

2. Economic Outlook

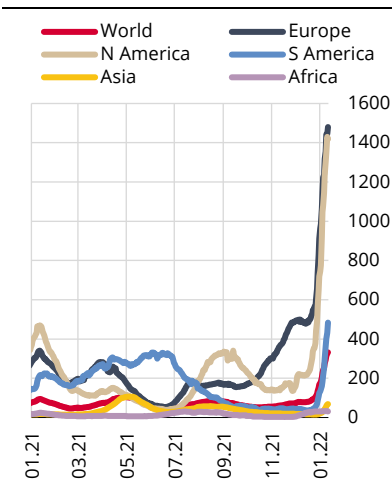
2.1 Global Economic Developments

The global growth outlook deteriorated slightly due to the growing number of omicron cases, however vaccination-backed limited pandemic measures contained the adverse effects. The omicron variant emerged in South Africa towards the end of the year and resulted in an unprecedented increase in the number of cases (Chart 2.1.1). However, the increase in vaccination rates as well as the experience gained in maintaining economic activity under pandemic conditions limited the negative expectations regarding the effects of this increase on production and consumption. In major economies, vaccinations caused a decrease in the number of severe cases, and largely prevented increases in the number of deaths, allowing a further relaxation in pandemic measures. This may also limit the effects of the new wave on the services sector. As a matter of fact, PMI indices suggest that the economic recovery continues in both the manufacturing industry and the services sector (Chart 2.1.2). On the other hand, the risks regarding the future course of the pandemic are alive, which continues to adversely affect the economic activity and production processes, and still constitutes a downside risk to the growth outlook.

Global growth projections have been revised downwards due to the uncertainty caused by the new variant, but expectations are consistent with a scenario where economic effects would remain limited.

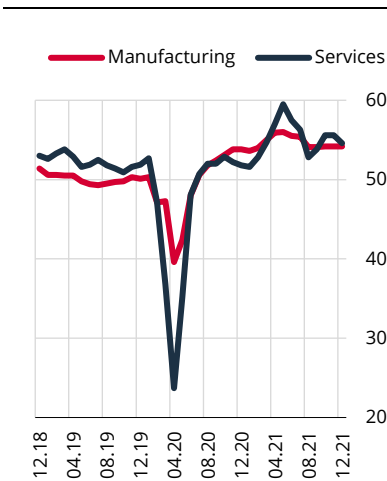
Accordingly, the external demand outlook of Turkey worsened slightly for 2022. In terms of subgroups, while the contribution of the euro area to the external demand was maintained, the deterioration in the outlook was driven by trading partners outside of the euro area (Chart 2.1.3).

Chart 2.1.1: Number of Cases (7-Day Moving Average, per million people)



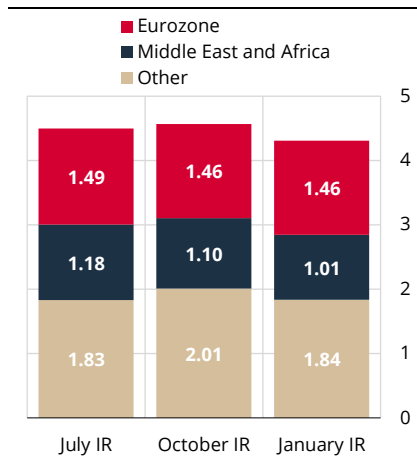
Source: Consensus Economics.

Chart 2.1.2: Global PMI Indices (Level)



Source: IHS Markit.

Chart 2.1.3: Export-Weighted Global Growth Index for 2022 (% Points)



Sources: Consensus Economics, IHS Markit, CBRT.

Growth projections in Turkey's main trading partners have also been revised slightly down for 2022. The growth outlook for 2021 for Turkey's major exports partners have improved compared to the October Report period. The effects of the omicron variant along with the resulting uncertainty were mostly reflected in the projections for 2022 (Table 2.1.1). According to current growth forecasts, while the bulk of these countries achieved their 2019 GDP level as of 2021, all of them, except Spain, are expected to reach or exceed this level by 2022 (Chart 2.1.4). Therefore, forecasts suggest that the recovery in external demand will continue in 2022.

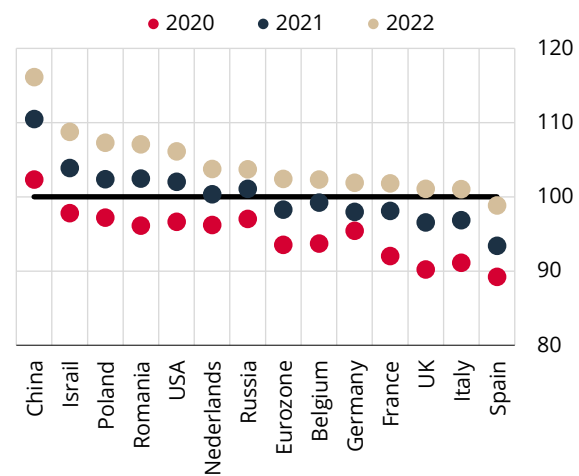
Table 2.1.1: Growth Forecasts in Turkey's Main Trading Partners * (%)

	Realization	Forecast for 2021		Forecast for 2022	
	for 2020	Oct-21	Jan-22	Oct-21	Jan-22
Eurozone	-6,5	5,1	5,1	4,4	4,0
Germany	-4,6	2,8	2,7	4,4	3,7
China	2,3	8,2	7,9	5,5	5
Russia	-3,0	4,2	4,3	2,5	2,6
USA	-3,5	5,7	5,6	4,1	3,9
Italy	-8,9	5,9	6,3	4,3	4,2
UK	-9,8	6,9	7	5,1	4,3
France	-8,0	6,1	6,6	3,8	3,8
Spain	-10,8	5,6	4,7	6,1	5,6
Netherlands	-3,7	4,1	4,3	3,5	3,3
Belgium	-6,3	5,4	5,9	3,4	3,1
Romania	-3,9	7,4	6,6	4,7	4,5
Poland	-2,7	5,2	5,4	5,1	4,7
Israel	-2,4	5,8	6,2	4,3	4,5

Source: Consensus Economics.

* Countries are sorted according to the size of their share in Turkey's total trade from January to November 2021.

Commodity prices remain overall on the rise. The emergence of the omicron variant, resulting in increased uncertainty in the global demand for commodities, caused crude oil prices to recede in December. However, prices rose again in January, hitting their highest levels since 2014. Despite the substantial decline in natural gas prices, the increase in crude oil prices pushed the energy index up, albeit slightly, over the previous reporting period. Meanwhile, non-energy commodity prices continued to increase compared to the October Report period (Table 2.1.2).

Chart 2.1.4: Real GDP Forecasts (Annual, 2019=100)

Sources: Consensus Economics, CBRT.

Table 2.1.2 Commodity Price Changes* (%)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 2022**	12 Month Change **	Since the 2021 October IR***
Commodity Headline Index*	7.8	8.5	3.1	1.4	6.4	2.4	0.4	-2.0	3.5	8.4	-1.7	-4.8	7.9	37.7	3.3
Energy	9.5	13.2	5.1	-0.6	6.0	7.6	2.1	-4.7	7.0	12.8	-4.3	-8.5	12.0	55.4	0.9
Agricultural Com.	11.7	3.2	-0.8	4.7	8.5	-6.5	-2.7	3.6	-2.6	2.7	5.8	0.5	1.1	17.9	6.7
Industrial Metals	0.9	4.6	3.6	3.4	7.7	-2.2	0.6	0.9	3.1	4.0	-4.0	0.8	5.7	31.2	7.1
Precious Metals	0.5	-2.3	-4.9	2.0	5.6	-1.1	-1.9	-1.7	-0.7	-0.1	2.5	-2.0	1.6	-3.5	1.7
Non-Energy	6.0	3.4	0.7	3.8	6.9	-3.6	-1.8	1.6	-1.0	2.4	2.2	0.5	2.7	18.6	7.1
Brent Oil	9.7	12.9	5.5	-0.6	4.6	7.5	1.2	-5.1	6.2	11.8	-3.5	-7.5	12.5	52.5	4.2
Natural Gas	2.6	10.2	-10.1	2.3	10.4	10.5	16.4	5.8	26.4	9.3	-8.1	-24.6	5.8	54.2	-30.8
Aluminium	-1.1	3.8	5.6	5.3	5.6	0.6	2.6	3.3	9.7	3.7	-10.1	2.5	9.3	48.2	11.3
Copper	2.2	6.4	6.3	3.1	10.0	-5.3	-0.9	-1.3	-0.6	4.1	-1.7	-0.7	2.7	23.2	1.9
Iron	11.6	-4.7	5.0	3.1	19.2	2.2	2.0	-23.0	-24.1	0.2	-22.7	15.9	15.9	-24.7	7.2
Wheat	9.0	-0.7	-2.4	4.6	6.4	-5.7	-0.4	8.8	-2.2	5.0	8.4	-2.4	-3.2	16.5	1.0
Soy Beans	13.4	0.7	2.4	3.4	7.4	-6.9	-2.5	-3.8	-6.8	-3.7	0.7	4.3	6.9	0.6	14.6
Rice	4.5	0.0	1.1	0.6	2.8	-3.8	1.0	1.8	1.2	-0.1	2.4	0.5	2.9	11.5	11.8
Corn	18.0	6.8	0.6	11.0	13.4	-3.3	-9.4	-9.4	-6.2	2.3	6.5	3.7	1.6	16.9	9.5
Cotton	8.6	7.2	-2.0	-1.6	1.6	0.7	3.9	5.6	2.2	13.5	8.1	-7.4	8.0	46.2	6.2
Sugar	8.5	6.6	-6.9	2.3	6.4	0.1	3.0	9.3	-0.5	1.8	0.7	-3.0	-3.8	15.8	-3.7
Transportation	33.8	2.7	-3.9	-2.2	16.8	21.8	26.3	7.9	7.2	-1.8	-7.6	-0.2	2.6	86.0	0.3

Source: Bloomberg.

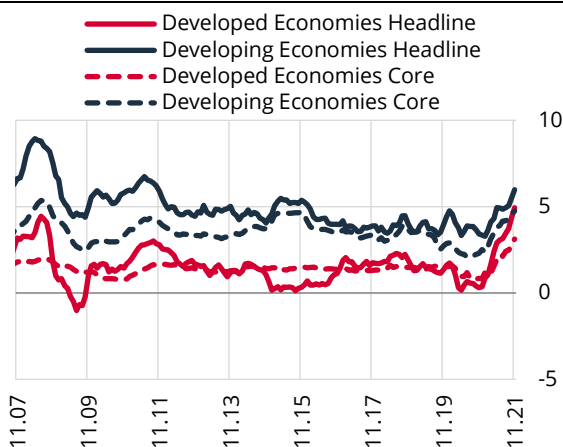
*Commodity main indices are compiled from the Goldman Sachs indices, and sub-items are compiled from Chicago Stock Exchange data.

** Last observation is 21 January 2022.

*** Shows percentage change between 21 January 2022 and 28 October 2021

Global inflation continued to increase at a faster pace. Global inflation accelerated due to both headline and core indicators and reached historic levels for advanced economies in particular by exceeding the 2008 level (Chart 2.1.5). Factors affecting global inflation, such as strong demand, imbalances between supply and demand, and commodity price increases remain effective. Against this background, central banks have been stating in their communications that the trend of inflation is more permanent than previously anticipated. It is judged that supply and delivery problems, which are expected to disappear as the effects of the pandemic weaken, have not improved yet and will continue to drive inflation higher due to advanced economies in particular (Chart 2.1.6). Besides, the new variant risks exacerbating such constraints through the labor supply in particular.

Chart 2.1.5: Global Inflation* (Annual, %)

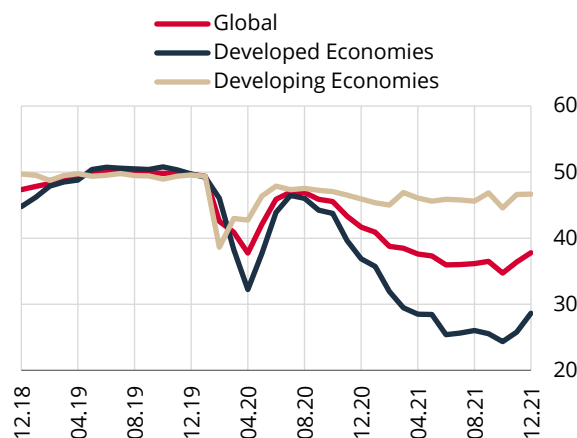


Source: Bloomberg.

* **Headline Inflation:** Advanced Economies: The US, the Euro Area, Japan, the UK, Canada, S. Korea, Switzerland, Sweden, Norway, Denmark, and Israel. Emerging Economies: China, Brazil, India, Mexico, Russia, Turkey, Poland, Indonesia, S. Africa, Argentina, Thailand, Czechia, Colombia, Hungary, Romania, the Philippines, Ukraine, Vietnam, Chile, Peru, Egypt, and Morocco.

Core Inflation: Advanced Economies: The US, the Euro Area, Japan, the UK, Canada, S. Korea, Switzerland, Sweden, Norway, and Israel. Emerging Economies: China, Brazil, Mexico, Russia, Turkey, Poland, Indonesia, S. Africa, Thailand, Czechia, Colombia, Hungary, Romania, Chile, and Peru.

Chart 2.1.6 PMI Manufacturing Industry Suppliers' Delivery Times (Level)

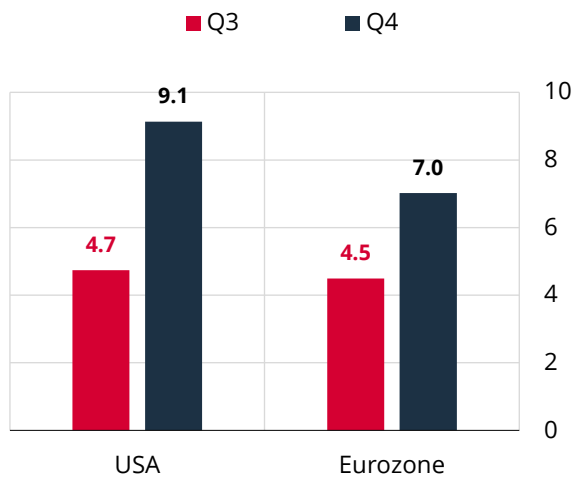


Source: IHS Markit.

As global inflation remains on the rise, major central banks' rhetoric in monetary policy has diverged.

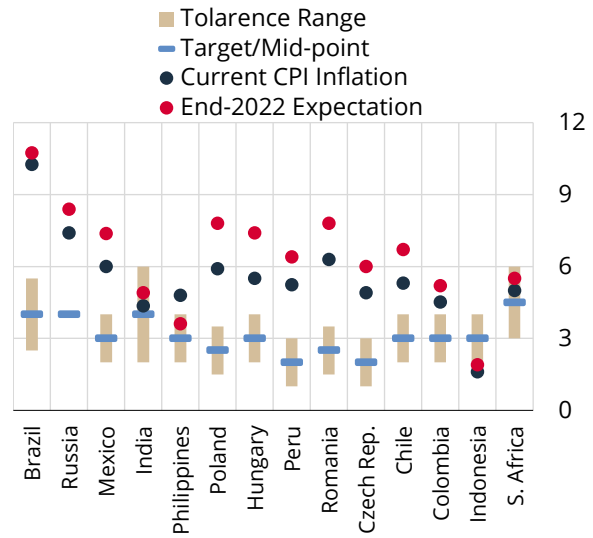
While major central banks continue to engage in asset purchases, albeit more modestly, they keep an accommodative policy stance. The main trend of inflation in the US and the euro area has increased for the last three months, and exceeded the targets and historic averages considerably (Chart 2.1.7). Against this background, the Fed started to taper off its bond purchases in November and increased the pace of monthly tapering in December, thus formulating a policy path paving the way for rate increases in March 2022. The options markets have priced that the Fed will increase interest rates three or four times in 2022. The ECB announced at its December meeting that it would end the bond purchases it started during the pandemic in March 2022, keeping its routine asset purchase program active. The announced program suggests that the ECB will taper off its bond purchases in 2022. In most of the emerging economies, consumer inflation, which was outside the target tolerance range in the October report period, has increased even more (Chart 2.1.8). As a result, some of the emerging country central banks have increased their policy rates. However, policy rates continue to remain below inflation in many emerging economies. Meanwhile, in China, where the signals of a slowdown in economic activity became more evident in the last quarter of 2021, the economic program announced for 2022 sets out implementation of a monetary policy that would support stable and reasonable growth.

Chart 2.1.7: Underlying Trend of Inflation
(Annualized 3-Month Average, %)



Sources: Bloomberg, CBRT.

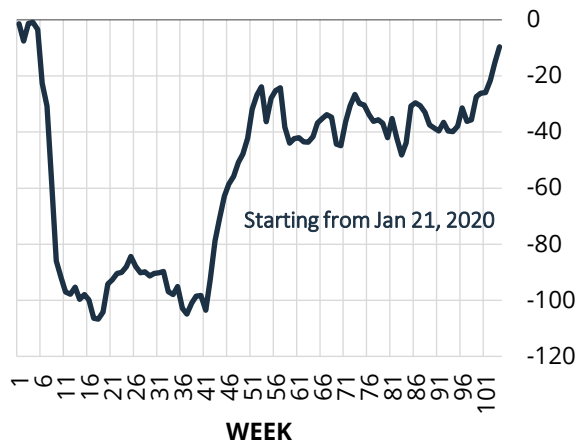
Chart 2.1.8 Consumer Inflation in Emerging Economies (Target, Tolerance Range and Current Inflation, %)



Source: Bloomberg.

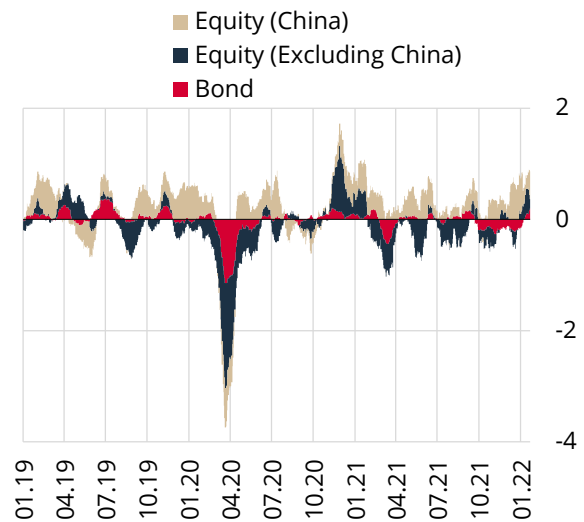
Emerging economies have recently attracted portfolio inflows to equity markets. The inflows that started in November have accelerated in the recent period. However, it is noteworthy that the outgoing funds during the pandemic have not fully returned to emerging economies over the past two years (Chart 2.1.9). Inflows were towards equity markets, this time including those other than China, unlike previous periods. On the other hand, limited inflows to bond market funds have also been observed since the beginning of the year (Chart 2.1.10). Expectations regarding the course of the pandemic and the monetary policies of advanced economy central banks will continue to have an effect on global risk appetite and portfolio movements in the upcoming period.

Chart 2.1.9: Portfolio Flows to Emerging Economies (Cumulative, Weekly, USD Billion)



Source: IIF.

Chart 2.1.10: Portfolio Flows to Emerging Economies (USD Billion, 4-Week Moving Average)



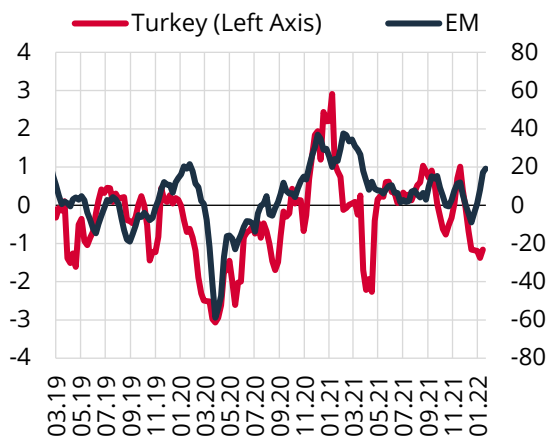
Source: IIF.

