage capacity of the facility located in Lake Tuz, which is 1.2 billion cubic meters, is expected to reach 5.4 billion cubic meters in 2025. The current storage capacity of Silivri and Lake Tuz facilities corresponds to approximately 10% of annual consumption, and is expected to reach 15-16% of annual consumption with the planned increase, under the assumption that the energy need would increase in line with economic growth.

In addition to increasing the type, source and time flexibility in imports, reducing foreign dependency in energy is another way to ensure energy supply security. The recent natural gas reserve discoveries in the Black Sea basin also offer the opportunity to increase the utilization of domestic sources in energy consumption. Considering that domestic natural gas production of 10 million cubic meters per day (approximately 3.5 billion per year) is set to start in the second quarter of 2023, it is estimated that this domestic production can meet 6% of annual natural gas consumption and reduce energy imports by approximately USD 2 billion in the last three quarters of the year. Under a scenario where the daily production capacity would be increased and the total annual production would reach 15-20 billion cubic meters in the medium term, it is estimated that the coverage ratio of domestic sources to annual natural gas consumption may rise to around 30%, decreasing energy imports by about USD 11-12 billion under the assumption of current price levels.

Increasing the share of domestic sources in energy consumption is also possible through the expansion of renewable energy sources in Türkiye. While the share of renewable energy in electricity generation has soared since 2010, the share of fossil fuels has decreased (Table 1). According to the National Energy Plan of the Ministry of Energy and Natural Resources, while a significant increase, especially in the share of solar energy is foreseen within the next two years, more than half of the electricity production is aimed to be produced using renewable energy by 2035. In addition to renewable energy, electricity generation with nuclear power as a source of another domestic source is planned to start in 2023. The share of nuclear energy in electricity generation is expected to rise to 4.9% within two years.

Table 1: Shares of Electricity Generation Sources in Türkiye (%)

	2010	2015	2020	2021	2022*	2023**	2025**	2030**	2035**
Thermal	73.6	67.8	57.7	64.2	58.3	58.0	56.6	52.7	45.3
Coal, Natural Gas, Other***	73.6	67.8	57.7	64.2	58.3	57.9	51.7	44.5	34.2
Nuclear	0.0	0.0	0.0	0.0	0.0	0.1	4.9	8.2	11.1
Renewable	26.4	32.2	42.3	35.8	41.7	42.0	43.4	47.3	54.7
Hydraulic	24.5	25.6	25.5	16.7	21.6	21.4	21.5	19.4	17.3
Wind	1.4	4.5	8.1	9.4	10.0	9.8	10.1	11.9	17.7
Solar	0.0	0.1	3.6	4.2	4.4	5.1	7.4	11.5	16.5
Other	0.5	2.0	5.1	5.5	5.8	5.8	4.4	4.5	3.2

Source: Ministry of Energy and Natural Resources.

* Provisional.

** Program.

*** Fuel-oil, diesel oil, LPG etc.

The energy import bill, which increased by 91.6% year-on-year to USD 97.1 billion in 2022, is expected to decrease in 2023 in parallel with the expected easing in energy prices. Under the assumption that the GDP growth would be 5% in 2023 in line with the MTP targets, and that the energy demand has unit growth elasticity, the energy bill for 2023 is calculated as USD 81.6 billion under a scenario where energy prices would decrease by 20%, and as USD 71.4 billion under a scenario where energy prices would decrease by 30%. In other words, in case of a decrease in prices by more than 20% and under the assumption of 5% growth, the estimations indicate that energy imports in 2023 will remain below the USD 85 billion announced in the MTP. While the above-mentioned domestic energy sources that are set to be utilized this year will affect energy imports downwards, a likely decrease in electricity generation by hydraulic energy due to a drought may pose an upside risk to energy imports.

All in all, while the current account surplus excluding energy remained flat in 2022, the price-driven increase in energy imports had a negative impact on the headline current account balance. The effects of fluctuations in energy prices on the current account balance reveal the importance of ensuring diversification in sources, supplier countries and time flexibility for energy supply security, as well as reducing import dependency in energy through higher utilization of domestic resources. The positive contributions of the discoveries in the Black Sea basin, the efforts to increase the natural gas storage capacity and the targets for increasing the share of renewable energy to the current account balance will potentially continue at an increasing scale.

