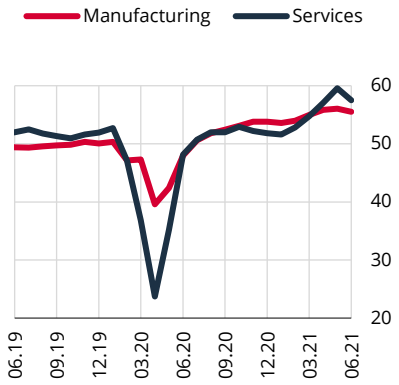
2. Economic Outlook

2.1 Global Economic Developments

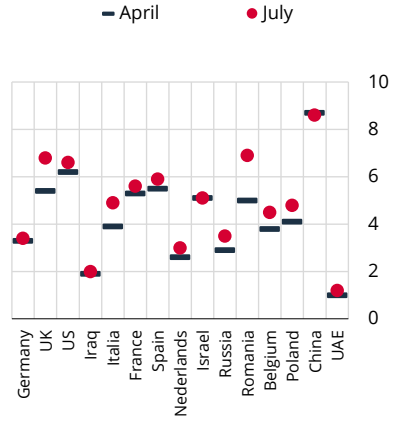
While the global economic outlook has recovered more significantly compared to April Inflation Report in countries where the vaccination process has been progressing better, leading indicators also indicate a strong recovery in the services sector on the back of easing restrictions in those countries. In this framework, global PMI indices for manufacturing industry have flattened out at high levels, while the recovery in services gained pace (Chart 2.1.1). The recovery in growth continued to diverge across regions, mainly driven by the vaccination rate (Zoom-In 2.1). Accordingly, growth forecasts for many of the countries to which Turkey exports the most, growth forecasts have been revised upwards (Chart 2.1.2). Strong increases in the services PMI suggest a more broad-based economic recovery particularly for the euro area, which diverged negatively earlier in terms of the course of the pandemic. These developments were in favor of Turkey's external demand outlook, leading to an improvement in the foreign demand indicator compared to the April reporting period (Chart 2.1.3). Although the risk of a new pandemic wave is less likely to occur thanks to the progress in the vaccination rollout, it still remains a probability due to the recent resurgence of the number of cases caused by certain virus variants.

Chart 2.1.1: Global PMI Indices (Level)



Source: IHS Markit.

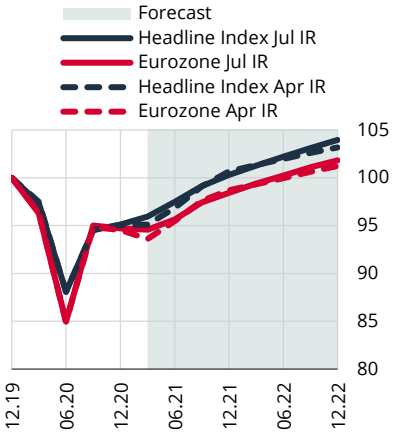
Chart 2.1.2: 2021 Growth Forecasts of Turkey's Main Trading Partners* (%)



Sources: Consensus Economics, World Bank.

* Countries are listed according to the size of their share in Turkey's exports. World Bank estimates are used for Iraq and UAE, comparison is made for January-June.

Chart 2.1.3: Export-Weighted Global Growth Index* (2019 Q4=100)



Sources: Consensus Economics, IHS, CBRT.

* Growth data of Turkey's 110 trading partners were weighted by their shares in Turkey's exports. Consensus Economics and IHS Markit forecasts for 2020 and 2021 were used.