2.2 Financial Conditions

Despite increased concerns regarding the pandemic, the deterioration in the global inflation outlook and normalization signals from advanced economies with regard to their monetary policies led to a decline in the global risk appetite in the current reporting period. While portfolio inflows to emerging economies have continued in equity markets, GDDS markets have posted significant outflows particularly since mid-November. In Turkey, while equity markets continued to attract capital flows in November, both GDDS and equity markets posted outflows since December (Chart 2.2.1). In this period, EME risk premiums showed fluctuations, and Turkey's risk premium diverged negatively from EME risk premiums (Chart 2.2.2). In the current reporting period, net foreign outflows from GDDS markets and equity markets were USD 1.0 billion and USD 0.3 billion, respectively. In this period, portfolio outflows took place also through the swap channel and contributed negatively to the total portfolio movements.

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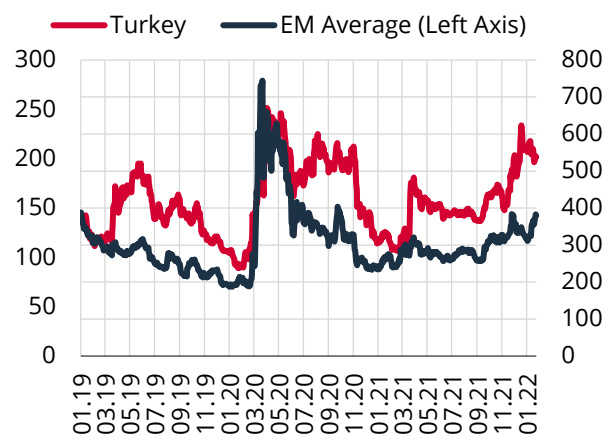
Chart 2.2.1: Portfolio Flows to Turkey and Emerging Economies* (4-Week Cumulative, USD Billion)



Sources: EPFR, CBRT.

* Turkey data includes portfolio flows to equity and GDDS markets. Repo is included in the GDDS data. Emerging Markets data is taken from the EPFR database and includes all the database-covered funds' weekly net investments in equity and GDDS markets in emerging economies.

Chart 2.2.2: Risk Premiums of Turkey and Emerging Economies (5-Year CDS, Basis Point)

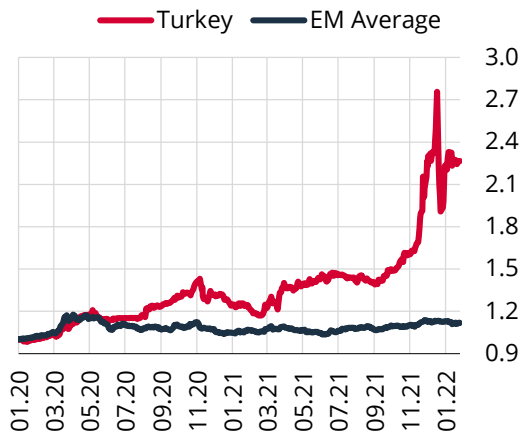


Source: Bloomberg.

EME: Brazil, South Africa, Indonesia, Colombia, Mexico, the Philippines, Malaysia, Chile, and Russia.

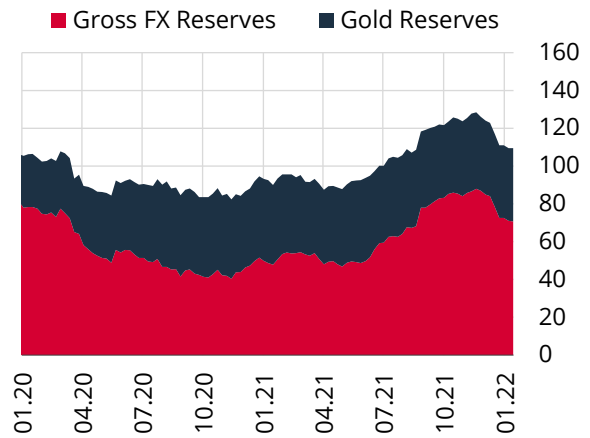
While EME currencies depreciated slightly against the USD in response to the increase in the dollar index, the Turkish lira diverged negatively (Chart 2.2.3). On the other hand, the uptrend in the CBRT's FX reserves reversed in the current reporting period (Chart 2.2.4).

Chart 2.2.3: Turkish Lira and Emerging Market* Currencies against US Dollar
(31.12.2019 = 1)



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

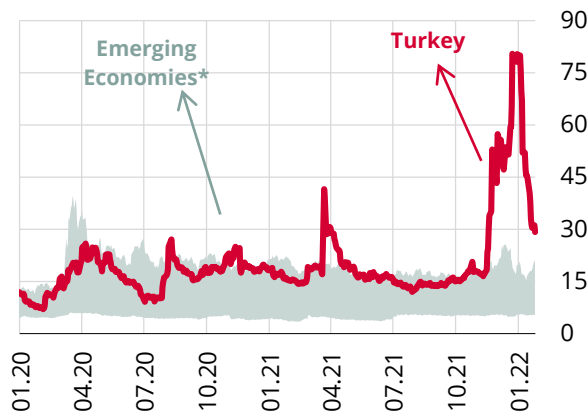
Chart 2.2.4: Change in CBRT's International Reserves (Weekly, USD Billion)



Source: CBRT.

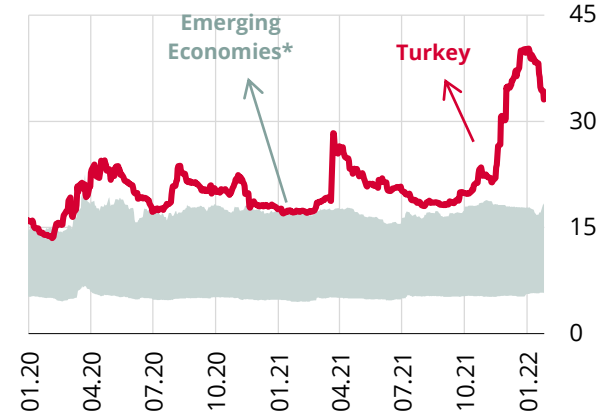
Exchange rate volatilities implied by options increased in EMEs. After rising significantly since December, the exchange rate volatility of the Turkish lira declined in January but is still hovering at quite high levels compared to the implied volatilities of EME currencies (Chart 2.2.5 and Chart 2.2.6).

Chart 2.2.5: Exchange Rate Volatilities Implied by Options (against USD, 1-Month Forward, %)



Source: Bloomberg.
* EMEs: Brazil, Chile, Colombia, Hungary, Indonesia, Malaysia, Mexico, Poland, Romania, S. Africa, and the Philippines.

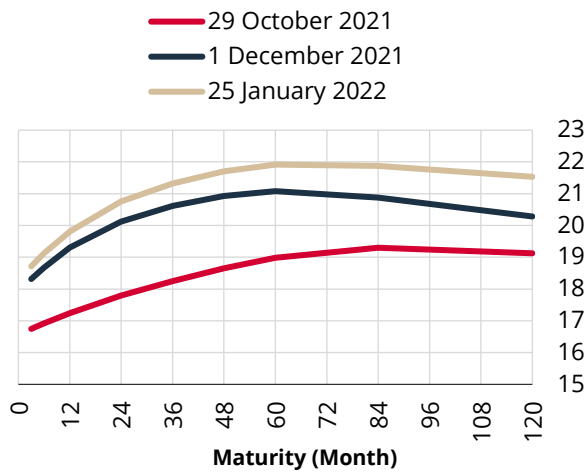
Chart 2.2.6: Exchange Rate Volatilities Implied by Options (against USD, 12-Month Forward, %)



Source: Bloomberg.
* EMEs: Brazil, Chile, Colombia, Hungary, Indonesia, Malaysia, Mexico, Poland, Romania, S. Africa, and the Philippines.

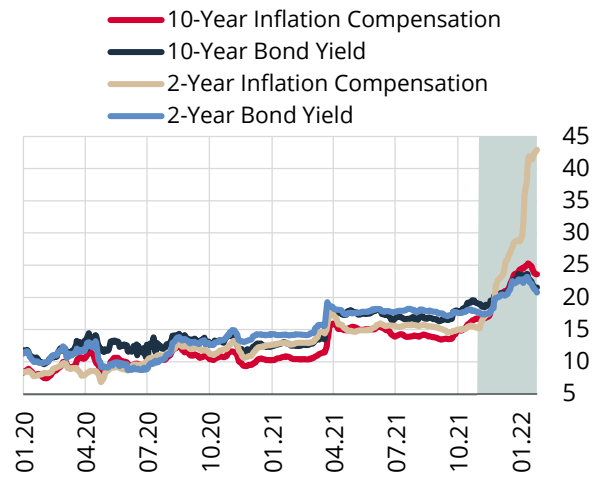
Inflation expectations and GDDS yields rose due to the increase in risk premium and the volatilities in the exchange rate. In the current reporting period, the yield curve shifted upwards in all maturities (Chart 2.2.7). In addition to the increase in actual inflation data and the deterioration in the inflation outlook, the higher inflation uncertainty drove the two-year inflation compensation up above 40 percent. However, the deterioration in short and medium-term inflation expectations was reflected in the 10-year inflation compensation to a limited extent (Chart 2.2.8).

Chart 2.2.7: GDDS Yield Curve (%)



Source: Bloomberg.

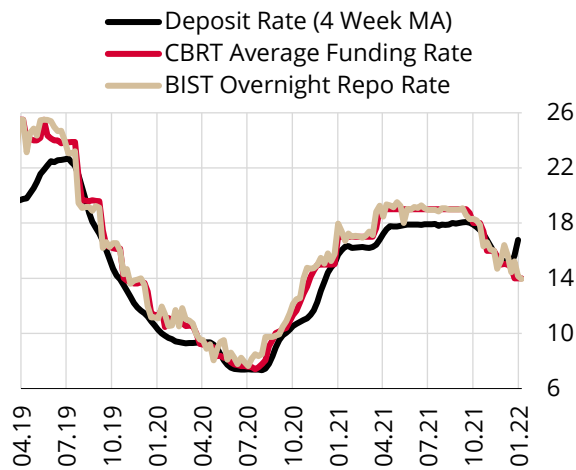
Chart 2.2.8: Long-Term GDDS Yields and Inflation Compensation (%)



Source: Bloomberg.

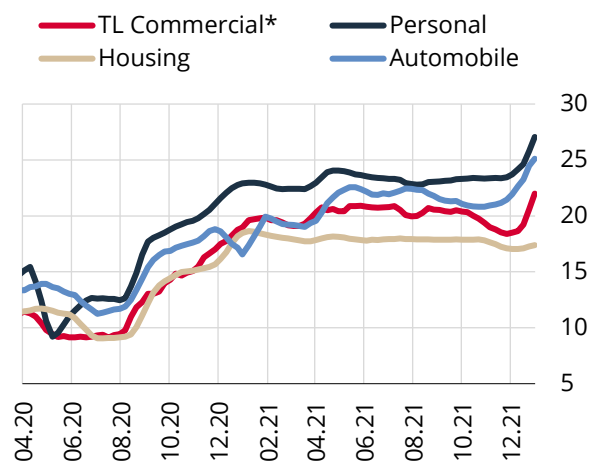
In the last quarter of 2021, banks' funding rates declined due to the monetary policy easing. As a result of policy rate cuts, banks' domestic funding costs declined. However, deposit rates increased slightly and diverged from the policy rate in December owing to the introduction of the FX-Protected Deposit product (Chart 2.2.9 and Box 2.1). Interest rates on loans other than personal loans also accompanied the policy rate cuts in this reporting period, and later showed increases at varying degrees in line with the rising deposit rates (Chart 2.2.10).

Chart 2.2.9: Indicators of Banks' Funding Costs (%)



Sources: Bloomberg, CBRT.

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

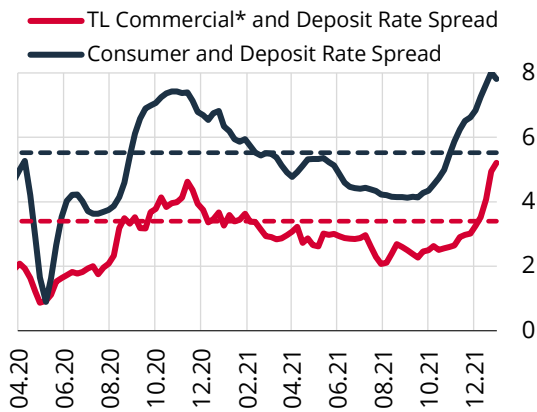


Source: CBRT.

* Overdraft accounts and credit cards excluded.

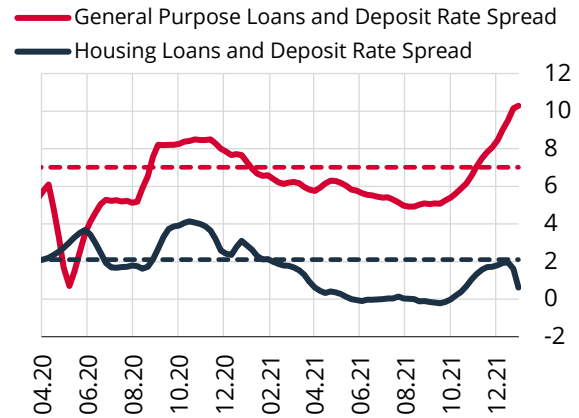
The loan-deposit rate spread, indicating the lending tendency of banks, increased compared to the previous reporting period. The loan-deposit rate spreads broken down into commercial and consumer loans increased as loan rates exceeded deposit rates (Chart 2.2.11). While the widening in the interest rate spread between deposits and personal loans accounting for the majority of total consumer loans was more significant, the spread between housing loan and deposit rates has remained below previous year averages (Chart 2.2.12). Higher loan rates limit the new credit demand, while the uptrend in the loan-deposit rate spread curbs loan supply.

Chart 2.2.11: Loan-Deposit Rate Spread**
(Flow Data, Annual Rates, 4-Week Moving Average, %)



Source: CBRT.
* Overdraft accounts and credit cards excluded.
** Dashed lines indicate the 2012-2019 average of the respective series.

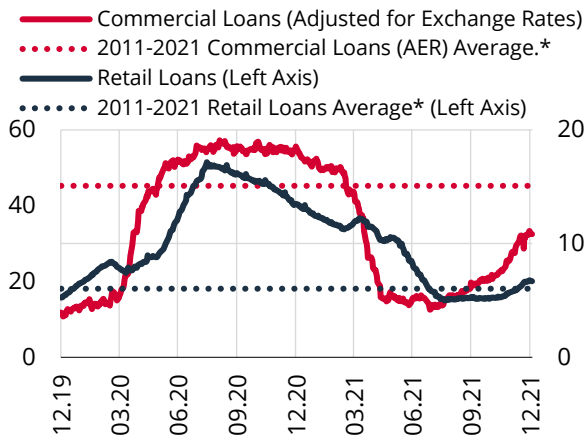
Chart 2.2.12: Loan-Deposit Rate Spread* (Flow Data, Annual Rates, 4-Week Moving Average, %)



Source: CBRT.
* Dashed lines indicate the 2012-2019 average of the respective series.

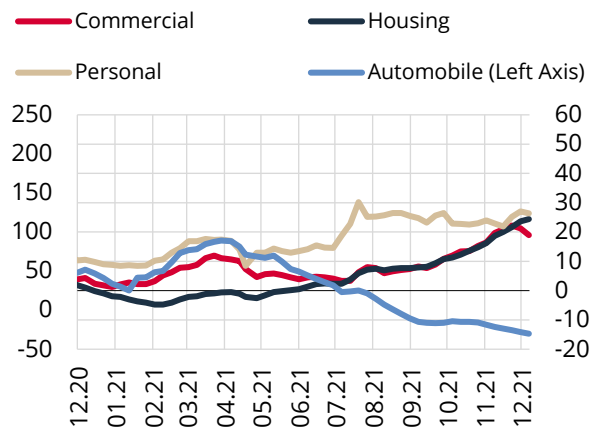
The increase in commercial loans in the last quarter of 2021 determined the loan growth. In the fourth quarter, the loan growth rate converged to historical averages on the back of the decline in real and nominal interest rates. The exchange rate-adjusted commercial and consumer loan growth by end-2021 was 10.9% and 20.2%, respectively (Chart 2.2.13). While commercial and housing loans gained pace, personal loan growth remained flat. Vehicle loans decreased quarter-on-quarter due to the exchange rate volatility (Chart 2.2.14).

Chart 2.2.13: Loan Growth (4-Week Annualized Growth, Adjusted for Exchange Rate, %)



Source: CBRT.
* Calculated by taking the average of annual changes between 7 January 2011 and 15 October 2021.

Chart 2.2.14: Loan Growth Rates by Types of Loans (13-Week Annualized Growth, Adjusted for Exchange Rate, %)

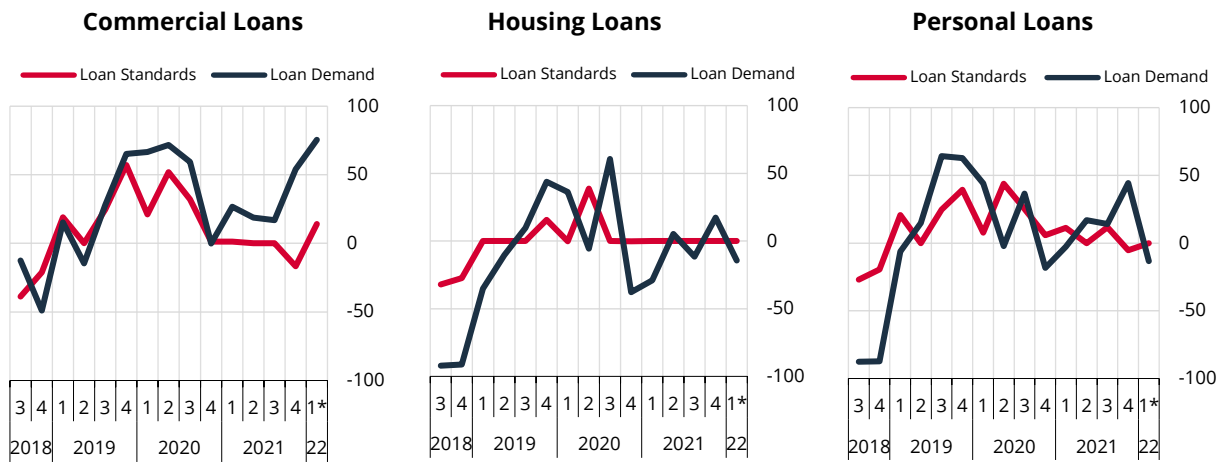


Source: CBRT.

According to Bank Loans Tendency Survey results, the demand for commercial, personal and housing loans increased in the fourth quarter of 2021 (Chart 2.2.15). The increase in the commercial loan demand largely arose from financing needs and discounts offered in cash purchases. In this period, banks applied tighter standards for commercial and personal loans, but left those for housing and automobile loans unchanged. A breakdown of commercial loans suggests that standards for long-term and FX-denominated loans became tighter, while short-term Turkish lira-denominated standards were eased. Primary tightening factors in loan standards were expectations regarding general economic activity, capital adequacy constraints and the outlook for the particular industry or firms. Banks anticipate an increase in the demand

for commercial and retail loans for the first quarter of 2022. It is expected that standards for commercial loans will be eased, while those for retail loans will remain same.

Chart 2.2.15: Loan Standards and Loan Demand



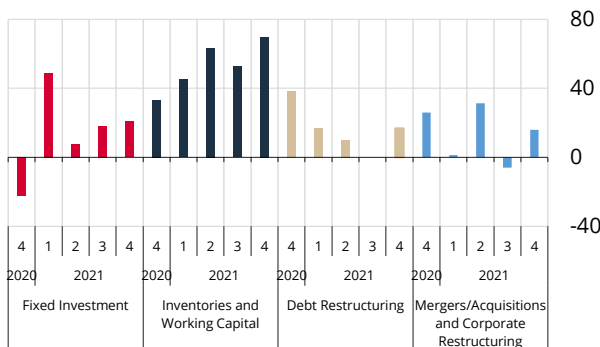
Source: CBRT.

* Expectations of banks.

Note: To calculate Loan Standards and Loan Demand indices, banks are asked how their loan standards (loan demand) have changed over the past three months. Net tendencies calculated based on response percentages indicate the direction of the change in loan supply (demand). Index values above 0 indicate easing in loan standards (increase in loan demand).