Box 2.3

Global FX Reserves Developments

The CBRT is responsible for keeping and managing FX and gold reserves in order to handle the foreign currency domestic and foreign debt payments of the Treasury, to increase the confidence in the national economy in international markets, and to increase the resilience of the economy against the shocks that may occur on global markets. The amount of FX reserves and the diversity of their sources become increasingly important at times of increased global uncertainty. Diversified reserve management is one of the most important elements of the Liraization Strategy, which is the integrated policy framework of the CBRT, and aims to strengthen FX reserves and diversify reserve sources. The Liraization Strategy aims to gradually increase the weight of TL-denominated items in both assets and liabilities of the banking system, and to create an overall TL-weighted structure in the financial system. In this context, throughout 2022, the CBRT took policy steps covering macroprudential regulations, collateral, liquidity and reserve management that complement monetary policy and strengthen monetary transmission. The steps taken in the field of reserve management are also an important component of the integrated policy framework.

In line with these targets, the Reserve Option Mechanism (ROM) FX facility, which strengthens structural dollarization by providing banks with ease of access to TL liquidity with their FX assets, has been terminated and the amount of TL funding made through the swap channel has been reduced (total TL equivalent swap transaction stock was USD 49.4 billion at the end of 2021 and decreased to USD 47.1 billion as of December 23, 2022). The Monetary Policy and Liraization Strategy for 2023 states that the Liraization Strategy, which is the integrated policy framework of the CBRT, will be strengthened and continued to be implemented in 2023, and the amount of funding from swap transactions will be gradually reduced in the total funding.

In 2022, CBRT's reserve resources have been diversified and international reserves have been strengthened with the steps taken such as the sale of a certain portion of export revenues to the CBRT, the sale of foreign currency obtained from YUVAM accounts to the CBRT, the FX sales made to the CBRT within the scope of the Citizenship Law, the sale of foreign currency obtained from real estate sales to foreign real persons, and FX sales to the CBRT within the Extended Housing Finance Package.

In 2022 the global economy was recovering from the pandemic when geopolitical risks and global uncertainties emerged. While the negative impact of the pandemic on global supply and supply chains has not yet disappeared, the war caused 2022 to be a challenging year in many respects for all economies, especially for emerging countries. With the outbreak of conflict, supply chains that were still in recovery suffered a significant blow, and trade in commodities, industrial and agricultural products was interrupted to a significant extent. The price movements caused by the decrease in energy supply, and disruptions and restrictions in the supply chains led to adverse effects on countries that do not even carry geographical risks. While the improvement of supply chains has been continued by the efforts of surrounding countries, especially Türkiye, another important risk factor has emerged in the financial markets. In this period, the rapid and drastic change in monetary policies of developed countries' central banks, especially the Fed, in response to rising inflation, increased the pressure on developing countries through exchange rate, interest and credit channels.

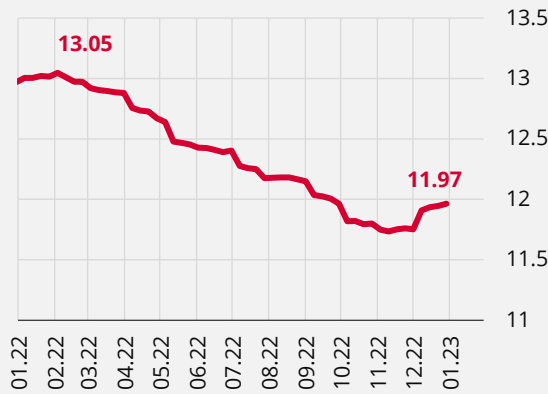
Factors such as proximity to the conflict zone, high energy imports and the need for foreign capital determined the level of sensitivity of the national economies to the shocks. Against this backdrop, countries tried to minimize the macroeconomic effects of shocks by adopting various policies including policy rate hikes, FX intervention, public support, and macroprudential and capital flow measures. The analysis of macroeconomic indicators shows that developing countries experienced rising interest rates, depreciation of local currencies despite FX interventions, and rising inflation while slowing growth.

In 2022, the global reserves of central banks decreased from USD 13.1 trillion to USD 12 trillion (Chart 1).

With the new perspective announced and put into practice at the beginning of 2022, Türkiye adopted a policy stance that aims to strengthen financial stability and create the necessary ground for permanent price stability by minimizing the sensitivity of growth and inflation dynamics to foreign capital flows. As a result of the strong contributions of the instruments put into practice within the framework of the Liraization Strategy to the CBRT reserve management, Türkiye managed to increase its international reserves in 2022, the most turbulent period of recent years, and the CBRT reserves rose from USD 111 billion to USD 129 billion (Chart 2).