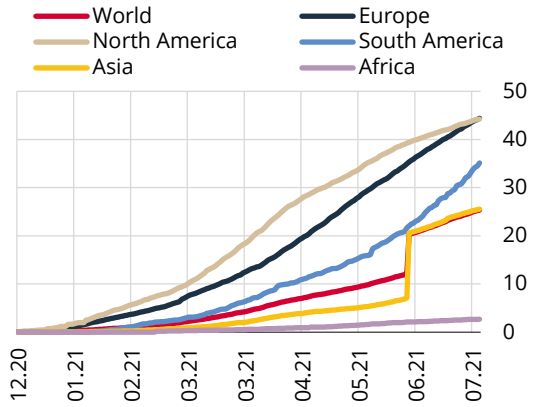
Although commodity prices posted an increase on average compared to the April reporting period, the recent decrease in agricultural commodity prices in particular caused a differentiation between energy and non-energy prices. Energy prices remained flat in March and April, but resumed their increase in May (Chart 2.1.4). Crude oil prices exceeded their pre-pandemic levels, mainly driven by the soaring demand (Chart 2.1.5). Uncertainties regarding oil supply were an important factor that played a role in the rise of oil prices. Meanwhile, having remained on the rise in April and May, agricultural commodity prices showed a sharp decline in the second half of June, only to return to their April levels (Chart 2.1.6). The divergence between energy and non-energy commodity prices was also driven by the decline in metal prices although not as much as agricultural commodities. Pandemic-induced extraordinary circumstances and supply constraints have had an effect on commodity price increases. Against this background, the effect of normalization will be observed in commodity prices once the pandemic effects are over. On the other hand, the drought continues to pose a risk to agricultural commodity prices in the upcoming period as well (Zoom-In 2.2).

Zoom-In 2.1

Global Growth Outlook and Effect of Vaccination

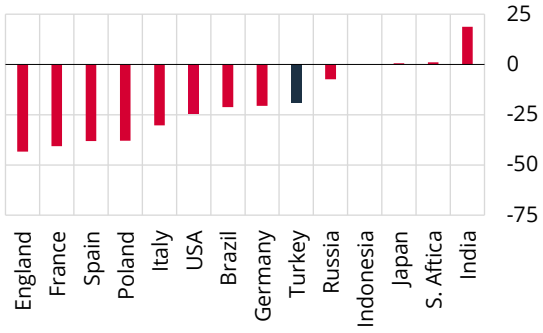
Pandemic measures have been eased on the back of increased vaccination. The euro area also accompanied the US and the UK in the rapid vaccination trend. North America and Europe achieved the highest vaccination rates (Chart 1). Accordingly, many countries eased pandemic measures in line with the vaccination rate (Chart 2).

Chart 1: Share of Population That Received at Least One Dose of Vaccine (%)



Source: Our World in Data.

Chart 2: The Oxford Covid-19 Government Response Tracker (OxCGRT) Stringency Index* (July 2021 - 2021 Q1 Peak Change, %)

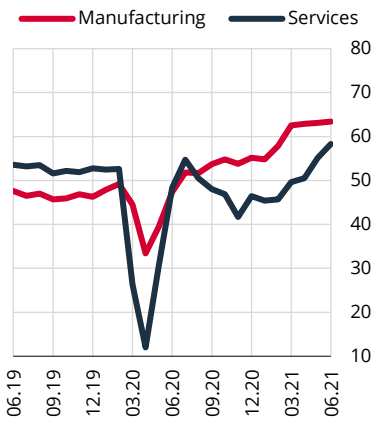


Source: Our World in Data.

* Data as of 29 June is used for Turkey.

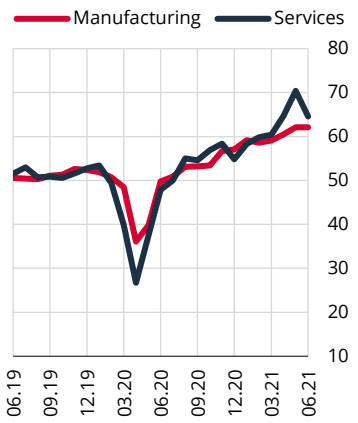
The recovery in the services sector has become evident on the back of easing pandemic restrictions. The gap between the manufacturing and services PMI indices, in the euro area in particular, started to narrow. Sharp increases seen in the services index over the last two months are noteworthy (Chart 3). In the US, the increase of the services PMI has recently become more pronounced, and the services index exceeded the manufacturing industry index that was on a flat course (Chart 4). In the UK, which was more proactive in vaccination, the sharp increase in services PMIs started earlier compared to the euro area (Chart 5).

Chart 3: Euro Area PMI Indices (Level)



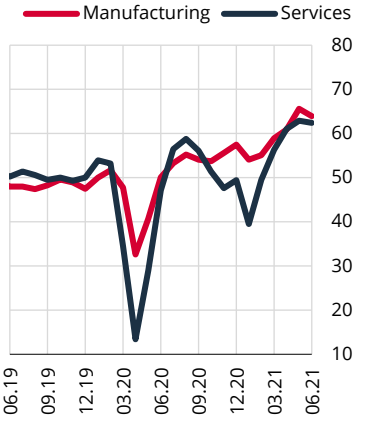
Source: IHS Markit.