In the fourth quarter, investments continued to drive the loan demand up. In the fourth quarter of 2021, inventories and working capital needs were the major contributors to loan demand. However, fixed investments, advantages offered for cash purchases and restructuring of debts were the other factors that affected loan demand (Chart 2.2.16). Fourth quarter final data for loan demand for fixed investments imply that the investment tendency increased compared to the third quarter (Chart 2.2.17). Meanwhile, standards for long-term and FX-denominated commercial loans that might be related to fixed investments tightened further. Banks expect that standards for FX-denominated and long-term loans will continue to tighten in the first quarter of 2022. Expectations for the first quarter of 2022 indicate that the strengthening in the demand for fixed investment loans may remain limited.

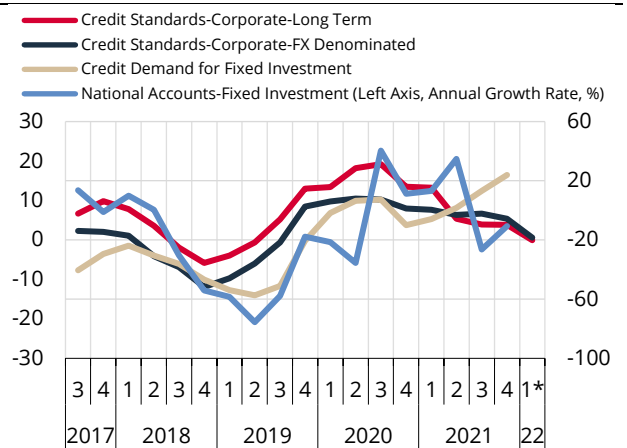
Chart 2.2.16: Leading Factors Affecting Firms' Loan Demand (%)



Source: CBRT BLTS.

Note: Net percentage changes in factors are the difference between the percentage ratio of the banks reporting that this factor increased the loan demand and those reporting that it decreased the loan demand.

Chart 2.2.17: Effect of Fixed Investment on Loan Demand and Fixed Capital Formation



Sources: CBRT BLTS, TURKSTAT.

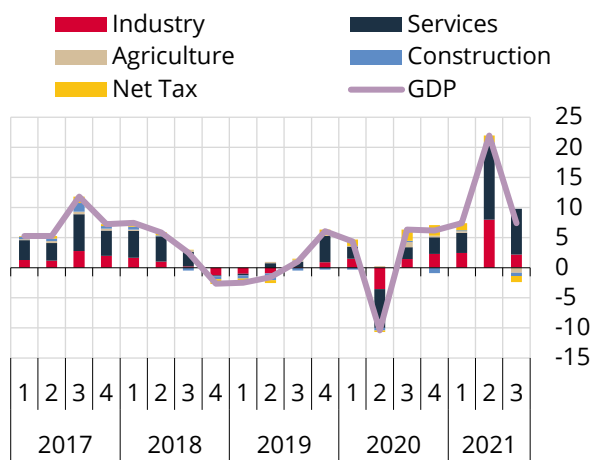
* Expectation of banks.

Note: Credit Demand for Fixed Investment is among the factors that affect loan demand. National Accounts-Fixed Investment has been calculated based on chain-linking values in GDP. 2021 fourth quarter data is an estimate.

2.3 Economic Activity

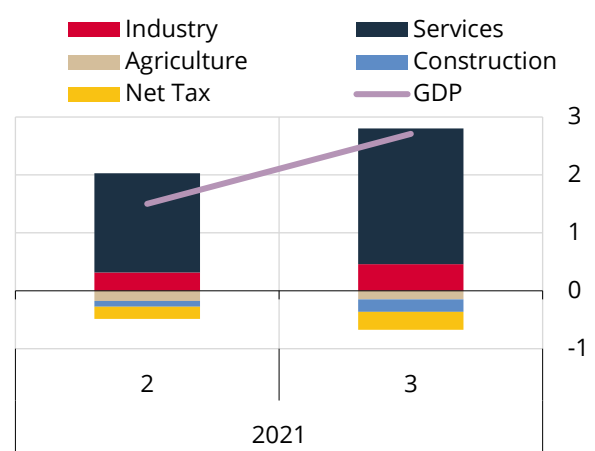
Economic activity remained strong in the third quarter of 2021 thanks to the easing of restrictions prompted by faster vaccination, and the significant rebound in tourism. In this period, GDP grew by 7.4% year-on-year and 2.7% quarter-on-quarter (Chart 2.3.1). On the production side, industrial and services sectors were the main drivers of annual and quarterly growth, whereas construction and agricultural sectors weighed on quarterly growth (Chart 2.3.2). On the expenditure side, the main driver of quarterly growth was domestic demand. Domestic demand made a larger contribution on the back of private consumption expenditures as well as the reopening-driven recovery in sectors that were more severely hit by the pandemic (Chart 2.3.4). Machinery-equipment investments rose by 17.5% in annual terms, thereby maintaining their high growth trend. Exports and imports increased on a quarterly basis, and net exports contributed by 0.1 and 6.8 percentage points to quarterly and annual growth, respectively (Charts 2.3.3 and 2.3.4).

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



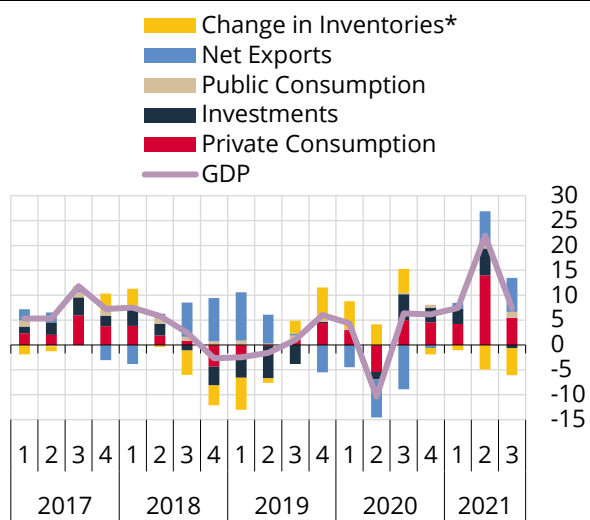
Sources: CBRT, TURKSTAT.

Chart 2.3.2: Quarterly GDP Growth and Contributions from Production Side (% Points)



Sources: CBRT, TURKSTAT.

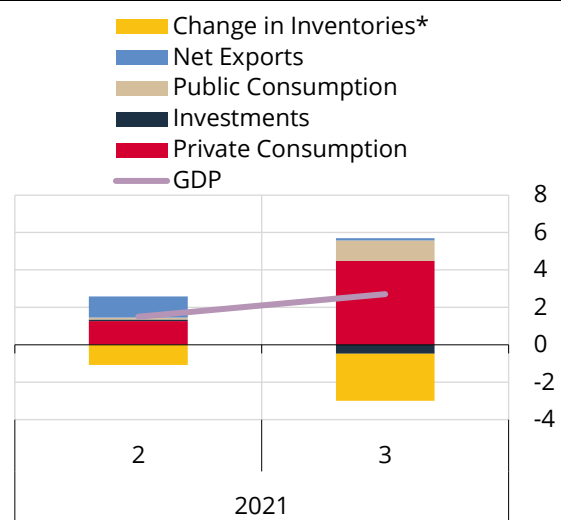
Chart 2.3.3: Annual GDP Growth and Contributions from Expenditures Side (% Points)



Sources: CBRT, TURKSTAT.

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

Chart 2.3.4: Quarterly GDP Growth and Contributions from Expenditures Side (% Points)

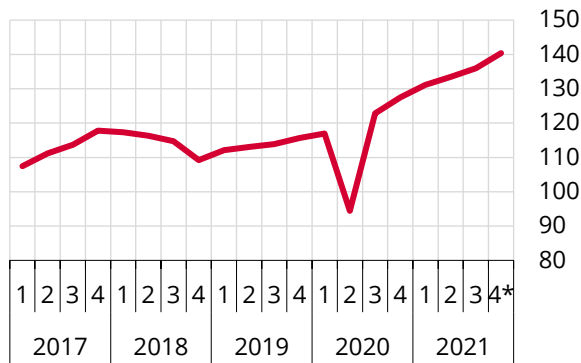


Sources: CBRT, TURKSTAT.

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

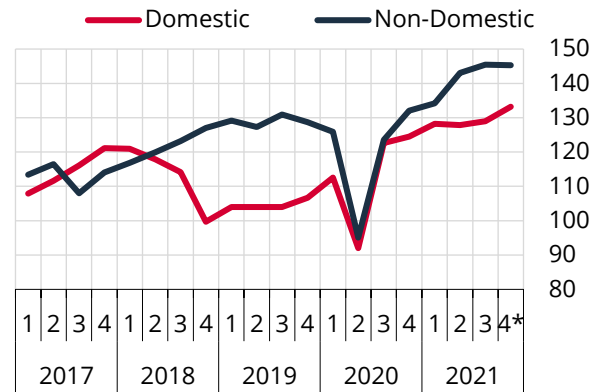
Indicators for the fourth quarter suggest that economic activity remained strong thanks to both domestic and external demand. Adjusted for seasonal and calendar effects, the Industrial Production Index (IPI) increased by 0.7% and 3.3% month-on-month in October and November, respectively. Thus, rising by 3.2% from the third quarter in the October-November period, the Industrial Production Index continued to trend upward in the fourth quarter as well (Chart 2.3.5). In particular, ongoing elevated levels of non-domestic industrial turnover indices indicate that external demand continued to support industrial production in the fourth quarter (Chart 2.3.6 and Box 2.2).

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



Source: TURKSTAT.
* October-November averages.

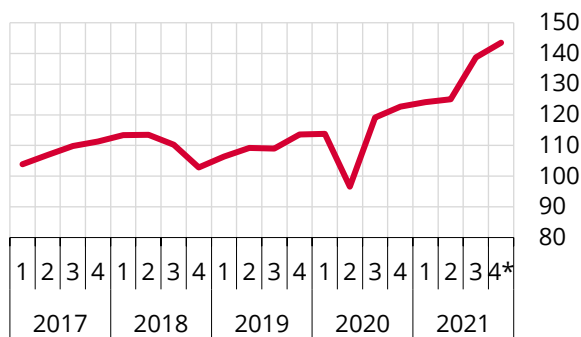
Chart 2.3.6: Industrial Turnover Indices
(Seasonally and Calendar Adjusted, Real, 2015=100)



Sources: CBRT, TURKSTAT.
* October-November averages.

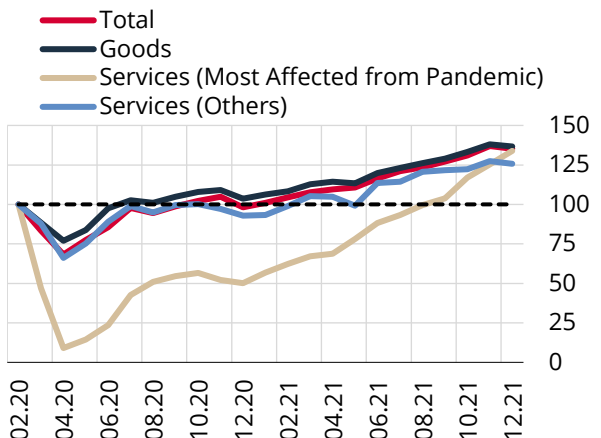
The spread of vaccination throughout the society facilitates the recovery in services, tourism and related sectors, which have been adversely affected by the pandemic, and leads to a more balanced composition in economic activity. The retail sales volume index continues to increase with the support of tourism-related items (Chart 2.3.7). The recovery in tourism and related services items became more evident on the back of the strong acceleration of vaccination and easing of restrictions. In fact, the data on card expenditures suggest that the rates of increase are higher in the services sectors that have been more adversely affected by the pandemic (Chart 2.3.8). On the other hand, although a limited loss of momentum was observed in card expenditures in December, high levels were maintained.

Chart 2.3.7: Retail Sales Volume Indices
(Seasonally and Calendar Adjusted, 2015=100)



Source: CBRT.
* October-November averages.

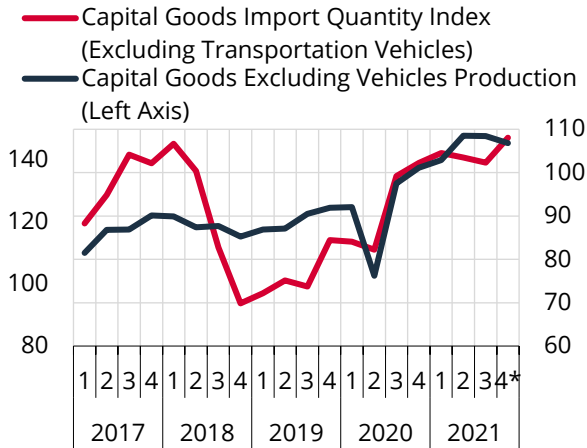
Chart 2.3.8: Card Expenditures (Seasonally and Adjusted, Real, February 2020=100)



Source: CBRT.

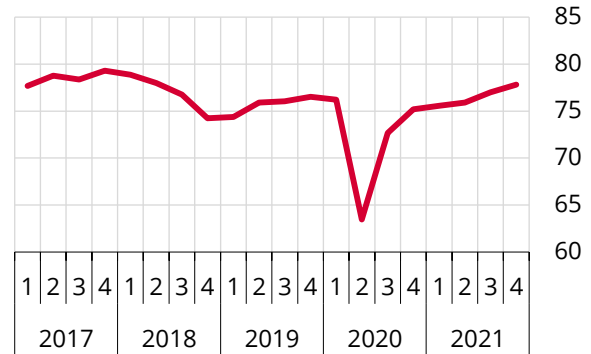
Investment tendencies remained at high levels in the last quarter of the year. Excluding the vehicles sector in which supply bottlenecks limit production, foreign trade and production indices as of November confirm that the demand for fixed capital goods remained strong in the last quarter of the year (Chart 2.3.9). In this period, the capacity utilization rate in the manufacturing industry exceeded its pre-pandemic level (Chart 2.3.10). This additional capacity need is deemed a factor that may support the investment demand in the upcoming period.

Chart 2.3.9: Capital Goods Production and Import Volume Index (Seasonally Adjusted)



Source: TURKSTAT.
* October-November averages.

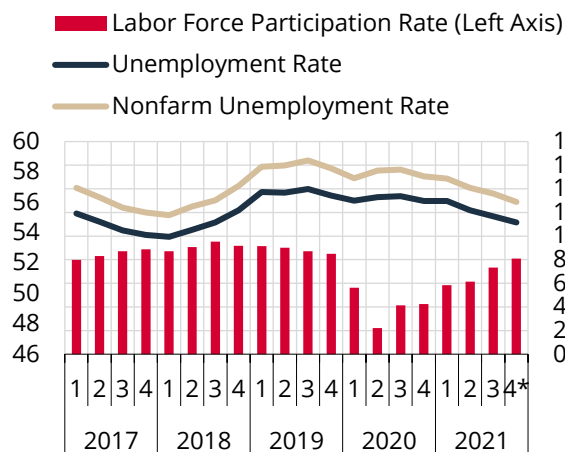
Chart 2.3.10: Capacity Utilization Rate (Seasonally Adjusted, %)



Source: CBRT.

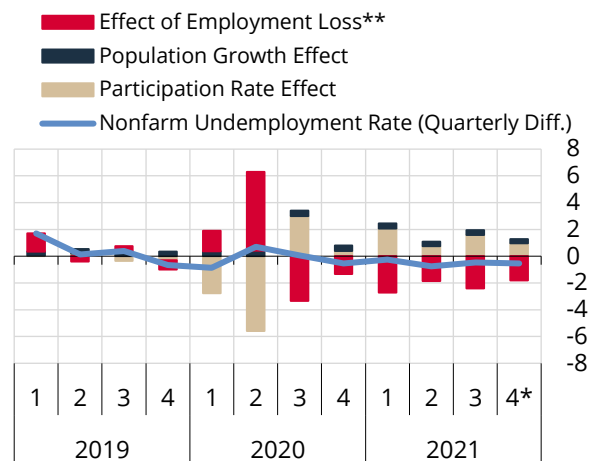
The improvement in the labor market continued in line with the outlook for economic activity. Taking the average of October and November into account, total and nonfarm unemployment rates both decreased by 0.5 points to 11.2% and 13.1%, respectively, compared to the previous quarter (Chart 2.3.11). As was the case in the third quarter, the decline in the unemployment rate was triggered by the increase in employment in this period, whereas the uptick in participation rate restricted the fall in unemployment (Chart 2.3.12).

Chart 2.3.11: Unemployment Rates and Labor Force Participation Rate (Seasonally Adjusted, %)



Source: TURKSTAT.
* October-November averages.

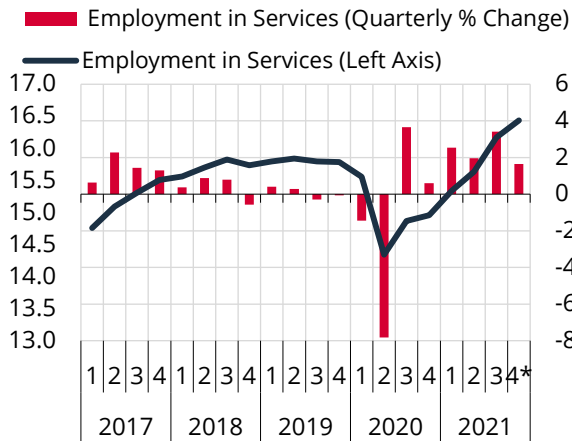
Chart 2.3.12: Contributions to Change in NonFarm Unemployment Rate (Seasonally Adjusted, % Points)



Sources: CBRT, TURKSTAT.
* October-November averages.
** Negative value indicates an increase in employment.

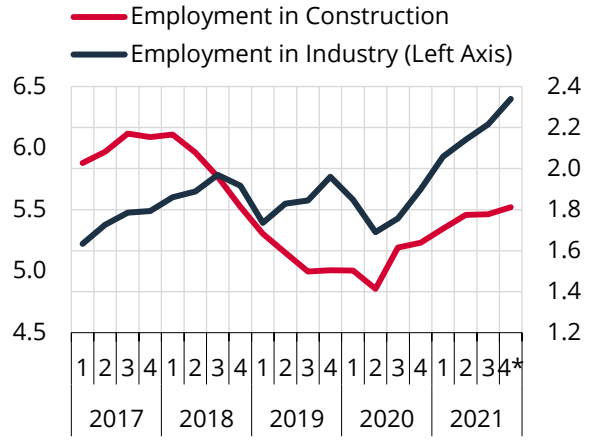
In the fourth quarter, industrial employment increased on the back of strong exports while services employment rose in line with the positive course of tourism. With the contribution of all its sub-components, nonfarm employment went up by 2.1% as of the October-November period compared to the third quarter. In this period, the rise in industrial employment (3.3%) was stronger than the increases in services and construction employment (1.7% and 2.0%, respectively) (Charts 2.3.13 and 2.3.14).

Chart 2.3.13: Services Employment (Seasonally Adjusted, Million People)



Source: TURKSTAT.
* October-November averages.

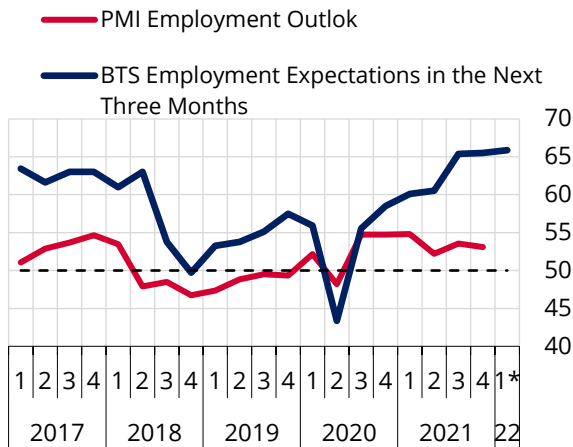
Chart 2.3.14: Industrial and Construction Employment (Seasonally Adjusted, Million People)



Source: TURKSTAT.
* October-November averages.