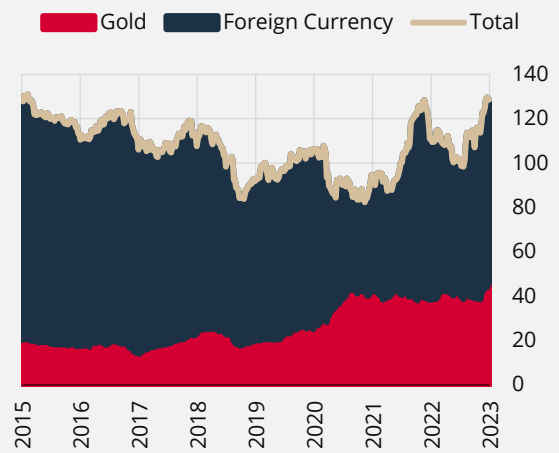
When global international reserve movements are analyzed in more detail, it is seen that in addition to capital outflows driven by the deterioration in risk appetite and reserve losses due to rising energy imports, FX interventions that aim to reduce exchange rate pressure are also effective on the decline in international reserves. It is common for developing countries to receive data on reserve changes at low frequency and with a delay, and details of reserve developments are not disclosed. For this reason, it is difficult to estimate the FX intervention amounts on a country basis. However, countries such as Thailand, the Philippines, India, Chile, South Korea and Czechia announced that they intervened in the FX market in 2022. The fact that the reserve losses of the countries that are known to have intervened directly or indirectly in the FX market are relatively large shows that those interventions were effective on the change in reserves (Table 1). At this point, it is noteworthy that the CBRT's FX and gold reserve changes diverged positively from those of developing countries. The fact that the CBRT's international FX reserves increased despite the record-breaking energy imports and portfolio outflows of non-residents, and that the Turkish lira is among the most stable emerging market currencies in this period, reflects the effectiveness of the reserve policies implemented within the scope of the Liraization Strategy.

Chart 1: Global International Reserves (Excluding Gold, Trillion USD)



Source: Bloomberg.

Chart 2: CBRT's International Reserves (Billion USD)



Source: CBRT.

Table 1: Developing Country Central Banks Changes in International Reserves (%)

	Change in Reserves in 2022 (%)	2022 Year-End International Reserves (Billion USD)	2021 Year-End International Reserves (Billion USD)	Change in Reserves in 2022 (Billion USD)
Türkiye***	16%	129	111	18
South Africa*	5%	61	58	3
Poland*	0%	167	166	1
Mexico**	-2%	199	202	-3
Malaysia*	-2%	115	117	-2
Colombia*	-2%	57	59	-1
China*	-4%	3307	3427	-120
Hungary*	-5%	41	43	-2
Indonesia*	-5%	137	145	-8
Russia**	-8%	582	631	-49
Peru*	-8%	72	79	-6
South Korea*	-9%	423	463	-40
Brazil***	-10%	325	362	-38
India**	-11%	563	634	-71
Philippines*	-12%	96	109	-13
Thailand**	-12%	217	246	-29
Czechia*	-19%	141	174	-33
Chile*	-24%	39	51	-12
Total	-6%	6670	7076	-406

Source: Bloomberg.

***** show that central banks announce their balance sheet positions ins monthly, weekly and daily, respectively.

In sum, with the diversified reserve management strategy, which is one of the leading elements of the Liraization Strategy implemented by CBRT in 2022, FX reserves have been increased despite the unfavorable global conditions, and a more active reserve management framework has been implemented by diversifying the reserve resources. FX reserves, which are strengthened with sustainable and diversified resources, will contribute to permanent price stability and financial stability by reducing the sensitivity of the Turkish lira to domestic and foreign shocks.

Box 2.4

Effects of the Regulations in 2022 on Public Borrowing Structure

The central government budget recorded a deficit of TRY 139.1 billion in 2022. The annualized budget deficit to GDP ratio is estimated to remain well below the forecast set out in the MTP (2023-2025). The strength of revenues and the discipline in expenditures were effective in this strong budget performance.