Chart 4: USA PMI Indices (Level)



Source: IHS Markit.

Chart 5: UK PMI Indices (Level)



Source: IHS Markit.

Zoom-In 2.2

Course of Commodity Prices

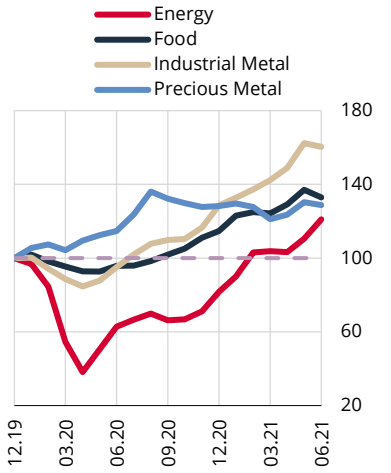
Commodity price increases during the recovery period are generally attributed to production falling short of the soaring demand. Moreover, the global liquidity glut may cause an overvaluation of commodity-indexed securities on financial markets and lead to volatility in commodity prices. Due to the uncertainty arising from the pandemic, some major agricultural commodity producers such as Russia and Argentina implemented export limitations over worries about failing to meet domestic demand, whereas China opted for stock enhancement for the same reasons. Meanwhile, the drought that has been going on for more than two years with increased intensity also had an effect in the rise of agricultural commodity prices. Commodity prices increased significantly across the board in May. While the prices of energy commodities continued to rise in June and July on the back of OPEC+ countries remaining tight in supply, non-energy, and particularly agricultural commodity prices declined slightly. Freight costs increased further (Table 1). Normalization of the global trade, ease of supply constraints over time and normalization of monetary policies as the pandemic comes to an end may pull the level and volatility of commodity prices down. In the meantime, the increasing drought in the US, which is one of the major commodity producers, poses an upside risk to agricultural commodity prices.

Table 1: Commodity Prices (USD-Denominated % Change)

	January	February	March	April	May	June	July	Post-December 2019	Post-April 2021
Commodity Main Index	7.8	8.5	3.1	1.4	6.4	2.4	0.1	23.6	9.1
Energy Commodity Index	9.5	13.2	5.1	-0.6	6.0	7.6	1.8	18.5	16.2
Agricultural Commodity Index	11.7	3.2	-0.8	4.7	8.5	-6.5	-3.1	36.8	-1.7
Industrial Metal Commodity Index	0.9	4.6	3.6	3.4	7.7	-2.2	-0.1	43.3	5.2
Precious Metal Commodity Index	0.5	-2.3	-4.9	2.0	5.6	-1.1	-1.9	24.1	2.4
Commodity Index excl. Energy	6.0	3.4	0.7	3.8	6.9	-3.6	-2.2	31.9	0.7
Brent Oil	9.7	12.9	5.5	-0.6	4.6	7.5	0.8	13.3	13.3
Natural gas	2.6	10.2	-10.1	2.3	10.4	10.5	15.1	65.0	40.4
Aluminum	-1.1	3.8	5.6	5.3	5.6	0.6	1.6	40.2	7.9
Copper	2.2	6.4	6.3	3.1	10.0	-5.3	-1.9	55.4	2.3
Iron	11.6	-4.7	5.0	3.1	19.2	2.2	2.3	137.2	24.5
Wheat	9.0	-0.7	-2.4	4.6	6.4	-5.7	-1.5	21.2	-1.2
Soy bean	13.4	0.7	2.4	3.4	7.4	-6.9	-2.6	56.1	-2.6
Rice	4.5	0.0	1.1	0.6	2.8	-3.8	0.1	2.7	-1.0
Corn	18.0	6.8	0.6	11.0	13.4	-3.3	-7.5	64.3	1.3
Cotton	8.6	7.2	-2.0	-1.6	1.6	0.7	3.4	32.3	5.8
Sugar	8.5	6.6	-6.9	2.3	6.4	0.1	2.1	31.8	8.7
Sunflower	7.5	-0.1	3.1	-10.3	3.9	-5.9	4.2	51.1	1.9
Freight	33.8	2.7	-3.9	-2.2	16.8	21.8	25.2	479.1	78.0

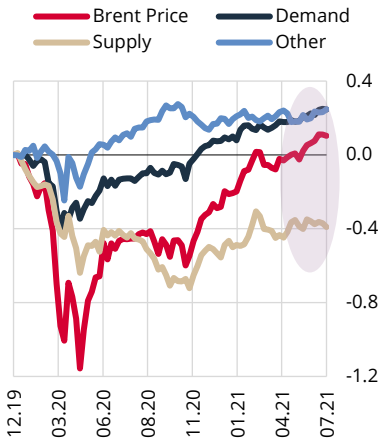
Source: Bloomberg.