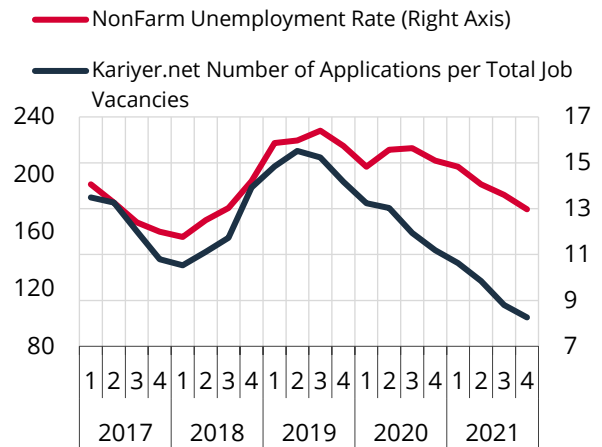
Survey indicators suggest that employment expectations hover at high levels in the manufacturing industry (Chart 2.3.15). Accordingly, the rise in employment is projected to continue in the upcoming period. Likewise, Kariyer.net's index of applications per job vacancy, which moves close to the unemployment rate, is also on the decline (Chart 2.3.16). However, high-rate increase in the minimum wage and other wages constitute a downside risk factor for the labor market, particularly for formal employment.

Chart 2.3.15: Employment Outlook and Expectation in the Industrial Sector** (Seasonally Adjusted, Up-Down)



Sources: IHS Markit, CBRT.
* As of January.
** BTS indicator is adjusted so that its neutral level will be 50 in line with the PMI.

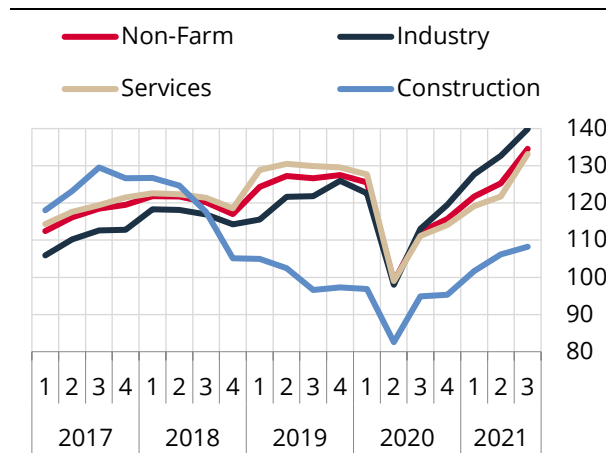
Chart 2.3.16: Kariyer.net Number of Applications per Total Job Vacancies and NonFarm Unemployment Rate (Seasonally Adjusted)



Sources: Kariyer.net, TURKSTAT.

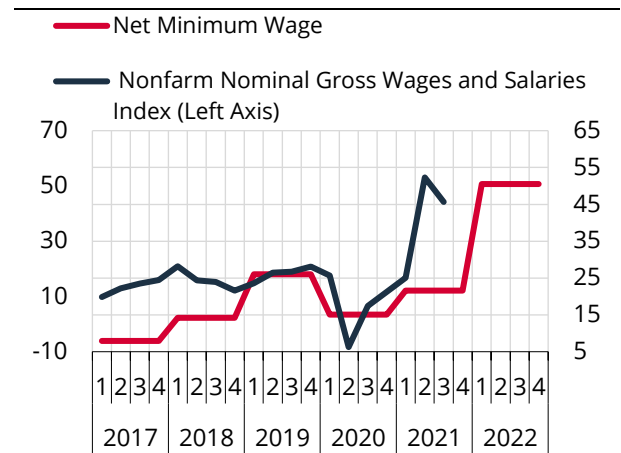
Total wage payments supported domestic demand through the disposable income channel in 2021, particularly in the industrial sector (Chart 2.3.17). The gross minimum wage was set at TRY 5,004 and net minimum wage at TRY 4,253.4 for 2022. Thus, the minimum wage increased substantially by 50.5% (Chart 2.3.18). Moreover, it was announced that a certain portion of wage earnings corresponding to the minimum wage amount would be exempt from income tax and stamp duty. Due to the large increase in the minimum wage and the marked backward-indexation behavior in other wage adjustments, the rate of increase in nominal wage is expected to be higher throughout 2022 compared to the previous year.

Chart 2.3.17: Total Wage Payments*
(Seasonally Adjusted, 2015=100, Real**)



Sources: CBRT, TURKSTAT.
* HLF5 employment*Per capita real wage.
** Deflated by the CPI.

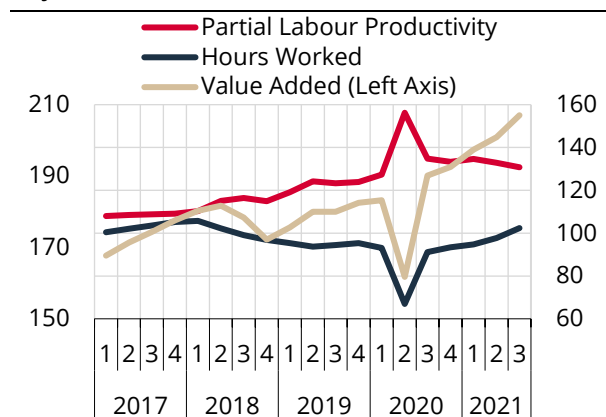
Chart 2.3.18: Nonfarm Gross Wages and Salaries Index and Net Minimum Wage
(Nominal, 2015=100, Annual % Change)



Sources: MLSS, CBRT, TURKSTAT.

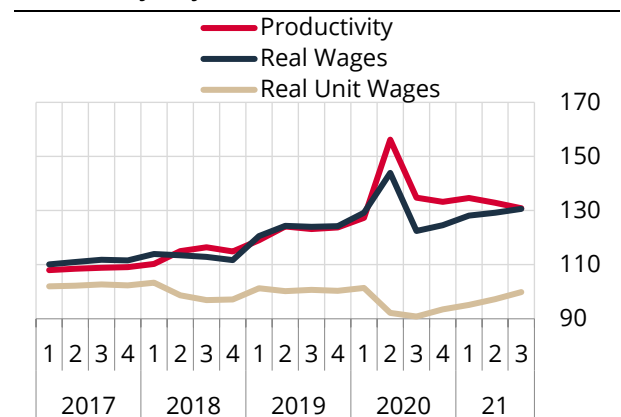
In the first nine months of 2021, real unit wages (per capita real wage/productivity) increased in the nonfarm sector. While partial labor productivity per hours worked decreased to a limited extent, real unit wages increased in tandem with the increase in the real wage per hours worked (Charts 2.3.19 and 2.3.20). Given the outlook for main drivers of total wages, with the minimum wage increase, labor market conditions, and past inflation in the lead, it is estimated that the expected real unit labor costs will have an inflationary effect in 2022 compared to the previous reporting period.

Chart 2.3.19: Nonfarm Partial Labor Productivity per Hours Worked* (Seasonally Adjusted, 2015=100)



Sources: CBRT, TURKSTAT.
* Productivity (Value Added/Hours Worked).

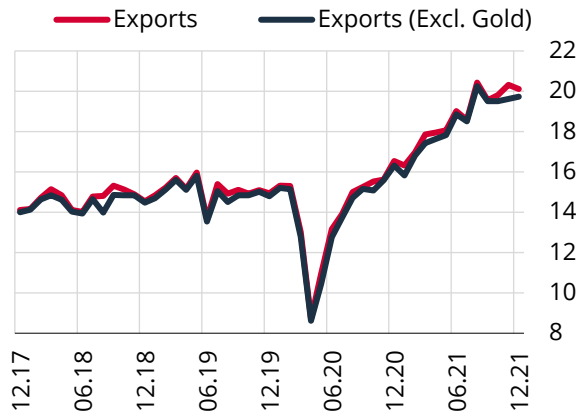
Chart 2.3.20: Nonfarm Productivity per Hours Worked, Real Wages and Real Unit Wage* (Seasonally Adjusted, 2015=100)



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

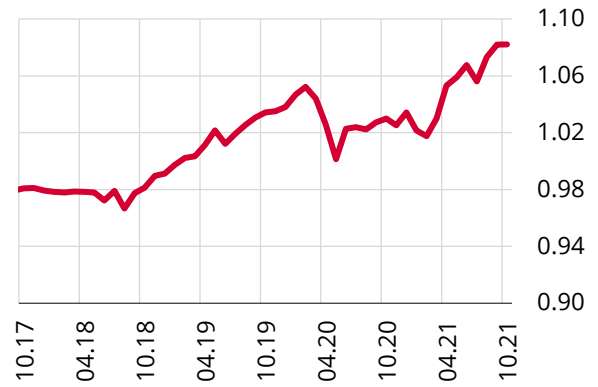
Exports maintained its uptrend in the last quarter of 2021. Thus, the uptrend in exports that started in the second half of 2020 continued into the last quarter of 2021 (Chart 2.3.21). In the same period, gold exports rose significantly. According to provisional data, exports surged by 33% on an annual basis to approximately USD 225.4 billion in 2021. Turkey's share in world exports boosted by the recent strong outlook of exports maintained its relatively high level as of October (Chart 2.3.22).

Chart 2.3.21: Exports* (Seasonally and Calendar Adjusted, Billion USD)



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

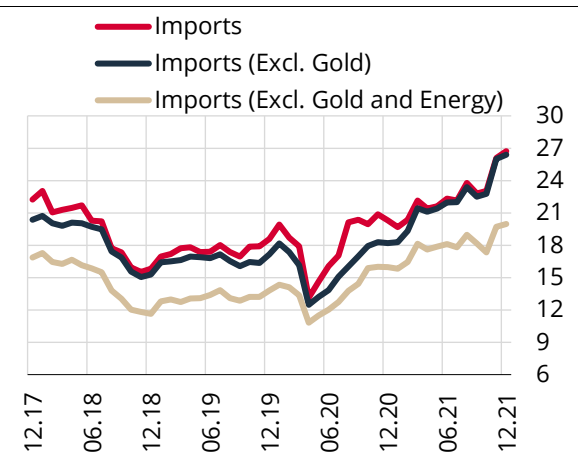
Chart 2.3.22: Turkey's Share in World Exports (Excluding Gold, 12-Month Cumulative, %)



Sources: CPB, WTO, TURKSTAT.

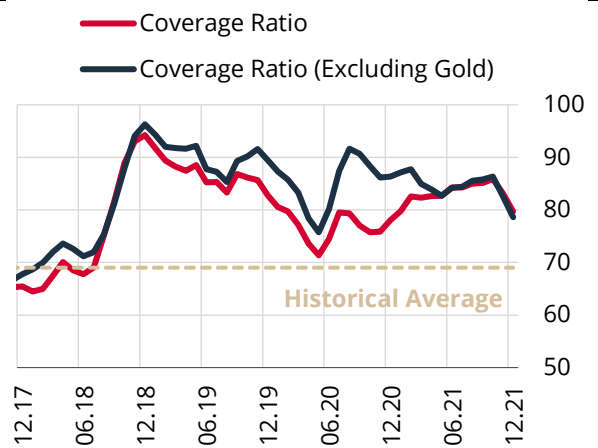
In this period, despite the decline in the real exchange rate, imports went up due to relatively strong economic activity and rising energy prices. Imports excluding gold posted a large quarterly increase of 10.7% in the final quarter (Chart 2.3.23). Thus, the export-import coverage ratio dropped below 80% but continued to hover above its historical average (Chart 2.3.24). Across goods groups, imports of consumption goods decreased in the fourth quarter whereas imports of investment goods and particularly intermediate goods rose. In this period, the marked increase in energy prices was the main driver of the rise in imports excluding gold (Zoom-In 2.1). According to provisional data, total imports amounted to approximately USD 271.4 billion in 2021.

Chart 2.3.23: Imports* (Seasonally and Calendar Adjusted, Billion USD)



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

Chart 2.3.24: Export-Import Coverage Ratio* (Seasonally and Calendar Adjusted, 3-Month Moving Average, %)



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

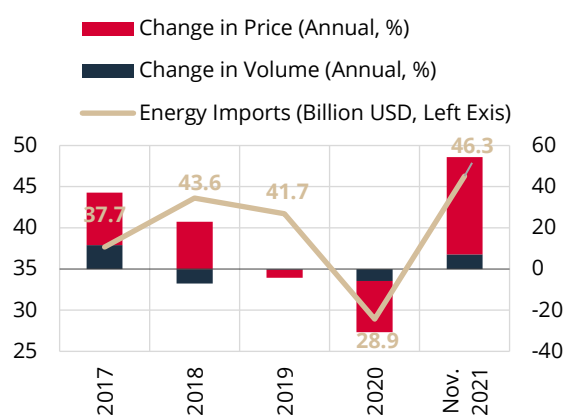
Zoom-In 2.1

Impact of the Rise in Energy Prices on Current Account Balance

In 2021, the rise in energy prices following the recovery in global demand brought about an increase in the energy bill. In the post-pandemic period, energy prices trended upward parallel to the global increase in energy demand, and these increases accelerated in the second half of 2021. In this period, price increases were also the main driver of the rise in energy imports. Decomposing the price and quantity components, annualized energy imports, which stood at USD 46.3 billion as of November 2021, rose by an average of 54.4% compared to the previous 12-month period. Of this rise, 47.4 percentage points were price-driven and 7 percentage points were quantity-driven (Chart 1).

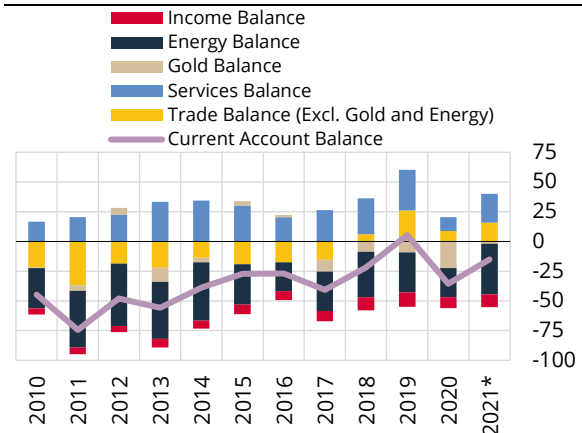
The rise in energy prices plays a significant role in the rise in imports, and limits the improvement in the current account balance. According to the most up-to-date foreign trade data announced by the Ministry of Trade, energy imports rose to USD 50.5 billion while the energy-driven foreign trade deficit increased to USD 42.3 billion (Chart 2). Besides the strong course of economic activity, large increases in import prices in energy sub-items during the last quarter of the year, coinciding with the rise in the need for heating, led to a substantial rise in the import bill and limited the improvement in the current account balance. The possibility for rising prices to limit the energy demand is expected to remain low also in the first quarter of 2022 due to the strong economic activity and the heightened need for heating during the winter months. Accordingly, it is judged that energy prices will continue to exert downward pressure on the current account balance.

Chart 1: Components of the Change in Energy Imports (Annual, %)



Source: TURKSTAT.

Chart 2: Components of the Current Account Balance (Billion USD)

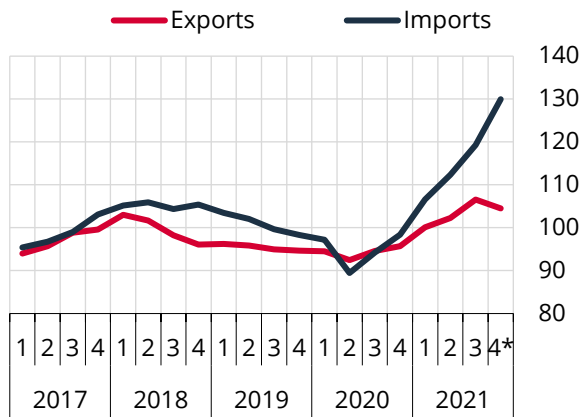


Sources: MoT, CBRT.

* For December 2021, gold and energy balance data are provisional, others are estimates.

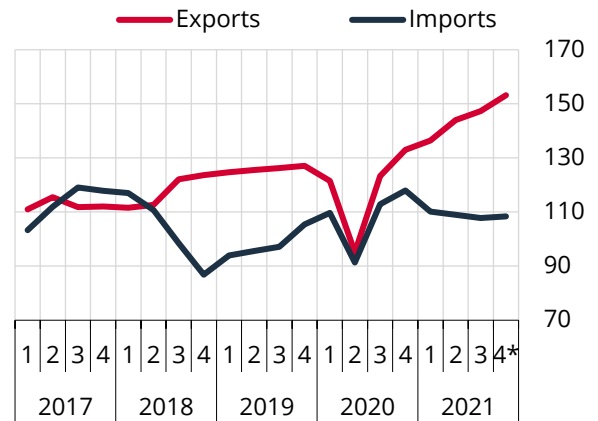
The rebalancing in foreign trade continues in real terms, despite a deceleration in November. The deterioration trend in the terms of foreign trade persisted in the last quarter, and continued to affect the current account balance negatively (Chart 2.3.25). When adjusted for price effects, the volume of exports maintained its uptrend due to the recovery in global demand and the level of real exchange rate, while the volume of imports remained flat and the rebalancing process continued in real terms (Chart 2.3.26 and Box 2.3). Also considering that the fall in the real exchange rate had a lagged effect, the relatively strong volume of imports may have resulted from the course of economic activity and the bringing forward of demand, albeit partially, in imports of intermediate goods in particular.

Chart 2.3.25: Foreign Trade Unit Value Indices (2015=100)



Source: TURKSTAT.
* October-November averages.

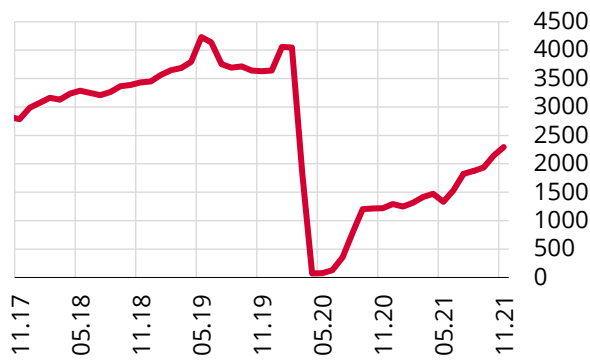
Chart 2.3.26: Foreign Trade Volume Indices (Seasonally Adjusted, 2015=100)



Source: TURKSTAT.
* October-November averages.

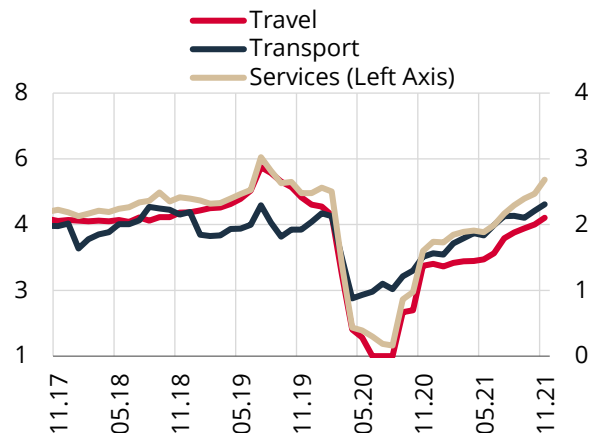
The recovery in the number of foreign visitors continued in the final quarter, and services revenues reached the pre-pandemic levels. The increase in the number of tourists, which was prompted by the lifting or easing of travel restrictions to a large extent following the spread of vaccination, continued in the last quarter of the year (Chart 2.3.27). It is noted that travel and transport revenues recovered more quickly in the same period (Chart 2.3.28). Parallel to this, services revenues also posted a rapid recovery and reached pre-pandemic levels, thereby contributing positively to the current account balance.

Chart 2.3.27: Number of Tourists (Seasonally and Calendar Adjusted, Thousand People)



Source: CBRT.

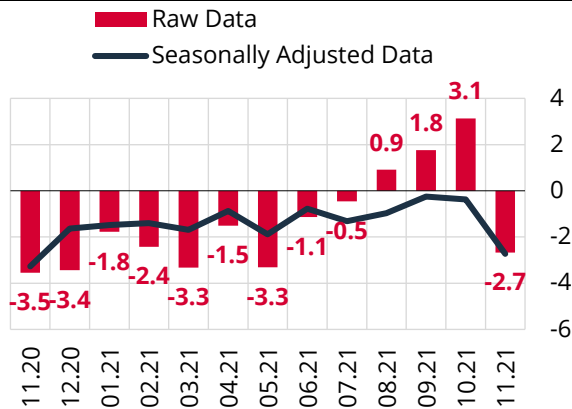
Chart 2.3.28: Services Revenues (Seasonally and Calendar Adjusted, Billion USD)



Source: CBRT.