In 2022, net domestic borrowing was TRY 362.1 billion and net foreign borrowing was TRY 75.2 billion. Domestic borrowing exceeded the 2022 financing program projections¹ and the total domestic debt rollover ratio for the whole year was 132.3%. Although the 2022 budget deficit was well below the MTP estimate, borrowing was higher than anticipated due to favorable market conditions, so 2023 started with a strong level of cash reserves.

The future burden of borrowings on the budget and debt stock can be evaluated by calculating debt service. In addition to the amount of domestic borrowing, the distribution of instruments, i.e., the composition of the borrowing, is also important. As a result of the borrowing policy carried out according to strategic benchmarks since 2003, the sensitivity of the public debt stock to exchange rate, interest rate and liquidity risks has been significantly reduced. Within the framework of this strategy, in 2022 the share of foreign currency and FX-indexed securities in domestic borrowing decreased significantly, and domestic borrowing mainly constituted of fixed-coupon bonds in addition to CPI-indexed, floating-rate and zero-coupon bonds. Borrowing mainly through fixed-coupon bonds rather than inflation-indexed bonds will ensure that future interest payments will be less affected by changes in the price level. In a relatively low interest rate environment, long-term borrowing through fixed-coupon bonds will increase the predictability of debt service payments in the future and will also make a positive contribution to rolling over the existing debt at low financing costs.

On the other hand, it is noteworthy that there was a change in the amount of fixed-coupon and CPI-indexed borrowing throughout the year. While equal amounts were borrowed with these two instruments in the first four months of the year, there was a significant increase in favor of fixed-coupon bonds in the May-December period (Table 1). The CBRT's recent collateral and liquidity policy arrangements aiming liraization and monetary transmission played a role in this development. In 2022, within the context of the Liraization Strategy, several measures were taken to increase the weight of TL-denominated assets in securities accepted as collateral against the CBRT's TL funding. The minimum GDDS holding requirement in the collateral system was increased gradually to 50% as of July by adjustments made in May, June and July. Moreover, the collateral discount rates were changed to increase the share of TL-denominated assets in the collateral system. Accordingly, the collateral discount rates for indexed securities as well as FX and gold assets pledged as collateral were raised from 5% to 15% in May, 30% in June, 50% in July, 60% in September 2022 and 70% in January 2023. One positive impact of these measures that firstly aim to strengthen monetary transmission was the shift of the demand for CPI-indexed securities to fixed-rate securities. Hence, while the amount of issuance made via fixed-coupon bonds was TL 57 billion in the first four months of 2022, this amount increased to TL 322.4 billion in the rest of the year (May-December 2022). In the same period, inflation-indexed securities decreased from TL 56.5 billion to TL 22.9 billion (Table 1).

¹ In the 2022 Treasury Financing Program, the domestic debt rollover ratio for 2022 is projected to be 103.0%.

Table 1: Amount of Domestic Borrowing by Ministry of Treasury and Finance with Fixed-Coupon and CPI-Indexed Bonds in 2022

	January-April 2022	May-December 2022	January-December 2022
Fixed Coupon Bonds (Billion TL)	57.0	322.4	379.4
CPI Indexed Bonds (Billion TL)	56.5	22.9	79.4
Fixed-Coupon/CPI-Indexed	1.0	14.1	4.8

Source: Ministry of Treasury and Finance.

In fixed-coupon bonds, a standard amount of interest² is paid on the coupon payment dates. In CPI-indexed bonds, while the standard amount of interest is paid on the coupon payment dates, the portion of the principal amount that increases as the inflation rate at the end of maturity is added to the standard amount of interest payment on the redemption date. Thus, the interest payments made on the redemption date can reach very high amounts. It should be noted that the coupon rate of CPI-indexed bonds issued on and after February 23, 2022 is 0%, and the interest payment will consist only of the amount to be paid on the principal on the redemption date.

This analysis examines the effect of the shift in the amounts of fixed-coupon and CPI-indexed securities in favor of fixed-coupon securities on interest payments in the May-December 2022 period. In other words, the analysis tries to answer the question of what would have happened to interest payments if the CPI-indexed borrowing in the May-December period of 2022 had continued to equal fixed coupon borrowing, as did in the first four months of the year, instead of falling to one 14th. Towards this aim, estimations were made under the assumption that the borrowing amounts made with these two types of securities were the same in the given period (by decreasing the nominal total sales of the fixed-coupon bonds issued, while increasing the nominal total sales of the CPI-indexed bonds). Another essential factor is the determination of the inflation path. While creating the CPI path, the MTP (2023-2025) projections were used for the first three years, while the CBRT's inflation target of 5% was used for the following years.