Chart 2.1.4: Commodity Price Indices (2019 December = 100)



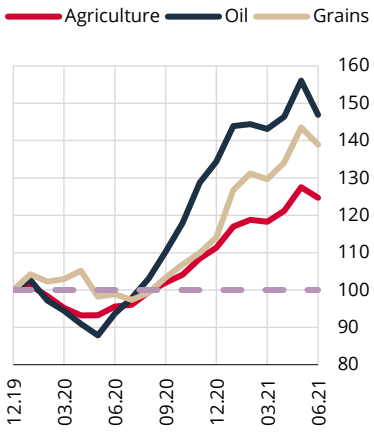
Source: World Bank.

Chart 2.1.5: Brent Oil Prices and Factor Decomposition (2019 December = 0)



Sources: Bloomberg, New York Fed.

Chart 2.1.6: Agricultural Commodity Prices* (2019 December = 100)

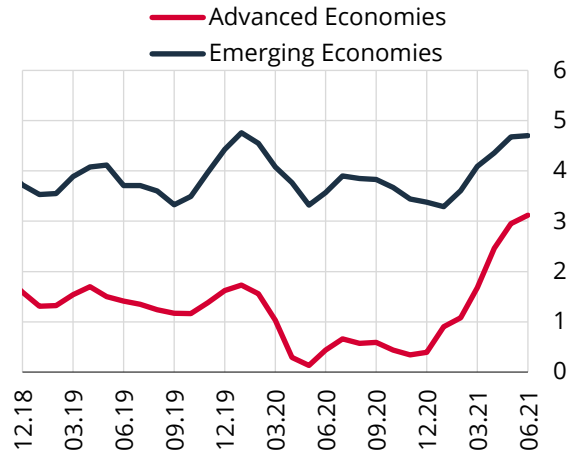


Source: World Bank.

* World Bank indices include the grains item composed mainly of rice, wheat and corn, while the oil item covers mainly soybean, soybean oil and palm oil.

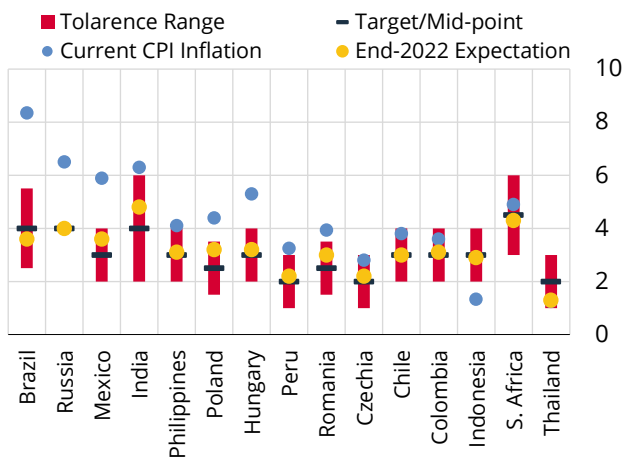
Global inflation remains on the rise. Inflation continued to rise in advanced economies, particularly in the US, as well as in emerging economies (Chart 2.1.7). The rise in inflation is driven by various factors such as commodity price increases, recovering demand, pent-up consumption, supply constraints and problems in supply chains. The general trend of consumer inflation in the US has increased significantly in the recent period. The same trend is also valid for the Personal Consumption Expenditure (PCE) Deflator, which the Fed accepts as target inflation. Core indicators also increased though to a smaller extent. In many emerging economies, current inflation is either above the target and/or outside the tolerance range. However, expectations suggest that inflation will start to fall and reconverge towards the targets from 2022 on (Chart 2.1.8). On the other hand, the rise in producer prices is also noteworthy. Producer prices have been increasing at a faster pace and the gap between producer and consumer prices has been widening in many advanced and emerging economies (Zoom-In 2.3).