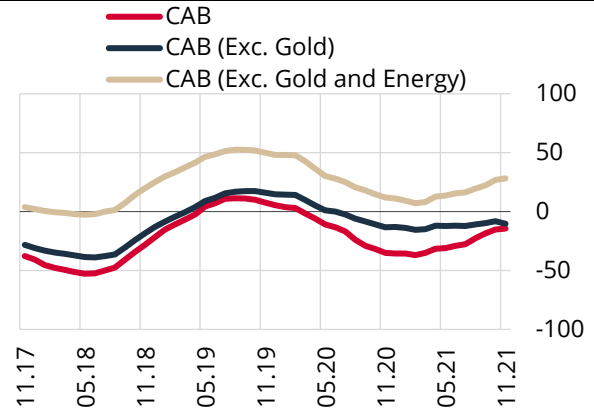
The current account balance posted a deficit in November due to the marked increase in imports despite the ongoing rise in exports and the strong recovery in services revenues. The improvement trend in the seasonally adjusted current account balance led by strong exports and the recovery in services revenues came to an end in November due to the rise in import demand, and the current account balance worsened (Chart 2.3.29). On the other hand, the 12-month cumulative current account balance, which shows the longer-term trend, continued to improve in November with some deceleration (Chart 2.3.30). The improvement in the annual current account balance excluding gold and energy continues whereas there is an energy imports-driven decline in the current account balance excluding gold.

Chart 2.3.29: Current Account Balance (Billion USD)



Source: CBRT.

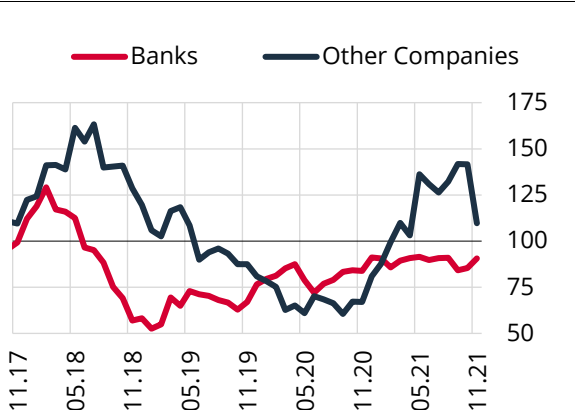
Chart 2.3.30: Current Account Balance (CAB, 12 Month Cumulative, Billion USD)



Source: CBRT.

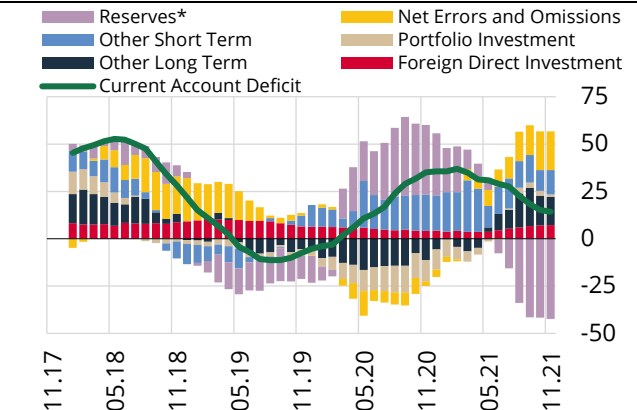
Reserves continued to increase in annual terms on the back of the moderate improvement in the 12-month cumulative current account balance and net capital inflows. While the private sector’s long-term debt rollover ratio remains above 100% despite some decline, the banking sector’s debt rollover ratio is below 100% but tending upwards (Chart 2.3.31). In November, 12-month cumulative net capital inflows amounted to USD 36 billion, of which USD 7 billion came from net foreign direct investments, USD 15 billion from other long-term items including external bond issuances and the SDR, USD 1.5 billion from equities and the GDDS, and USD 13 billion from other short-term items (Chart 2.3.32). Thus, more than half of net capital inflows was composed of long-term inflows. Due to the decline in the current account deficit and the rise in net capital inflows, the annual increase in official reserve assets continued, reaching USD 44 billion in November.

Chart 2.3.31: Debt Rollover Ratios (Long-Term Loans, 6-Month Moving Average, %)



Source: CBRT.

Chart 2.3.32: Financing of the Current Account Deficit (12-Month Cumulative, Billion USD)



Source: CBRT.

* Shows the CBRT reserves plus the cash and deposits at banks abroad. The sign “-” means an increase in reserves.

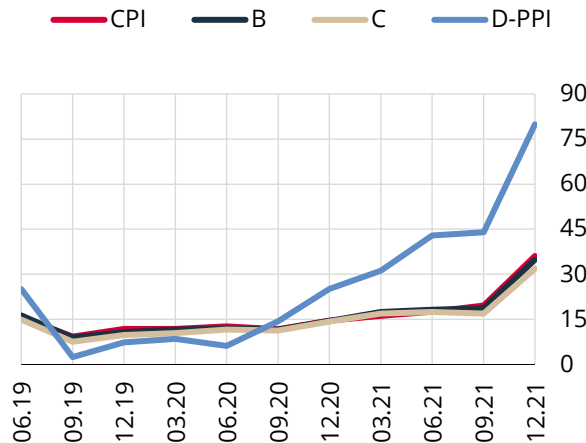
While public spending increased significantly in the last quarter of 2021, tax revenues also performed well in line with the course of economic activity. In 2021, the central government budget deficit widened compared to the previous year. In this period, total and primary expenditures increased by 32.9% and 32.6% year-on-year, respectively, while total revenues grew by 36.8%. Thus, the central government budget ran a deficit of TRY 192.2 billion, and the primary deficit became TRY 11.4 billion. The annualized budget deficit and primary deficit to GDP ratios in 2021 are estimated to be 2.7% and 0.2% respectively. These ratios indicate that the budget performed better than the initially announced 2021 budget deficit target of 3.5%, and that there is additional fiscal space for 2022.

2.4 Inflation

Consumer inflation ended 2021 at 36.08%, above the upper limit of the forecast range presented in the October Inflation Report, while B inflation similarly overshot the forecast range with 34.89%. The exchange rate basket increased by 55.4% against the Turkish lira in the last quarter, which was the biggest driver of the rise in inflation. In this period, in addition to the sharp depreciation of the Turkish lira, the exchange rate volatility hit historic highs, while pricing behavior deteriorated significantly, and the pass-through from exchange rates to consumer inflation was much higher due to increased exchange rate indexation. Consequently, annual inflation soared across all sub-groups, while inflation expectations worsened, and the diffusion index pointed to economy-wide price increases. Economic activity remained strong in the fourth quarter amid buoyant external demand, but rising import and international food prices as well as supply-side factors such as agricultural drought, supply chain disruptions and high transportation costs, although somewhat falling, continued to dampen the inflation outlook (Box 2.4). In this period, changes in some administered prices, such as the increased raw milk reference price and the expiry of temporary VAT discounts for services, passed through to consumer inflation, whereas the zero SCT on fuel products pushed the sliding scale system to its limit. As a result, consumer prices jumped by a quarterly 19.47% in seasonally adjusted terms (Table 2.4.1). The depreciation of the Turkish lira, higher commodity prices, supply constraints and transportation costs continued to drive producer prices higher. Moreover, price adjustments for electricity and natural gas were another factor that weighed on producers, adding to producer price-driven pressures (Chart 2.4.1, Zoom-In 2.2).

Core goods, food and energy were the main drivers of the rise in consumer inflation from 19.58% in the third quarter to 36.08% at the end of the year. In this period, the contribution from core goods to annual inflation rose by 6.52 points quarter-on-quarter to 11.94 points, while the contribution from food increased by 4.37 points to 11.36 points. In the last quarter, the contribution from energy was 5.20 points, up 2.44 points, while the contributions from services and alcohol-tobacco and gold increased at a relatively slower rate (Chart 2.4.2).

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

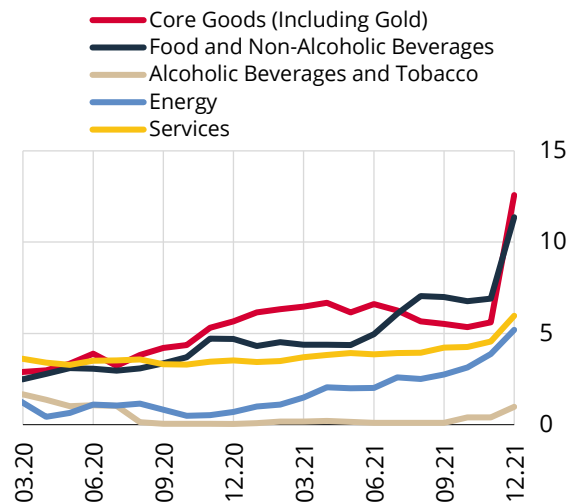


Source: TURKSTAT.

* CPI excluding unprocessed food, energy, alcohol-tobacco and gold.

** CPI excluding food and nonalcoholic beverages, energy, alcohol-tobacco and gold.

Chart 2.4.2: Contributions to Annual CPI (%)
(Points)



Sources: CBRT, TURKSTAT.

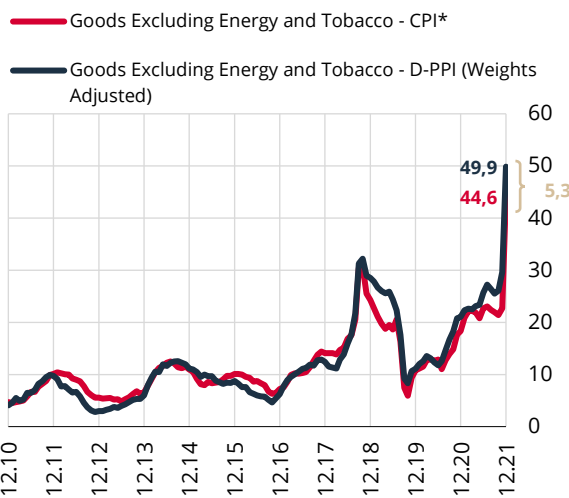
Zoom-In 2.2

Observations on the Pass-through from Producer Prices to Consumer Prices

To have a better understanding of the developments regarding producer prices and consumer prices, it is important to recognize the differences between the two indices. As of December, the gap between headline producer and consumer inflation rates has widened significantly (Chart 2.4.1). Producer inflation may diverge considerably from consumer inflation at times due to the compilation of producer prices in tax-excluded terms, the differences in the coverage of indices such as the exclusion of services prices from the producer index in particular, and their position in the supply chain. Based on the factors that cause this divergence between the two data sets, the following section compares the goods category included in D-PPI and CPI, and calculates a PPI index compatible with the CPI scope and weights by taking into account the mismatch between the production and consumption patterns (weight structure) of the economy. Lastly, in order to minimize the effect of tax adjustments, which is another cause of divergence between the two indices, the highly tax-sensitive categories of energy and tobacco are excluded from the comparison.

When differences in the coverage of producer and consumer price indices are eliminated, the consistency between the two data sets increases significantly, the pass-through is quite high, and the gap between the latest inflation rates is lower than what the raw data imply (Chart 1). The end-2018 divergence between inflation rates reflected the temporary tax cuts on durable consumer goods. In the last period, the main cause was prices of motor vehicles, which can be attributed to the fall in automobile prices due to the readjusted SCT base in August 2021, and to vehicle availability due to supply constraints.

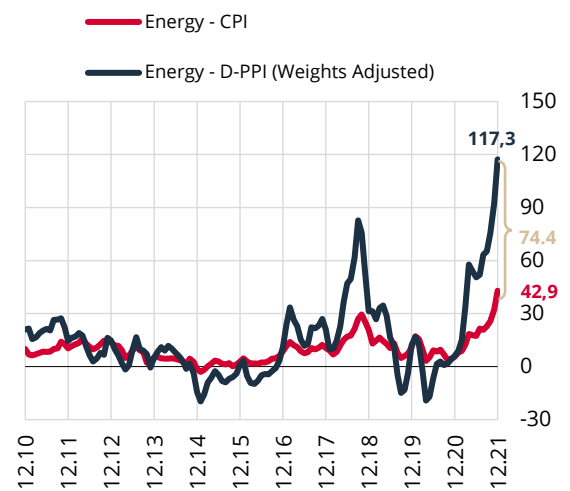
Chart 1: CPI vs D-PPI: Prices of Goods excl. Energy and Tobacco (Annual % Change)



Sources: CBRT, TURKSTAT.

* Items with comparable producer and consumer prices only. Excludes items with no comparable producer prices, such as fresh fruits and vegetables, eggs, dried vegetables, books, potatoes and small electrical supplies (accounting for 6.8% of total weight as of 2021).

Chart 2: CPI vs D-PPI: Energy Prices (Annual % Change)

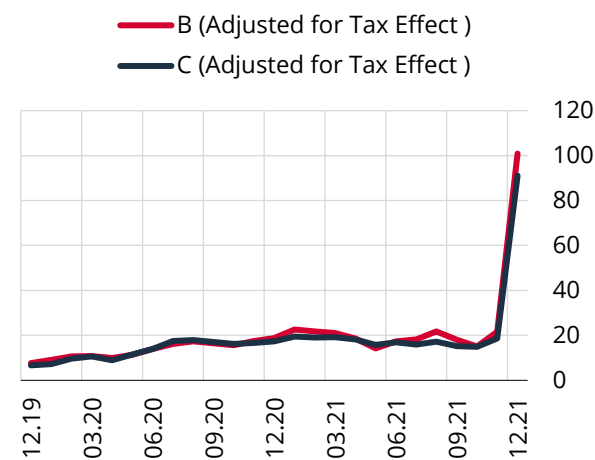


Sources: CBRT, TURKSTAT.

The indicators created show that the pass-through from producer prices to consumer prices is very rapid for non-energy items (Chart 1). Sectoral analyses hint at additional impacts from core goods and food products excluding fresh fruits and vegetables. However, it is noted that producer and consumer price dynamics differ the most in energy, which is partly explained by the tax-free prices of the D-PPI, but producer price pressures are particularly high for electricity, natural gas and municipal water (Chart 2). In fact, this outlook as of December caused household electricity and natural gas prices to jump in January.

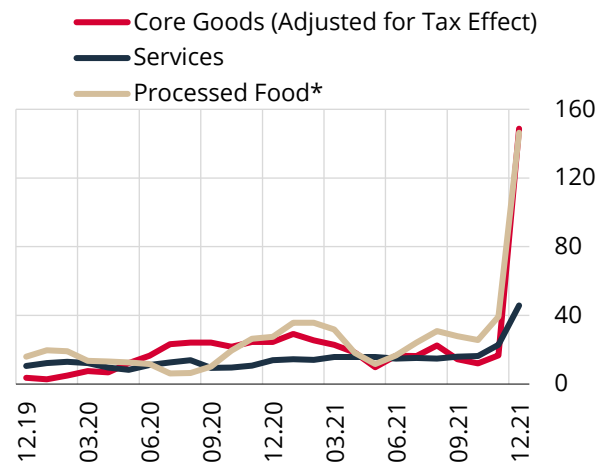
Both annual inflation rates and trends of core indicators increased significantly (Chart 2.4.3). After declining slightly in October, the inflation trend rose sharply at the end of the year. The inflation trend was markedly higher across all main categories included in core indicators, core goods and processed food in particular (Chart 2.4.4). In the final quarter, prices of core goods, which have high exchange rate pass-through, increased significantly in seasonally adjusted terms (24.19%) on the back of durable goods (Table 2.4.1). After slowing in the previous quarter, the inflation in durable goods surged dramatically in the last quarter largely due to exchange rates and amid pressures from international prices. Prices of durable goods soared by 33.95% quarter-on-quarter led by the rise in automobile prices (up 47.20%), while prices of white goods, furniture, and other electrical and non-electrical appliances also rose sharply in this period. Meanwhile, clothing and footwear inflation saw a rapid acceleration despite a marked slowdown in the last two quarters. Across the other core goods category, which normally reflects a slower exchange rate pass-through, exchange rate developments were factored in prices sooner due to the magnitude of the shock, with maintenance and repair of dwellings, parts and accessories for transport equipment, personal care products and household cleaning products recording the largest quarterly increases. The strong price hike (24.67%) in processed food in this quarter was driven by exchange rates as well as rising international food and agricultural commodity prices, agricultural drought, and the adjusted prices for raw milk. Exchange rates and the outlook for food prices brought increased inflationary pressures on the services sector in the last quarter, resulting in significantly higher inflation in restaurants-hotels and other services, which are sensitive to such factors. Specifically, annual inflation in restaurants-hotels exceeded 40% due to increased prices for eating out and accommodation, and became the main driver of the worsened services inflation. Among transport services, prices were significantly higher for intercity road and air passenger transportation. Having accelerated in the third quarter, rent inflation remained on an upward trend in this period (Table 2.4.1).

Chart 2.4.3: Indices B and C (Seasonally Adjusted, Annualized 3-Month Average % Change)



Sources: CBRT, TURKSTAT.

Chart 2.4.4: Sub-Groups of Index B (Seasonally Adjusted, Annualized 3-Month Average % Change)



Sources: CBRT, TURKSTAT.

* No seasonality detected for processed food.

Table 2.4.1: Consumer Prices

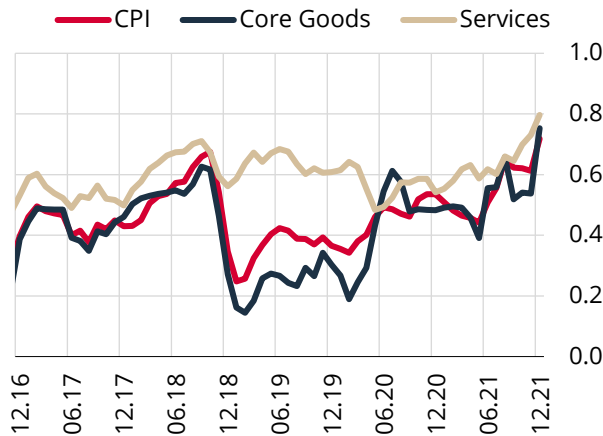
	Quarterly % Change (Seasonally Adjusted)				Annual % Change			
	2021				2021			
	I	II	III	IV	I	II	III	IV
CPI	3.92	4.72	4.67	19.47	16.19	17.53	19.58	36.08
1. Goods	3.75	5.36	5.48	22.34	17.81	19.29	21.55	41.10
Energy*	3.60	3.88	9.22	21.61	12.43	17.28	22.77	42.93
Food and nonalcoholic beverages	2.54	7.27	8.82	20.09	17.44	19.99	28.79	43.80
Unprocessed food	-1.19	10.08	12.50	13.87	14.98	18.70	32.06	39.83
Processed food*	7.11	3.91	6.35	24.67	19.87	21.20	25.79	47.57
Core goods	5.40	3.82	3.42	24.19	22.14	21.92	19.38	40.55
Clothing and footwear	3.95	1.75	1.44	12.37	7.33	6.86	7.11	19.92
Durable goods (excl. gold)	4.32	4.61	1.81	33.95	33.29	30.86	22.12	48.93
Furniture	7.28	6.01	3.64	24.22	36.19	35.75	28.68	46.35
Automobiles	2.06	4.74	-0.25	47.20	41.11	36.03	22.88	57.04
Electrical and nonelectrical appliances*	-0.03	5.01	3.87	26.55	20.53	20.17	16.16	38.00
Other durable goods*	4.85	5.31	3.56	23.74	26.11	27.12	25.54	41.50
Other core goods*	4.74	6.15	5.14	19.99	16.80	20.61	23.26	40.26
Alcoholic beverages, tobacco and gold*	-0.19	3.25	-0.38	24.58	10.95	9.12	2.92	27.90
2. Services	3.71	3.51	3.75	9.82	12.56	13.46	15.06	22.33
Rent	2.56	2.60	3.04	3.48	9.24	9.93	10.85	12.20
Restaurants and hotels	5.85	5.82	6.33	18.13	15.39	18.86	23.27	40.85
Transport	3.26	6.67	2.51	8.04	9.96	10.28	15.21	21.99
Communication	2.07	1.35	1.45	1.30	7.36	7.36	6.68	6.32
Other services	3.42	3.79	3.75	9.98	14.69	15.45	15.47	22.61

Sources: CBRT, TURKSTAT.

* No seasonality detected.