As mentioned above, the coupon rate of CPI-indexed bonds issued in the aforementioned period is zero. The fact that no interest is paid for these securities during coupon payment periods creates a perception at first glance that borrowing in this way is more advantageous. However, when the portion of the principal increased by the inflation rate at the maturity date is recorded as interest expense, the actual cost becomes clear. For this reason, since it would be misleading to take a period of several years when calculating the interest cost, the period between January 2023 and the redemption date of the bills is taken for both fixed-coupon and CPI-indexed bills. As of December 2022, the most advanced redemption dates for fixed-coupon and CPI-indexed securities are 13 October 2032 and 4 August 2032, respectively. Therefore, the cost calculation was made for the period January 2023–October 2032.

The shift from CPI-indexed borrowing to fixed borrowing in the aforementioned period, provided significant savings by reducing the total amount of interest to be paid until the end of October 2032 by approximately TRY 136 billion compared to the burden if there was no such shift and an equal amount of borrowing was made as in the first four months of the year. It should be noted that this calculation is only for an eight-month period. It should also be noted that if high borrowings of CPI-indexed securities continue after 2022, the costs will accumulate and reach much higher levels depending on the course of inflation.

In sum, the change in borrowing composition led by the CBRT's recent arrangements for collateral and liquidity policies that aim to strengthen monetary transmission has reduced the interest cost in the upcoming period. This, in turn, will reduce the interest expenditures of the budget in the coming years and positively affect the debt service and borrowing requirement of the Treasury. Thus, the arrangements made within the scope of the Liraization Strategy with a focus on monetary transmission will make a significant contribution to the public fiscal stance.

² Standard interest payment is equal to principal times the coupon rate.

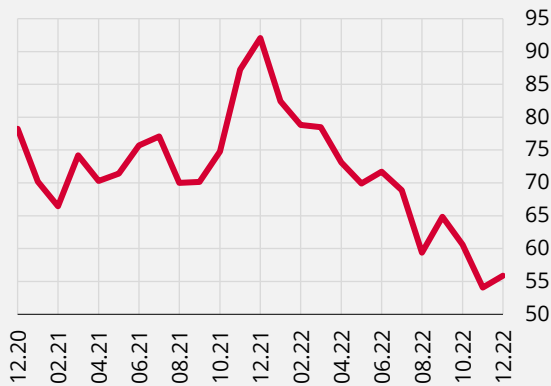
Box 2.5

Observations on Underlying Inflation

In the last quarter of the year, both consumer and producer annual inflation dropped significantly. The recent improvement in the underlying inflation has been effective on the decline in inflation. In this context, this box uses a range of data sources to share observations on the recent underlying trend of inflation.

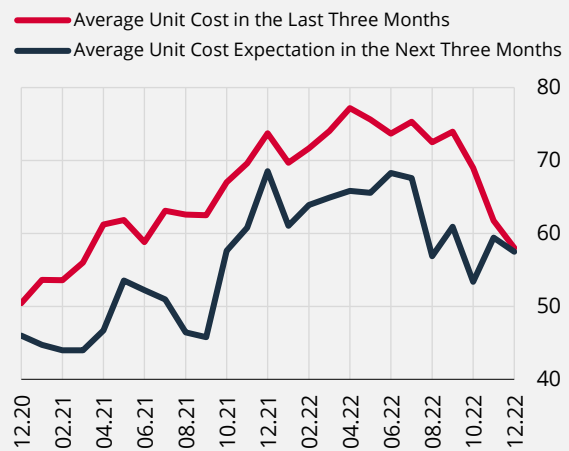
Both survey-based indicators and producer price developments indicate that cost-based price pressures have weakened. In this period, the ongoing slowdown in the PMI input price index continued. In line with this trend, according to the BTS data, producers' average unit cost expectations for the last three months and the next three months improved (Charts 1 and 2).

Chart 1: PMI Input Price Index
(Seasonally Adjusted, Level)



Source: S&P Global.

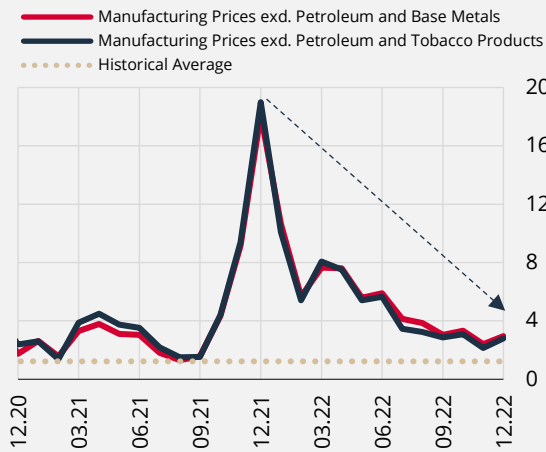
Chart 2: BTS Unit Cost Indicators
(Seasonally Adjusted, Increase-Decrease)



Source: CBRT.

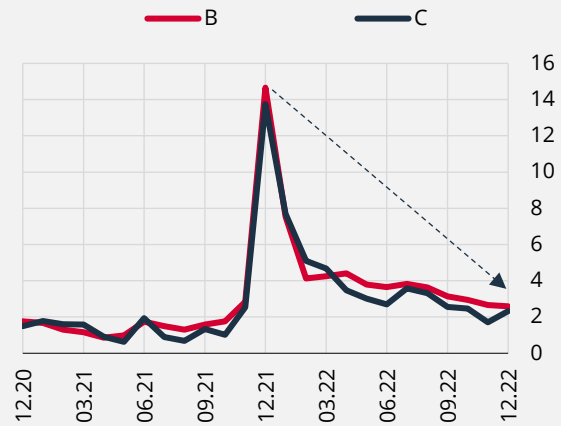
As the impact of negative global supply shocks waned to a large extent and the effect of the policies implemented took hold, the underlying trend of producer prices weakened, and this was reflected as a slowdown in the monthly rate of increases in core indicators on the consumer side. In this period, the Turkish lira remained stable; international energy prices, especially oil and natural gas prices, continued to decline; and the effects of the ongoing decline in international transportation costs and the alleviation of disruptions in the supply chain were felt on producer prices. Thus, the increase in producer prices slowed considerably in November and declined in December. The slowdown in monthly price increases in manufacturing industry core indicators, which exclude sub-items that are significantly affected by tax developments such as oil and tobacco, became more evident in the last quarter and converged to their historical averages (Chart 3). This development indicates that the effects of past supply shocks have disappeared to a large extent, and cost-based price pressures are weakening. Similarly, according to seasonally adjusted consumer inflation, it is noteworthy that the slowdown in monthly price increases in core indicators B and C, which became evident especially in the second half of the year, continued in the last quarter (Chart 4).

Chart 3: Underlying Trend Indicators of PPI (Monthly % Change)



Source: CBRT, TURKSTAT.

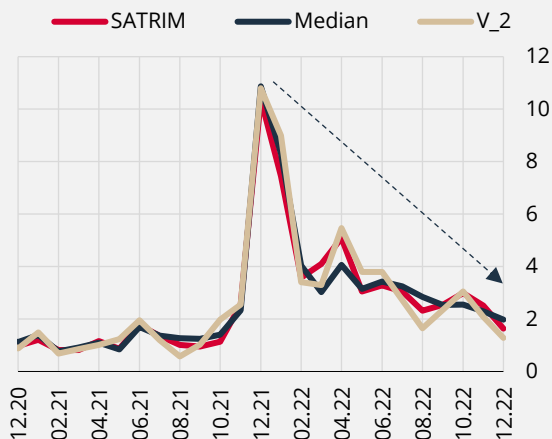
Chart 4: Underlying Trend Indicators of CPI (Seasonally Adjusted, Monthly % Change)



Source: CBRT, TURKSTAT.

Alternative indicators also confirmed the slowdown in inflation, and inflation expectations declined in this period as well. SATRIM, one of the alternative indicators based on the monthly price distribution of seasonally adjusted sub-items, recorded a significant slowdown in the last quarter of the year, and a significant decline was observed in the second half of the year in median inflation indicator and in the monthly inflation indicator V_2, which excludes sub-items that show high volatility every month (Chart 5). When core inflation indicators are evaluated jointly, the downward course in the underlying trend of inflation is clear (Chart 6). In line with the outlook in the main trend indicators, inflation expectations continue to decline, according to the January Survey of Market Participants data (Chart 2.4.10). In addition, in line with other indicators, the diffusion index, which denotes the diffusion of price hikes, shows that the tendency to increase prices continued to weaken in the last quarter and further converged to its historical average (Chart 7).