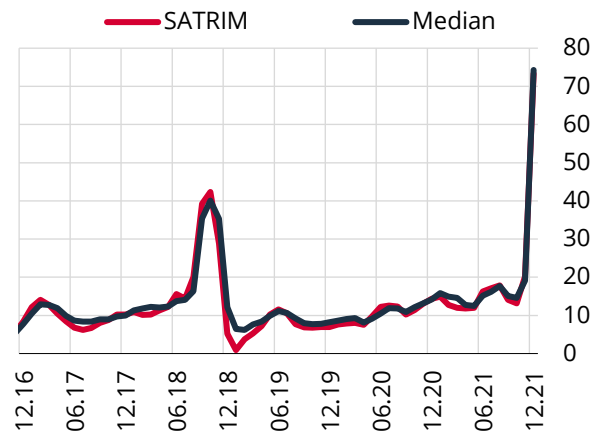
Diffusion indices and alternative core inflation indicators reached an all-time high as of December. These high levels in diffusion indices suggest that upward price adjustments were at high rates and spread across all sub-categories (Chart 2.4.5). The diffusion of price increases was especially broad-based for the services sector, while microdata analyses reveal that the frequency of price updates increased, and the average duration for prices to remain unchanged thus dropped. Among other indicators for the underlying trend, SATRIM and Median inflation, like other trend indicators, increased significantly at the end of the year, all of which together indicated a significant deterioration in pricing behavior (Chart 2.4.6). High consumer inflation carries the risk of stronger backward indexation.

Chart 2.4.5: Diffusion Indices of CPI and Main Spending Items (Seasonally Adjusted, 3-Month Average % Change)



Sources: CBRT, TURKSTAT.

Chart 2.4.6: Core Inflation Indicators SATRIM* and Median** (Annualized, 3-Month Average % Change)



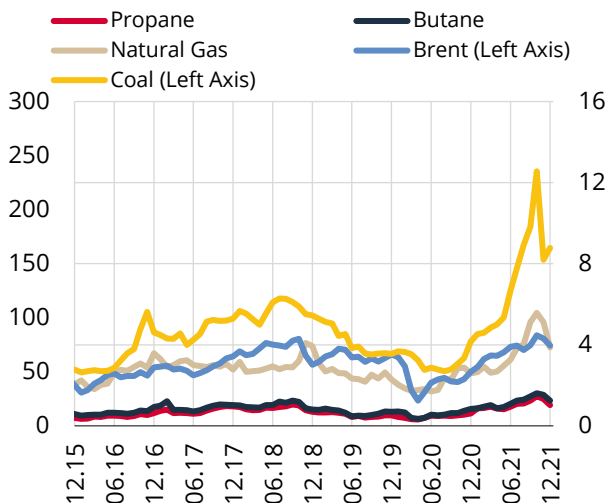
Sources: CBRT, TURKSTAT.

* SATRIM: Seasonally adjusted, trimmed mean inflation.

** Median: Median monthly inflation of seasonally adjusted 5-digit indices.

The upward trend in energy inflation accelerated significantly with the pass-through from the last quarter's strong Turkish lira depreciation to domestic prices. Energy prices rose by a sizable 21.61% in the last quarter of 2021 (Table 2.4.1). October's zeroed-out SCT on fuel products pushed the sliding scale system to its limit, and thus changes in Turkish lira-denominated international oil prices started to have a direct impact on domestic fuel prices. After exceeding USD 80 in October, international Brent oil prices declined in the following months, almost to their end-September level in December. After a sharp increase in October, international energy prices dropped to a level slightly below that of end-September at the end of the year (Chart 2.4.7, Zoom-In 2.3). Despite this outlook, energy inflation accelerated significantly due to the exchange rate pass-through to prices for fuel, bottled gas and solid fuels such as coal, and annual energy inflation soared by 20.16 percentage points to 42.93% (Chart 2.4.8). In this period, industrial electricity and natural gas prices surged notably due to higher international energy costs. As of 1 January, prices went up for household electricity and natural gas as well. In the upcoming period, consumer inflation will reflect the indirect effects of the price adjustments in electricity, natural gas and fuel through output costs.

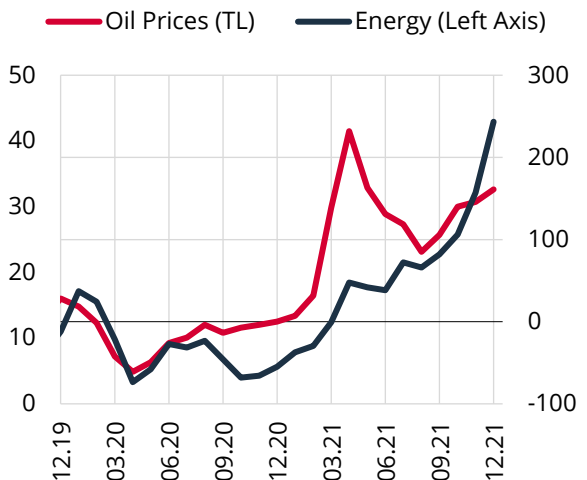
Chart 2.4.7: Energy Commodity Prices* (USD)



Source: Bloomberg.

* Brent per barrel of oil, coal per ton, natural gas per MMBtu, and butane and propane per gallon.

Chart 2.4.8: Energy Prices (Annual % Change)



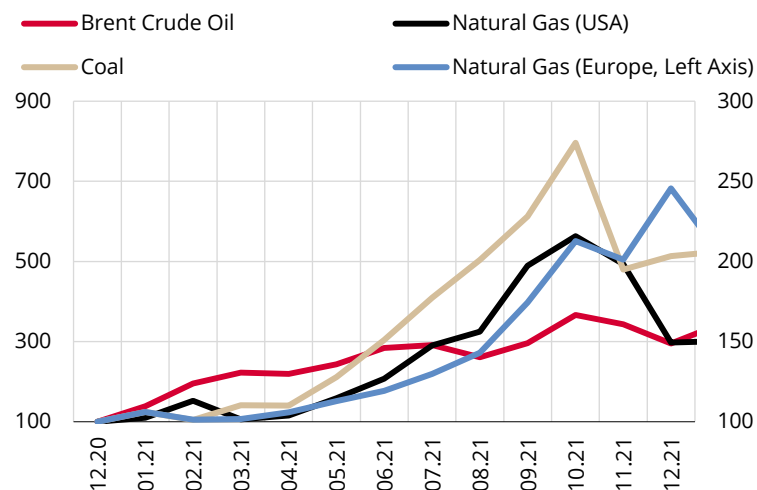
Sources: Bloomberg, CBRT, TURKSTAT.

Zoom-In 2.3

Impacts of Global Energy Commodity Prices on Inflation

The elevated course of global energy commodity prices in 2021 led to a rise in producer and consumer prices on a local and global scale. The increase in energy commodity prices was affected by both supply and demand conditions. Thanks to the widespread vaccination of the general population and the gradual removal of pandemic-related measures on a global scale, a revival was observed in the services, tourism and related sectors that are highly sensitive to pandemic conditions, and there was a rapid increase in the global demand. However, a supply-demand mismatch surfaced in the energy market and caused a rise in prices globally due to several factors such as: (i) countries' efforts to stockpile to avoid supply shortages, (ii) maintenance and repair problems in oil facilities, (iii) IDA hurricane's negative impact on oil facilities, (iv) weather conditions weakening production from alternative energy sources, (v) inadequate shale gas drilling (vi) geopolitical factors causing a supply-demand mismatch in the energy market leading to an increase in prices globally (Chart 1). As a matter of fact, Brent oil prices, which hovered around USD 43 throughout 2020 on average, increased by 64% to an average of USD 71 in 2021; meanwhile prices of natural gas traded on the US markets increased from USD 2.1 to USD 3.7 dollars with a 75% rise. The Dutch-based natural gas price with 1-month maturity, which is indicative for European natural gas prices, displayed a significant rise and increased by 391% from USD 9.6 to USD 47.2. Meanwhile, coal prices increased by 119% from an average of USD 61 dollars to USD 134.

Chart 1: Global Energy Commodity Prices (2020 December=100)

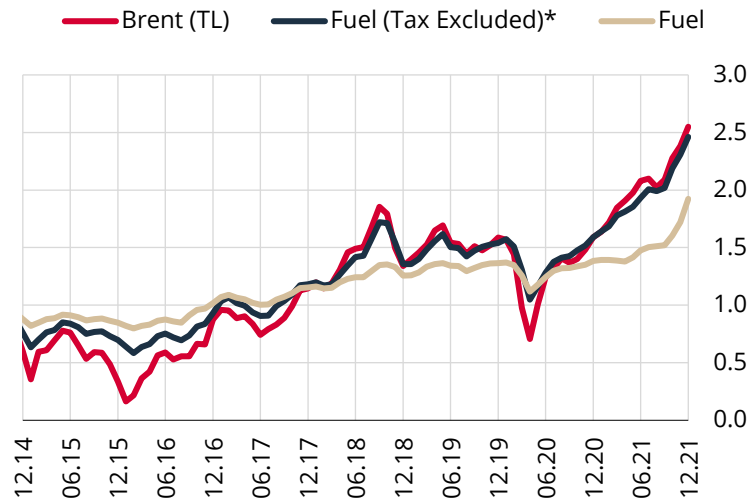


Source: Bloomberg.

The high levels of international energy prices affected domestic energy prices, both directly and indirectly. The increase in oil prices created a direct inflationary pressure on domestic fuel prices, and there have been significant rises in fuel prices excluding taxes. Although this upward pressure was partially alleviated by the sliding scale system, the adverse effects of international prices on consumer prices were clearly felt (Chart 2). The rise in international natural gas and coal prices has been the main driver of the rise in domestic electricity and natural gas prices. Since a significant amount of electricity in Turkey is produced by using natural gas and coal, international prices have adversely affected production costs. Actually, in this period, the composite cost index derived from natural gas and coal prices significantly increased, and electricity prices formed under free market conditions and producer prices moved in tandem with the course of the cost index (Chart 3). Moreover, due to the drought in Turkey in this period, the share of hydraulic energy was limited and possibility of easing the effects of external price pressures was decreased. Similarly, domestic natural gas prices displayed an uptrend in line with the course of international commodity prices (Chart 4).

In order to curb the effects of developments in electricity and natural gas sectors on households, prices of electricity and natural gas used in residences have been subsidized, thus the direct effects of price movements in these sectors on consumer inflation have been limited in 2021. Nevertheless, as a result of the rise in industrial electricity and natural gas prices, there have been indirect effects on the CPI due to production costs.

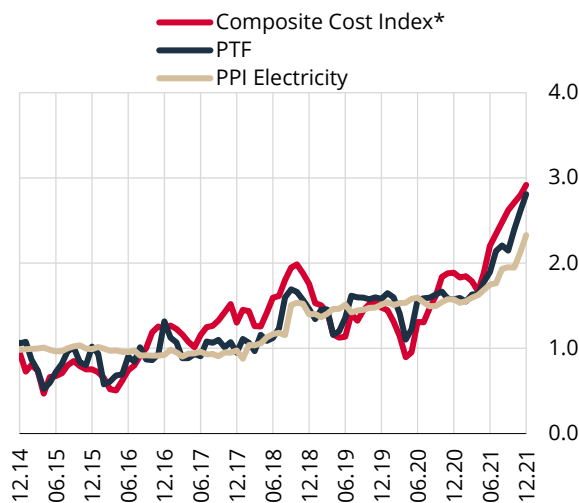
Chart 2: International Oil Prices and Domestic Fuel Prices
(Logarithmic Price, 2014=1)



Sources: Bloomberg, CBRT, TURKSTAT.

* In calculations, it was assumed that the changes in the SCT amount on fuel products were directly reflected on consumer prices.

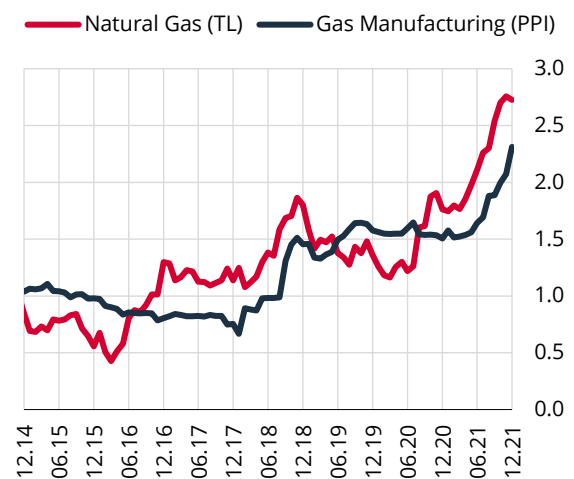
Chart 3: Market Clearing Price and Composite Cost Index (Logarithmic Prices, 2014=1)



Sources: Bloomberg, EXIST, CBRT.

* Shows weighted average of natural gas, imported coal and domestic coal (Lignite PPI) prices. Weights that change over time are determined according to the share of relevant items in production. PTF represents the electricity market clearing price issued by EXIST.

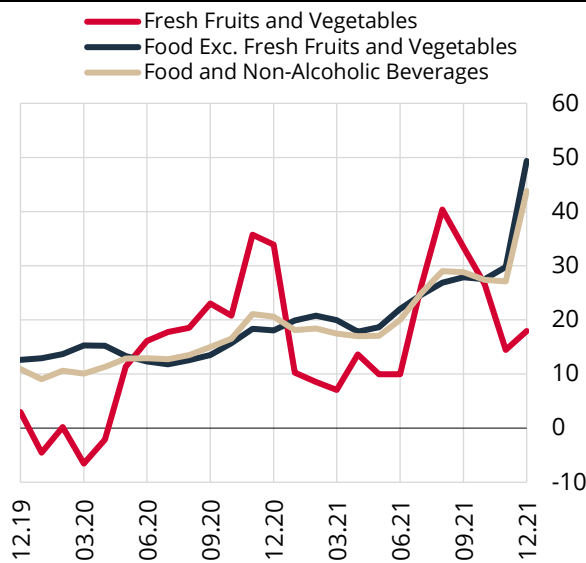
Chart 4: International Natural Gas and Gas Production Prices (Logarithmic Prices, 2014=1)



Sources: Bloomberg, CBRT, TURKSTAT.

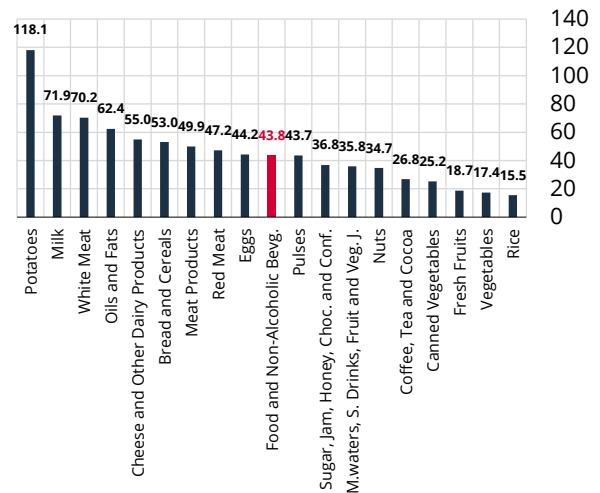
Due to the depreciation of the Turkish lira, the ongoing increase in international agricultural commodity and food prices, and the agricultural drought, food inflation rose significantly at the end of the year. The uptrend, which had been observed in annual inflation in food and non-alcoholic beverages since May, became stronger in this period, and annual inflation reached 43.80% with a 15.01-point increase (Chart 2.4.9). Both unprocessed and processed food groups affected the rise in annual food inflation, while the effect of processed food prices was higher (Table 2.4.1). Seasonally adjusted data for unprocessed food prices suggest that prices of fresh fruits and vegetables decreased on the back of favorable weather conditions, whereas prices of other unprocessed food displayed a very high quarterly rise (Chart 2.4.9). Prices of agricultural inputs such as fertilizers and feed, which are highly sensitive to exchange rates, increased significantly due to exchange rate developments and supply constraints, and these price increments affected the food group, particularly red meat, white meat, milk and egg prices. The agricultural drought, which decreased production and yield of cereals and pulses, continues to exert a price pressure. Meanwhile, the 46.9% increase in the raw milk reference price (the raw milk reference price was increased from TRY 3.2 to TRY 4.7 to be effective as of 8 December 2021) has largely affected food inflation. Processed food inflation accelerated at the end of the year, and sharp price increases were observed across sub-items. Domestic wheat and flour prices incremented in tandem with the unfavorable course of international wheat prices and the increase in exchange rates, leading to an upward pressure on the bread-cereal group inflation (Chart 2.4.10). In this period, the TGB continued to work on a regulation to curb feed costs and flour prices. To sum up, in the final quarter, annual inflation in the fresh fruit and vegetable group decreased compared to the previous quarter and was recorded at 17.94%, while the upward trend in the other food group further accelerated and reached 49.35% (Chart 2.4.9).

Chart 2.4.9: Food Prices (Annual % Change)



Sources: CBRT, TURKSTAT.

Chart 2.4.10: Food Prices (2021 December, Annual % Change)



Source: CBRT, TURKSTAT.

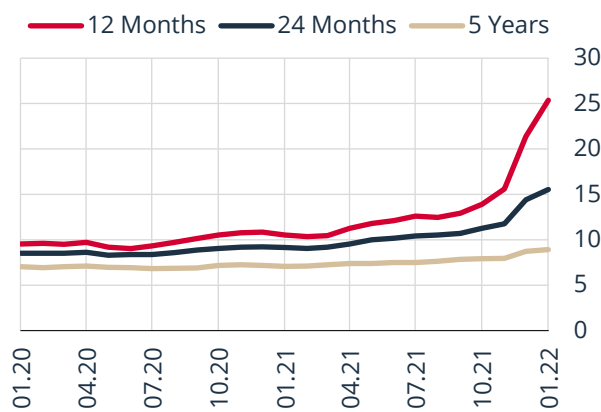
In the final quarter, the quarterly increase in the alcoholic beverages and tobacco group was 17.88%.

Producer companies increased their cigarette prices by TRY 1 in October and TRY 2 in December, thus the prices of tobacco products increased by 19.17% in the final quarter, and the total effect of these developments on consumer inflation was 0.88%. As of January, in the alcoholic beverages and tobacco group the six-month PPI increase was reflected on the specific and minimum specific taxes, and cigarette prices rose by TRY 4 per pack on average.

Drivers of Inflation

While the rise in inflation expectations became more remarkable over the last quarter, the distribution of expectations became more dispersed. According to the January results of the Market Participants Survey, the 12 month-ahead inflation expectations increased by 11.46 points compared to October and reached 25.37%. Unlike previous periods, in December, the deterioration in expectations spread towards longer maturities, and in January, the 5 year-ahead inflation expectation increased by 0.99 points to 8.92% (Chart 2.4.11). The distribution obtained from the answers to 12-month-ahead CPI inflation expectations indicates that the median value shifted to the right and uncertainty regarding expectations significantly increased (Chart 2.4.12). Inflation compensations derived from market increased, similar to the survey data (Chart 2.2.8).

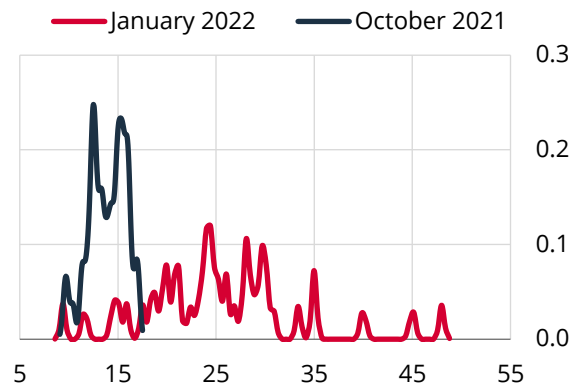
Chart 2.4.11: Expectations for CPI* (%)



Source: CBRT.

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

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

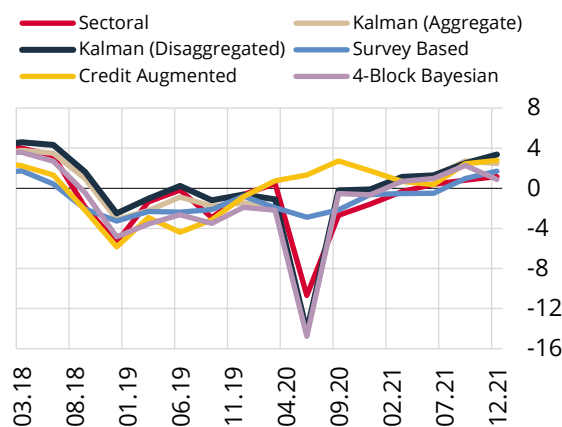


Source: CBRT.

* While the horizontal axis shows the annual CPI inflation expectation, the vertical axis indicates the probability attributed to this level.