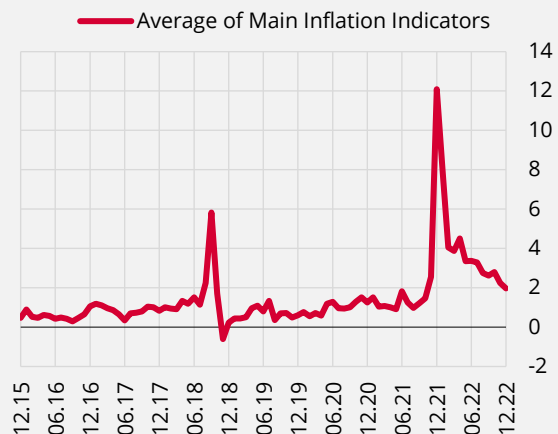
Chart 5: Main Inflation Indicators: SATRIM* Median and V_2*** (Seasonally Adjusted, Monthly % Change)**



Source: CBRT, TURKSTAT.

* SATRIM: Seasonally adjusted trimmed mean inflation.
 ** Median: Median monthly inflation of seasonally adjusted 5-digit-sub-price indices.
 *** V_2: For each month, monthly inflation calculated by excluding goods and services that fall outside the range of ± 2 deviations from the average of monthly price changes in all items from that month's index.

Chart 6: Average of Main Inflation Indicators* (Seasonally Adjusted, Monthly % Change)

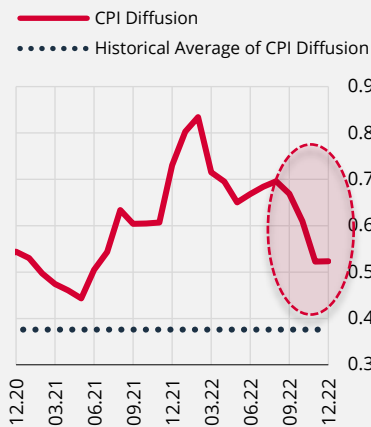


Source: CBRT, TURKSTAT.

* Seasonally adjusted and average of monthly % change of B, C, Satrim, Median and V_2 values.

In addition to the decrease in the ratio of the sub-items with increasing prices, the increase in the ratio of the items with decreasing prices is also an important indicator in terms of the continuity of the disinflation process (Chart 8). The share of items with decreasing prices in the total of all the sub-components of the diffusion index has increased over time and approached its historical average. When analyzed by main expenditure groups, the diffusion index in the core goods group, which has a high rate of exchange rate pass-through and imported input use, has reached its historical average due to the stable course of the Turkish lira in the recent period and the declining international commodity prices compared to the first half of the year. On the other hand, in the services sector, which has a relatively labor-intensive nature with its relatively closed structure to international trade and whose pricing dynamics differ from the core goods, the diffusion index has declined but remains above historical averages (Chart 9). The service sector is more affected by wage developments due to its labor-intensive structure. Additionally, it includes sub-items such as rent, education, health and administered service items, where backward indexation behavior is strong. These may cause the services inflation to react with a lag to macroeconomic variables and its decline to spread over time.

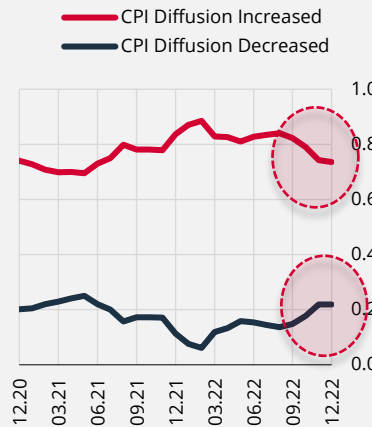
Chart 7: Diffusion Index of CPI*
(Seasonally Adjusted, 3-Month Average)



Source: CBRT, TURKSTAT.

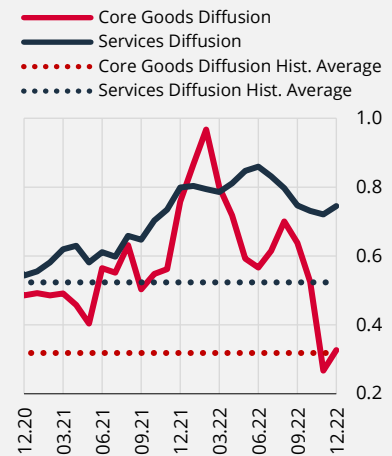
* The diffusion index is calculated as the ratio of the number of items with increasing prices minus the number of items with decreasing prices to total number of items.

Chart 8: Sub Components of CPI Diffusion Index (Seasonally Adjusted, 3-Month Average)



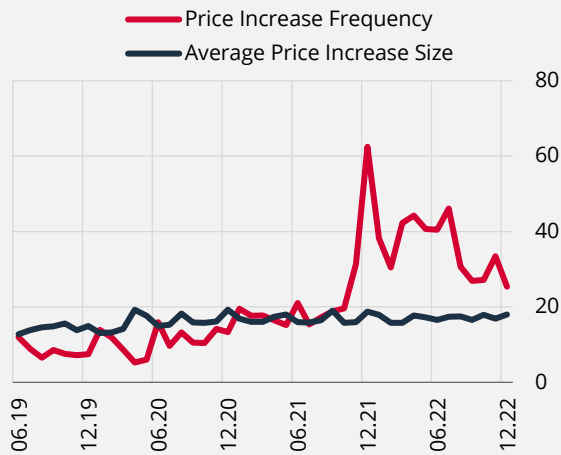
Source: CBRT, TURKSTAT.

Chart 9: Diffusion Indices of Core Goods and Services Group
(Seasonally Adjusted, 3-Month Average)

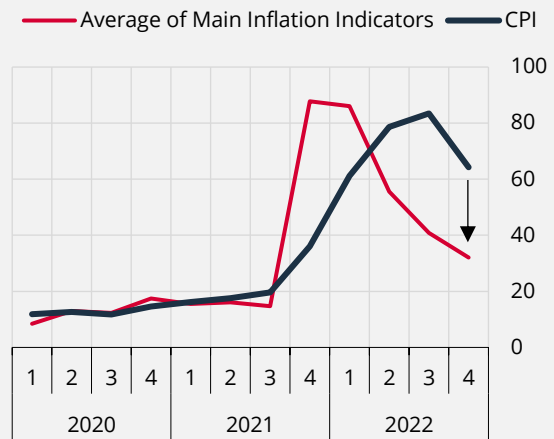


Source: CBRT, TURKSTAT.

Signs of improvement are also observed in microdata from food related services items. Food prices that have a high weight in the CPI basket are crucial in terms of inflation dynamics. In addition to their direct impact on consumer inflation, food prices are an important determinant of restaurant-hotel prices through many items (meat, tea, bread, soft drinks, etc.) that are used by catering services in the services group. Micro restaurant data provide useful information on pricing behavior in catering services and timely detection of any changes. The data indicate that there has been no change in the average size of price increases over the period, and the rise in inflation in this group is driven by the changes in the number of firms that update their prices. In this group, signs of normalization in pricing behavior have appeared, and the frequency of price increases of firms has slowed as of the year end (Chart 10). In the upcoming period, the course of developments in food prices is important in order to maintain this trend.

Chart 10: Microdata: Food Services Price Increase Frequency and Size (% Points)

Source: CBRT, Authors' calculations.

Chart 11: The Average of Main Inflation Indicators* and CPI (Annual % Change)

Source: CBRT, TURKSTAT.

* The average of the main inflation indicators is calculated by the arithmetic average of the annualized seasonally adjusted 3-month averages of B, C, Satrim, Median and V_2 values, which are the main trend indicators.¹

The underlying trend of inflation increased significantly in the first quarter of 2022 and recorded a gradual slowdown in the following period. Annual consumer inflation, on the other hand, reacts to developments with a lag as it reflects the effects of the last twelve months' developments. The average of annualized main trend indicators hovered around 32 points below annual consumer inflation as of December, due to both the policies implemented and the waning impact of shocks (Chart 11).

To sum up, the weakening in the global supply constraints and the effectiveness of the implemented policy mix led to a slowdown in both the headline CPI and core indicators. The deceleration in inflation is confirmed by different core indicators, diffusion indices, inflation expectations and microdata on sectoral pricing behavior. Moreover, different survey-based indicators and PPI trend indicators point to a weakening in cost pressures. Under the current outlook for the underlying trend of inflation, the strong slowdown in annual consumer inflation will continue.

References

Atuk, O. and Özmen, M.U. (2009). "Design and Evaluation of Core Inflation Measures for Turkey", CBRT Working Papers No: 09/03.

¹ For detailed information on indicators, see Atuk and Özmen (2009).