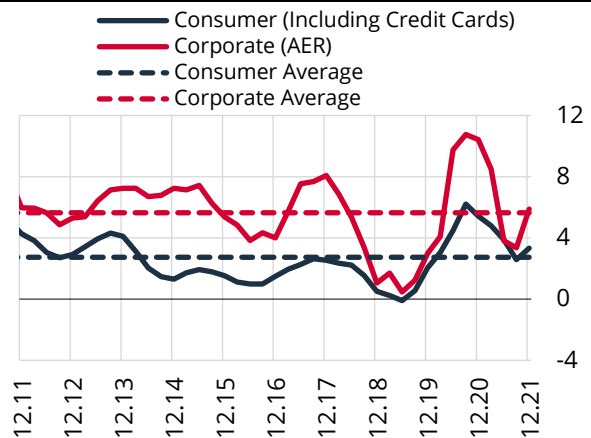
Total demand conditions remained vigorous in the final quarter of the year. On the back of the decrease in pandemic-related risks in the third quarter, postponed spending was rapidly realized and thus, domestic demand accelerated. The domestic demand remained on a positive track in the following three months. In the said period, foreign demand continued to be favorable both for goods and services sectors and pushed up total demand conditions. In light of these developments, it is considered that the output gap remained in the positive territory in the last quarter of the year (Chart 2.4.13). The ongoing slowdown in credit utilization reversed in the last quarter of the year and credits supported demand conditions (Chart 2.4.14).

Chart 2.4.13: Output Gap Indicators (%)



Source: CBRT.

Chart 2.4.14: Net Credit Utilization* (%)

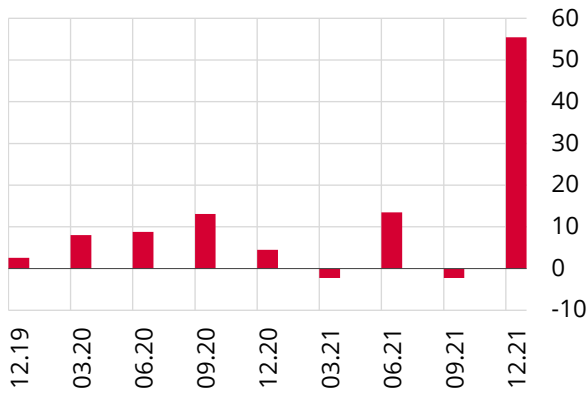


Source: CBRT.

* Net credit utilization is calculated as the ratio of the annual change in the nominal loan stock to the annual GDP of four quarters before. The historical average covers the period 2006Q1 to 2021Q3. GDP forecast has been used for 2021Q4.

In the final quarter of the year, the Turkish lira significantly depreciated. After the relatively moderate course in the third quarter, the FX basket with equal weights of USD and Euro increased by 55.4% in the final quarter (Chart 2.4.15). As a result of this depreciation, the real effective exchange rate fell to historically low levels, and the significant depreciation observed in a short period negatively affected the pricing behavior of companies and brought along widespread, high price increases. In this context, while core goods and energy groups stood out, those items in food and services groups with high exchange rate sensitivity negatively diverged.

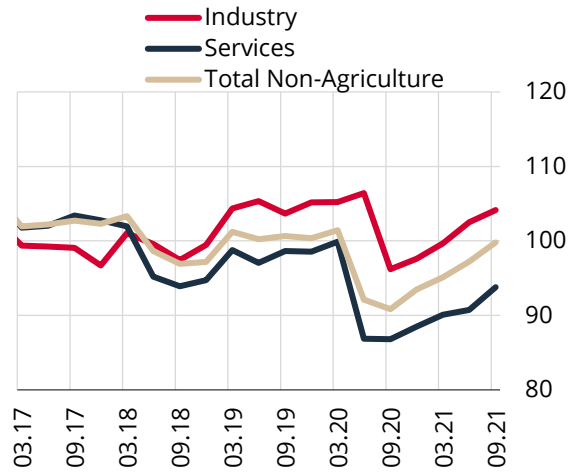
Chart 2.4.15: FX Basket* (Quarterly % Change)



Source: CBRT.

* USD and Euro have equal weights.

Chart 2.4.16: Real Unit Wage per Hours Worked* (Value Added, 2015=100, Seasonally Adjusted)

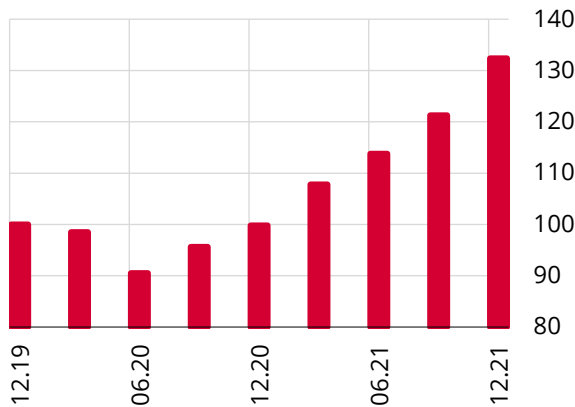


Sources: CBRT, TURKSTAT.

* Deflated by the CPI. Real Wage per Hour/Productivity.

The moderate uptrend in real unit wages continued in the third quarter. In this period, real wages rose slightly, nevertheless, as a result of the decline in partial productivity following the recovery in the labor market, the increase in real unit wages became more evident (Chart 2.3.20). An analysis by sectors reveals that the increase in real unit wages was stronger in the services sector (Chart 2.4.16). On the other hand, it is assessed that the nominal wage increases in the last quarter of 2021 were stronger than expectations, therefore, the uptrend in real unit wages continued in the final quarter of the year. After the minimum wage increase announcement for 2022, real unit wages are expected to increase in the first quarter of the year.

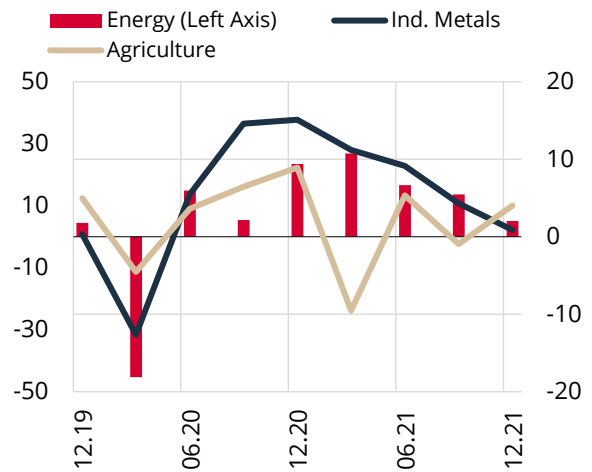
Chart 2.4.17: Import Unit Value Index* (2019Q4=100, USD)



Source: TURKSTAT.

* Q4 data is the average of October and November.

Chart 2.4.18: World Bank Commodity Price Indices (Quarterly % Change)

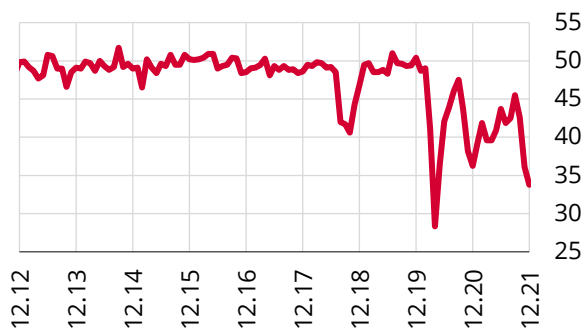


Source: World Bank.

In addition to exchange rate developments, import prices, which maintained their uptrend, and the disruptions in supply chains, which became evident again, led to a substantial rise in producer inflation.

Supply and demand imbalances and bottlenecks that emerged after the pandemic caused an increase in global commodity prices. Against this background, the import unit value index increased in the final quarter of the year due to the ongoing tightness in international commodity markets. The index, which increased by 9.2% quarterly, was 32.4% percent above its pre-pandemic value (Chart 2.4.17). Although international energy and industrial metal prices decreased slightly after October, they increased in the final quarter of the year. Agricultural product prices, on the other hand, rose again after following a moderate course in the third quarter (Chart 2.4.18). The rise in agricultural group was driven by the high price increments in cereals and oils. Meanwhile, the improvement in global supply problems reversed in the last few months of the year and delivery times were extended again (Chart 2.4.19). Freight prices remain high, despite a slight decrease, confirming that supply-side problems persist (Box 2.4). In addition to this unfavorable outlook, the depreciation in the Turkish lira became more evident leading to a more significant deterioration in the underlying trend of producer prices in December (Chart 2.4.20). In the final quarter of the year, energy costs of producers increased sharply as a result of accumulated cost pressures and the outlook in producer prices further deteriorated. To sum up, the recent exchange rate developments, rising energy costs, ongoing rise in import prices and re-emerging supply problems have increased producer inflation significantly and the risks on consumer inflation (Chart 2.4.1, Zoom-In 2.2).

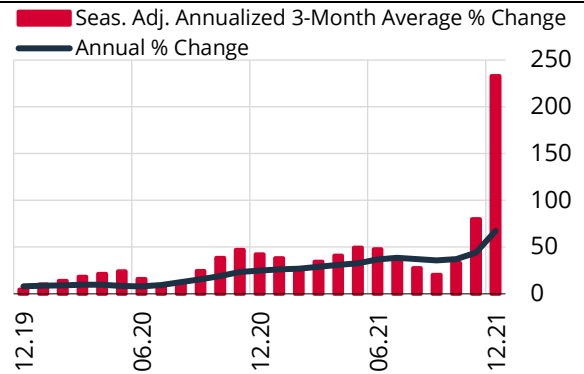
Chart 2.4.19: PMI Suppliers' Delivery Times*
(Manufacturing, Seasonally Adjusted)



Source: IHS Markit.

* Lower values denote longer delivery times.

Chart 2.4.20: Manufacturing Prices excl. Petroleum and Base Metals



Sources: CBRT, TURKSTAT.

In the final quarter, administered items negatively affected headline inflation. The rise in fuel prices in the final quarter of the year stood out as the main driver of this effect. Although international energy prices, particularly prices of crude oil, slightly decreased after October, the depreciation in the Turkish lira led to a sharp increase in domestic fuel prices. SCT amounts, which were zeroed in the previous quarter, were increased to levels before the sliding scale practice completely in LPG and diesel fuel, and partially in gasoline, further aggravating the outlook. While residential tariffs for electricity and natural gas were not changed in this period, the rise in producer tariffs indirectly affected consumer inflation. The adjustment made to the raw milk reference price led to a rise in prices of milk and related processed food and food services items. As for 2022, the first important development was that the PPI inflation, which is taken into account for tax regulations, was recorded at 47.4% percent in the second half of 2021. As a result of this outlook in producer inflation, the revaluation rate was also high, at 36.2%. The six-month PPI increase was reflected on SCT amounts on alcoholic beverages and tobacco products, and this will adversely affect the headline inflation in the first quarter of the year. The increase in residential electricity and natural gas tariffs, which was postponed in the last quarter of 2021, mostly became effective from the beginning of the year. The depreciation of the Turkish lira in 2021 and the high producer inflation in the second half of the year will bring along high price increments in items such as health services, education services and pharmaceuticals, which exhibit time-dependent pricing behavior and have a strong tendency for backward indexation, in the upcoming period. Accordingly, these items will negatively affect headline inflation.

Box 2.1

Supporting the Conversion to Foreign Currency-Protected TL Time Deposits and Participation Accounts and the Conversion to TL Time Deposits

In order to prioritize the Turkish lira (TL) in deposit preferences of savers and to increase the share of TL in banks' balance sheets, the foreign currency-protected deposit and participation account (KKH) scheme was introduced in December. The KKH scheme consists of TL accounts to be opened under the support of the Ministry of Treasury and Finance (MoTF) and conversions from foreign currency (FX) deposits to TL accounts to be supported by the CBRT. Savings of TL depositors are hedged against the exchange rate risk with the KKH scheme supported by the MoTF. The CBRT-supported scheme enables FX deposit account holders to switch to TL deposit accounts. Depositors switching to TL accounts from their foreign currency accounts under the support of the CBRT will be able to continue to hedge their savings against the exchange rate risk by using the MoTF-supported scheme at the end of the maturity period. Details of both schemes are presented in Table 1.

Effective as of 21 December 2021, "Foreign Currency-Protected TL Time Deposit and Participation Accounts", designed to protect the value of TL savings of resident real persons against losses in terms of foreign currency, were introduced by the MoTF. In addition, the CBRT announced that it would provide incentive to encourage the conversion of foreign currency and gold deposits into Turkish lira deposits upon the request of resident real and legal persons holding these accounts. For the conversion from foreign currency accounts to TL accounts, resident real and legal persons will be eligible to benefit from the incentive provided that they already had an FX deposit account or FX participation fund denominated in US dollars, euros or British pounds by 20 December 2021 (for real persons) and 31 December 2021 (for legal persons). For the conversion from gold accounts to TL accounts, the incentive scheme will cover gold accounts held by resident real persons as of 28 December 2021 and by resident legal persons as of 31 December 2021 as well as gold accounts to be opened against wrought or scrap gold after these dates.

The system is based on the encouragement of savers to shift to TL-denominated assets and compensation by the public sector for any losses that may arise from exchange rate differences while providing a return in Turkish lira. Complementing this practice, banks are encouraged to switch to new products with changes in the reserve requirement practice that will increase liquidity facilities. Through these incentives, it was aimed to support financial stability by increasing the share of the Turkish lira in the total deposits/participation funds in the banking system.

As a whole, the KKH scheme supports the efficient use of foreign exchange liquidity in the system, the improvement of banks' balance sheets, and the strengthening of Central Bank reserves. The conversion to Turkish lira accounts and the stabilization of the Turkish lira limit the potential burden of the MoTF-supported scheme on the budget. The CBRT's purchase of foreign currency in exchange for currency-protected TL deposits protects the Central Bank's balance sheet against the exchange rate risk arising from the implementation.

Foreign Currency-Protected TL Time Deposit and Participation Accounts supported by the MoTF, and the support mechanism for conversion to TL time deposits/participation funds backed by the CBRT are similar in terms of the return they provide to the depositors, but there are some differences (Table 1). As a whole, both schemes offer both TL depositors and FX depositors the opportunity to hedge their returns against the currency risk. If FX depositors remain in TL after conversion to TL accounts, they will be able to continue to benefit from currency-protected accounts. Real person depositors are offered a 3-month, 6-month, or 1-year maturity option when converting foreign currency and gold deposit and participation fund accounts into TL deposits as a one-off facility. On the other hand, the option of 9-month maturity (in addition to 3-month, 6-month, and 1-year maturities) has also been introduced for the transition from TL deposits to foreign currency-protected TL time deposits and the renewal of the deposit has been allowed.

An upper limit has been set for the maximum interest rates to be applied by banks in the transition to foreign currency-protected TL time deposits, and it has been stipulated that the minimum interest rate to be applied by banks cannot be below the one-week repo auction rate determined by the CBRT. It has also been stated that the maximum interest rate to be applied by banks could be 300 bp above the minimum interest rate and could be updated by the MoTF. On the other hand, it has been laid down that the interest rate that the banks will apply to the deposit account in case of a switch from foreign currency and gold-denominated accounts to a new financial product cannot be below the one-week repo auction rate determined by the CBRT, but no upper limit has been set for the interest rate to be applied by banks.

Profit share rates to be distributed to participation accounts will be determined within the framework of participation banking principles. It has also been announced that in case the return on the participation account is lower than the cost incurred in the one-week repo transactions conducted by the Central Bank within the scope of open market operations with participation banks, the participation bank may cover the difference within the framework of participation banking principles, and the Central Bank does not pay for the uncovered portion.

It has also been stated that the withholding tax will not be applied to the income obtained from currency-protected TL time deposit and participation accounts in order to encourage the transition to the new financial product.

Table 1. Principles for the Conversion to Foreign Currency-Protected TL Time Deposits and TL Time Deposits

	Foreign Currency-Protected TL Deposit	Support Provided for Conversion from Foreign Currency Deposit Accounts to TL Time Deposits	Support Provided for Conversion from Gold Deposit Accounts to TL Time Deposits
Beneficiary	Resident real persons	Resident real and legal persons ¹	
Scope	TL time deposit and participation accounts	TL time deposits and participation funds converted from foreign currency deposit accounts in US dollar, euro, or British pound and foreign currency participation funds	TL time deposits and participation funds converted from gold deposit accounts and gold participation fund accounts
Maturity	3, 6, 9 months and 1 year	Real persons: 3, 6 months and 1 year Legal persons: 6 months and 1 year	
Accounts to be supported	Foreign currency-protected TL time deposit and participation accounts to be opened after 21.12.2021	Real persons: Existing accounts as of 20.12.2021 Legal persons: Existing accounts as of 31.12.2021	<ul style="list-style-type: none"> Gold Accounts: Real persons: Existing accounts as of 28.12.2021 Legal persons: Existing accounts as of 31.12.2021 Gold accounts against wrought and scrap gold to be opened after the relevant dates
Frequency of Use	Renewal at the end of maturity	One-off	
Minimum Rate of Return Applicable by Banks	CBRT's one-week repo auction interest rate	CBRT's one-week repo auction interest rate ²	

¹ Resident real persons refer to real persons legally resident in Turkey including workers who work abroad and self-employed Turkish citizens; resident legal persons refer to legal persons that have a legal residence in Turkey, excluding banks and other financial institutions determined by the Central Bank.

² In case the return on the participation account is lower than the cost incurred in the one-week repo transactions conducted by the Central Bank within the scope of open market operations with participation banks, the participation bank may cover the difference within the framework of participation banking principles, and the Central Bank does not pay for the uncovered portion.

Maximum Interest Rate Applicable by Banks	CBRT's one-week repo rate + 300 basis points	-	-
Exchange rate at the beginning of maturity	The foreign exchange buying rate announced by the CBRT at 11:00 a.m.	The foreign exchange buying rate announced by the CBRT every hour between 10:00 and 15:00	The buying price of one-gram gold in TL, announced by the CBRT every hour between 10:00 and 15:00
Exchange rate at the end of maturity	The foreign exchange buying rate announced by the CBRT at 11:00 a.m.	The foreign exchange buying rate announced by the CBRT at 11:00 a.m.	The buying price of one-gram gold in TL, announced by the CBRT at 11:00 a.m.
Yield at the end of maturity	At the end of the maturity, the interest income is paid by the banks. In case the exchange rate yield is higher than the interest income according to the exchange rate at the beginning of the maturity, the difference is covered by the Ministry of Treasury and Finance, and paid by the banks.	At the end of the maturity, the interest income is paid by the banks. In case the exchange rate yield is higher than the interest income or dividend yield according to the exchange rate at the beginning of the maturity, the difference is covered by the CBRT, and paid by the banks.	At the end of the maturity, the interest income is paid by the banks. In case the price return is higher than the interest income or dividend yield, according to the price at the beginning of the maturity, the difference is covered by the CBRT, and paid by the banks.
Yield in Case of Withdrawal Before Maturity	The account balance is updated based on the lower one of the exchange rates on the account opening and closing dates. No payment is made by the Ministry of Treasury and Finance regarding the exchange rate difference.	In case of withdrawal from the Turkish lira deposit or participation account before the maturity date, no difference will be paid to the account holder by the CBRT. In addition, if there is a decrease in the exchange rate on the date of the withdrawal, the foreign currency amount at the beginning of the maturity is paid in Turkish lira at the rate on the date of the withdrawal. The account balance is updated based on the lower one of the exchange rates on the account opening and closing dates. No payment is made by the CBRT for the price difference.	
Official Announcement and Related Legislation	<ul style="list-style-type: none"> Press release by the Ministry of Treasury and Finance on 21 December 2021 Press Release by the Ministry of Treasury and Finance on the Implementation Principles for Foreign Currency-Protected TL Time Deposits and Participation Accounts dated 24.12.2021 	<ul style="list-style-type: none"> Communiqué on Supporting the Conversion to Turkish Lira Deposit and Participation Accounts, No: 2021/14, CBRT, Replicated Official Gazette dated 21 December 2021 Communiqué Amending the Communiqué on Supporting the Conversion to Turkish Lira Deposit and Participation Accounts (No: 2021/14), No: 2021/17, CBRT, Official Gazette dated 31 December 2021 Communiqué Amending the Communiqué on Supporting the Conversion to Turkish Lira Deposit and Participation Accounts (No: 2021/14), No: 2022/1, CBRT, Official Gazette dated 11 January 2022 	<ul style="list-style-type: none"> Communiqué on Supporting the Conversion from Gold Accounts to Turkish Lira Deposit and Participation Accounts, No: 2021/16, CBRT, Official Gazette dated 29 December 2021 Communiqué Amending the Communiqué on Supporting the Conversion from Gold Accounts to Turkish Lira Deposit and Participation Accounts (No: 2021/16), No: 2021/18, CBRT, Official Gazette dated 31 December 2021 Communiqué Amending the Communiqué on Supporting the Conversion from Gold Accounts to Turkish Lira Deposit and Participation Accounts (No: 2021/16), No: 2022/2, CBRT, Official Gazette dated 11 January 2022

Box 2.2

Findings Obtained from Interviews with Businesses

Within the CBRT, studies are carried out under the name of “Economic Lens to the Real Sector”, which is based on face-to-face meetings with businesses¹. This box summarizes the findings from the interviews conducted in the last quarter.

While the interviews revealed that the positive course of economic activity continued in the last quarter, they also pointed out that there was a loss of momentum compared to the previous quarter. Although the recovery in external demand reflected positively on production, supply problems and the loss of momentum in domestic sales stand out as limiting factors in output growth.

Price sensitivity of consumers became more pronounced and year-end campaigns were weak compared to the previous years. In this context, non-durable and semi-durable goods groups were the sectors in which the tendency to weaken became prominent. On the durable goods side, the demand for white goods, which had remained low after the reopening in the third quarter, increased in the fourth quarter compared to the long-term averages. The increased tendency to use individual vehicles due to the pandemic kept the demand for automobiles alive throughout the year, this demand strengthened a little further in the last quarter. However, a significant part of the demand could not be met due to the supply problems caused by the ongoing semiconductor shortage. The weak sales in the housing sector due to high prices were supported by sales made for investment purposes and by sales to foreign residents in this period.

Exports maintained their positive outlook in the last quarter as was the case in the previous periods. The continuation of external demand during the pandemic period, dispersion of the demand-driven risks through market diversification of the businesses, and the exchange rate developments were highlighted as factors that continued to support exports. This trend was more evident in the main exporting sectors, especially in textiles, garments, basic metals and white goods. On the other hand, the disruptions in production due to the continuing problems in the supply of semiconductors in the automotive industry adversely affected the exports of both the main industry and sub-industry companies producing for the main industry. While it is predicted that the factors supporting exports will continue in the first quarter of 2022, the rise in global inflation, and possible lockdown and other measures to be taken due to the pandemic evolving with new variants have been mentioned as important risk factors.

While strong external demand supported production activities, the ongoing supply problems and the loss of momentum in domestic sales limited the increase in production. The sectors in which the effects of supply problems were felt more clearly are automotive, construction sub-sectors, furniture, chemistry and basic metal industries. The companies interviewed expect that the production activities will continue in parallel to the last quarter and that the expectations regarding exports will reflect positively on production activities in the upcoming period.

In the last quarter of the year, the next 12-month investment stances of businesses working mainly for the domestic market were more cautious compared to the previous quarter. The investment stance of exporting companies, on the other hand, maintained its positive outlook throughout the quarter. This differentiation between investment stances was also reflected in the employment plans of the companies for the upcoming period.

The increase in the financial needs of businesses continued in the last quarter. The underlying reason for this increase was the need for working capital caused by the input costs. The maturity mismatch in the due dates for receivables and payables was another important factor that increased the working capital requirement.

The costs that companies had to manage increased significantly in the last quarter of the year. Raw material, energy, supply costs and exchange rate developments were the determining factors of this situation.

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 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 level. This study includes evaluations and inferences based on interviews with businesses and does not reflect the views of the Central Bank of the Republic of Turkey. The information and findings obtained may differ from the official statistics, information and findings that will be published later.

Box 2.3

Imported Input Share of Exporting Firms in the Manufacturing Industry

In order to understand the effects of exchange rate changes on exporters, it is necessary to consider the usage of imported inputs by these firms. A higher ratio may limit the positive effect of a depreciation in the Turkish lira on exporter firms. In this box, imported input shares of exporting manufacturing incorporated firms are given on a sectoral basis for the year 2020, with averages of the 2009-2020 period.

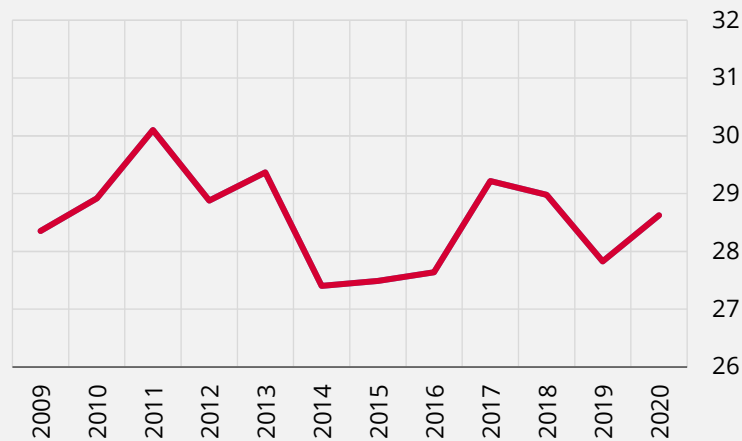
The imported input share of a firm is the ratio of the purchases made by this firm directly from foreign firms (firm import) to the total purchases made by this firm directly from domestic and foreign firms.¹

$$\text{Imported Input Share} = \frac{\text{Firm Import}}{\text{Firm Import} + \text{Firm's Purchases from Domestic Firms}}$$

Micro level data on a firm's financial statements (balance sheet and income statements), firm-to-firm sales and foreign trade are used to calculate the firm level imported input share. Sectoral and yearly averages are weighted with the net sales of firms.²

In the 2009-2020 period, the average imported input share of exporting manufacturing incorporated firms is 28.50%. This ratio shows that 28.50% of the purchases made from domestic and foreign firms are made through imports from foreign firms (Chart 1). At 28.63%, this rate remained close to the historical average in 2020.

Chart 1: Imported Input Share of Exporting Firms in the Manufacturing Industry (%)



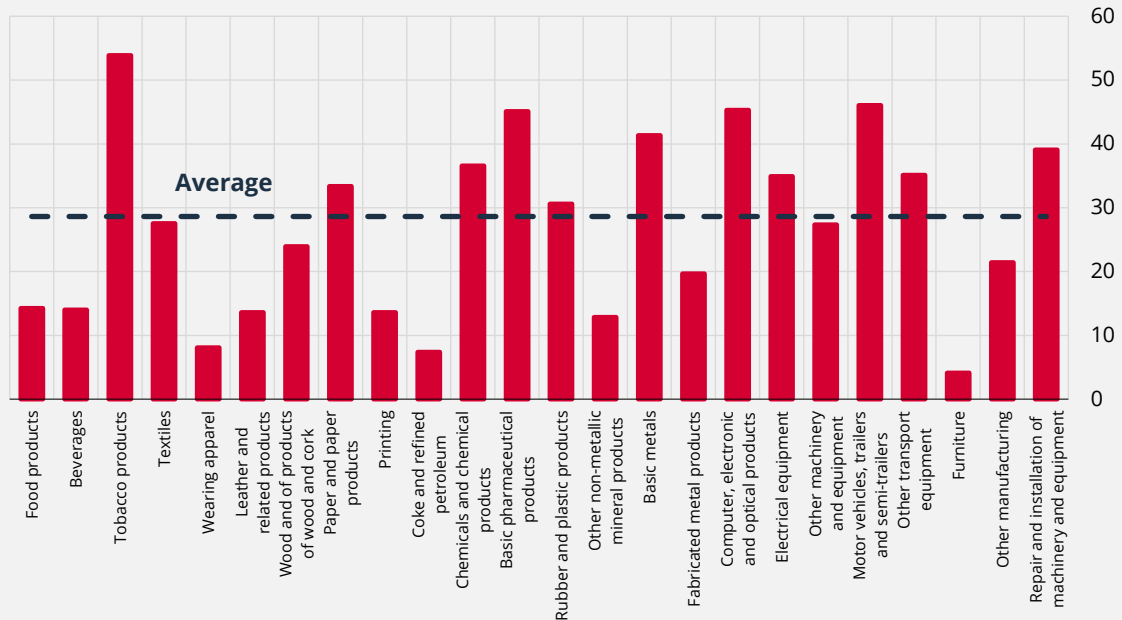
Sources: Financial Statements, Firm-to-Firm Sales and Foreign Trade.

¹ Imported input share is calculated over direct purchases of firms. Taking into account the supply chains of firms and the use of imported inputs by their suppliers, the share of imported input reaches approximately 45% (Akgündüz and Fendoğlu, 2019).

² Alternatively, the share of imported input is calculated by dividing firm import by the cost of production. In addition, the weighting process for sectoral averages includes total input (import + purchase from domestic firms) as an alternative to net sales, and has delivered similar findings.

A sector-based analysis of the imported input share of firms for 2020 shows that the manufacturing of tobacco products, motor vehicles, computers, electronics and optical products, and basic pharmaceutical products and the basic metals industry account for the largest imported input share with more than 40% (Chart 2).

Chart 2: Imported Input Share by Sectors in 2020 (%)



Sources: Financial Statements, Firm-to-Firm Sales and Foreign Trade.

References

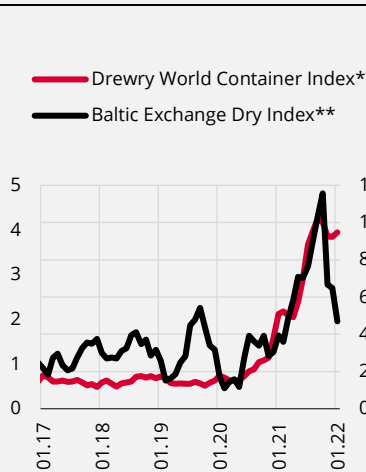
Akgündüz, Y. E. & Fendoğlu, S. (2019). Exports, Imported Inputs, and Domestic Supply Networks, CBRT Working Paper Series, No: 19/08.

Box 2.4

What Do Survey Indicators Say About Supply Chain Developments at Sectoral Level?

Global economies had to deal with disruptions in supply chains due to the pandemic. Factory shutdowns, losses in employment and mobility restrictions since the start of the pandemic caused difficulties across logistics networks, higher freight costs and longer delivery times. With widespread vaccination, the gradual removal of pandemic measures has increased the global demand. Accordingly, transportation costs have risen to historical highs due to the recovery in global trade and the price increases in commodities, especially for oil. As a matter of fact, the movements in the indicators of global container and freight costs have been quite striking. The Drewry Container Index, a weighted composite indicator of container costs on various shipping routes, rose by an average of 252% annually in 2021 and maintained its high levels as of January 2022. The Baltic Dry Index, another indicator of freight costs showing average transportation prices of raw material commodities such as coal, steel and grains for various routes, also posted an annual average increase of 175% throughout 2021. However, the passing of the traditional peak shipping season of August-October, and the implementation of measures such as increasing efficiency at ports and extended working hours in order to reduce the supply bottleneck in some countries caused the index to trend downward after October (Chart 1). Although there has been a decrease in container prices on some routes recently, costs remain high especially on the routes from China to the Mediterranean, Europe and the USA (Chart 2). Lastly, the global supply chain pressure index, which is derived by the New York Federal Reserve using various transportation cost indices, airfreight price indices and country-specific supply chain variables, reached its highest level in history at the end of 2021 (Chart 3).

Chart 1: Drewry World Container Index (Thousand USD) and Baltic Exchange Dry Index (Thousand USD)

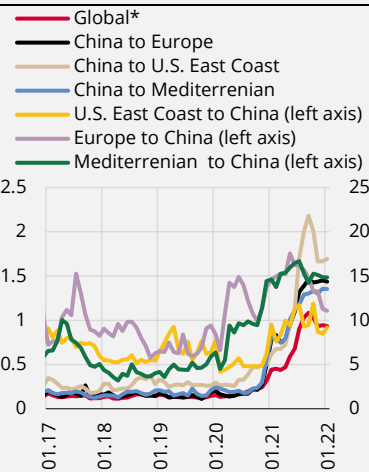


Source: Bloomberg.

* The index is derived from the size-weighted average of container costs of eight shipping routes (Shanghai-Rotterdam, Rotterdam-Shanghai, Shanghai-Genoa, Shanghai-Los Angeles, Los Angeles-Shanghai, Shanghai-New York, New York-Rotterdam, Rotterdam-New York).

** The index (January 1985=1000) shows the weighted average of Capesize (40%), Panamax (30%) and Supramax (30%) dry cargo freight forward contracts with an average maturity of approximately two months. January 2022 is the average of the first 21 days.

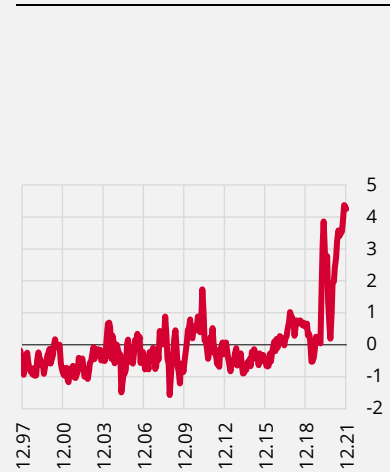
Chart 2: Freightos Baltic Container Index (Global and Selected Routes, Thousand USD)



Source: Bloomberg.

* The global Freightos Baltic Container index shows the weighted average of the container (40 ft) index for 12 routes. January 2022 is the average of the first 21 days.

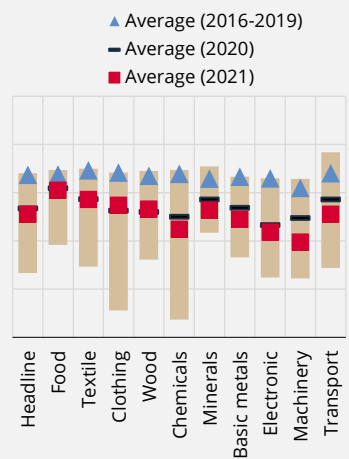
Chart 3: Global Supply Chain Pressure Index (Standard Deviations from Average Value)



Source: New York Fed.

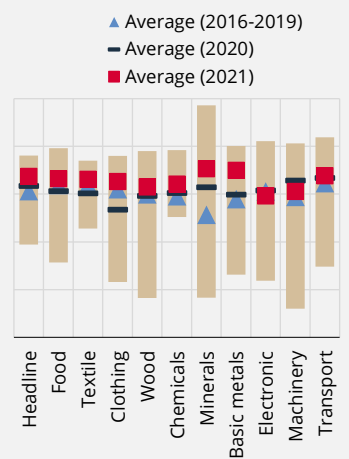
Disruptions in the international supply chain have had remarkable effects on domestic supply developments, both direct and indirect. Various survey indicators also provide important information on understanding these impacts at the sectoral level. “Suppliers’ delivery times” showing how supply chain delays affect manufacturing industry companies, “backlogs of work” showing the volume of orders that firms have received but have not yet completed, and “purchased stocks” measuring the extent of inventory accumulation by firms are variables that can be used to follow supply chain developments in the PMI survey. Looking at suppliers’ delivery times, not all sectors seem to have regained pre-pandemic levels due to ongoing disruptions in the supply of raw materials and problems in transportation, thus leading to longer delivery times. Suppliers’ delivery times of firms with high global integration producing electrical and electronic products and firms producing chemical, plastic, rubber, machinery and metal products differed significantly from historical averages. With the global lifting of pandemic measures, delivery times differed positively in 2021 for tourism-related sectors, which are highly sensitive to pandemic conditions, the clothing and leather sector, and wood and paper sectors (Chart 4). The backlogs of work of firms producing construction-related basic metals and non-metallic mineral materials increased due to disruptions in the supply of inputs (Chart 5). The purchased stocks indicator shows a recovery in the purchased stocks of the vehicle sector, a goods exporter, and of tourism-related clothing, leather and textile sectors (Chart 6).

Chart 4: PMI Suppliers’ Delivery Times** (Seasonally Adjusted, Level)*



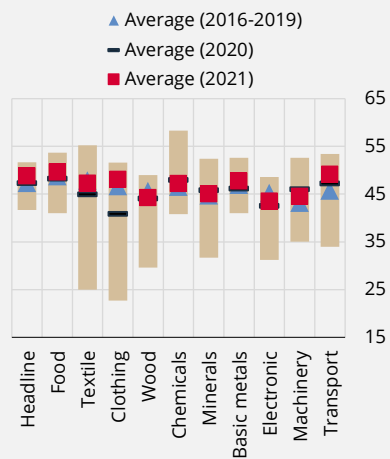
Source: Markit.
 * Bars show the lowest and highest levels between 2020 and 2021.
 ** Lower values of the series indicate longer delivery times.

Chart 5: PMI Backlogs of Work (Seasonally Adjusted, Level)*



Source: Markit.
 * Bars show the lowest and highest levels between 2020 and 2021.

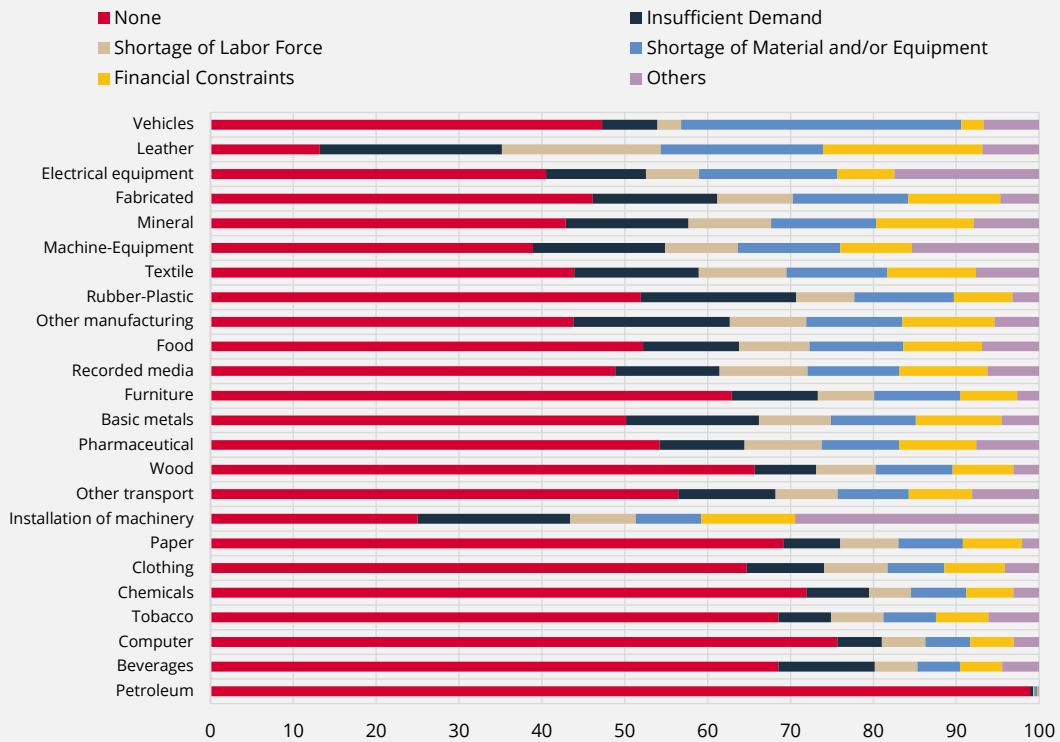
Chart 6: PMI Purchased Stocks (Seasonally Adjusted, Level)*



Source: Markit.
 * Bars show the lowest and highest levels between 2020 and 2021.

The number of firms reporting no factor limiting production on the quarterly Business Tendency Survey (BTS) increased in the first quarter of 2022. The ratio of firms that indicate inadequacy of raw materials and equipment among factors limiting production is decreasing but is still higher than historical averages, which indicates that there remain supply chain-related supply problems. Supply shortages account for a significant share of the factors that restrict production in exporting sectors (vehicles, leather, electrical equipment, textile) that are highly sensitive to the course of the pandemic (Chart 7).

Chart 7: Business Tendency Statistics Main Factors Currently Limiting Production (2022 Q1)



Source: CBRT.

In conclusion, after rising amid shutdowns, labor shortages and logistics problems at the start of the pandemic, transportation costs surged to historically high levels due to pent-up demand and increased global trade. These problems in the global supply chain have caused domestic manufacturing industry firms to experience difficulties in the supply of raw materials and transportation. Survey indicators indicate that sectors with high global interaction and high sensitivity to pandemic conditions experience more supply shortages.