Chart 2.1.7: Global Consumer Inflation (Annual, %)



Source: Bloomberg.

Chart 2.1.8 Consumer Inflation in Emerging Economies for 2020 (Target, Tolerance Range, Actual and Expected*, %)



Source: Bloomberg, CBRT.

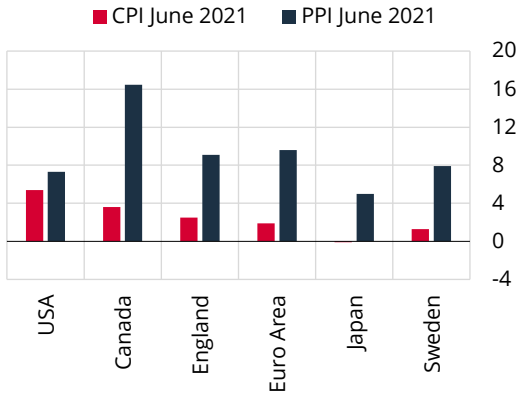
* Shows median expectations from the Bloomberg Expectations Survey.

Zoom-In 2.3

PPI-CPI Differentiation Between Advanced and Emerging Economies

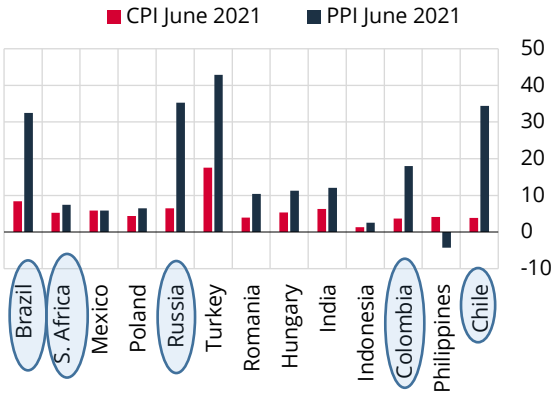
While global inflation has recently accelerated, the gap between producer and consumer prices has also widened. Many advanced and emerging economies have shown significant PPI increases (Chart 1 and Chart 2), the price hikes in energy and non-energy commodities were influential in this development. The fact that the prices of commodities used as inputs are less likely to be used as consumption goods, and cost increases could not always be fully reflected in retail prices, has intensified the effect on producer prices.

Chart 1: CPI and PPI Inflation in Advanced Economies (Annual, %)



Source: Bloomberg.

Chart 2. CPI and PPI Inflation in Emerging Economies* (Annual, %)

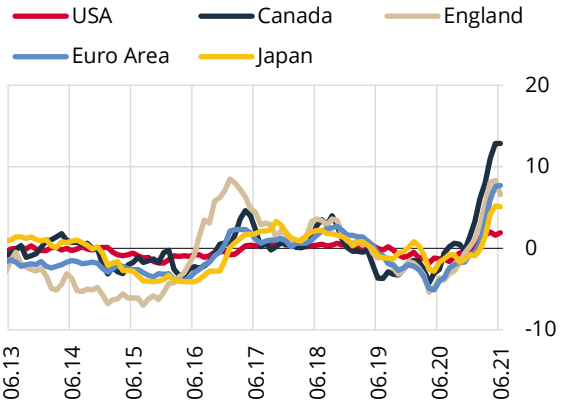


Sources: Bloomberg, CBRT.

* Circled countries are commodity exporters.

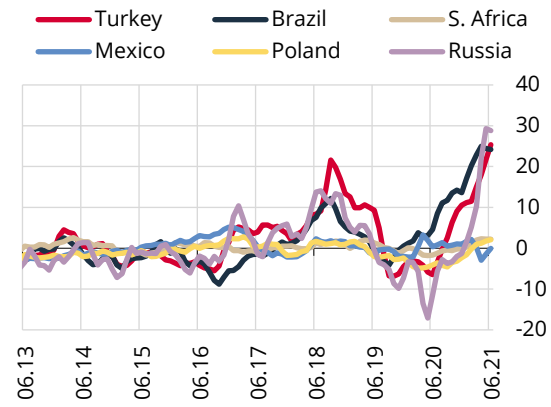
The difference between producer and consumer inflation has recently well exceeded the long-term trends in many advanced and emerging economies. This difference shows a generalized pattern although it is more significant in Canada, the euro area and the UK among advanced economies, and in Brazil, Russia and Turkey among emerging economies (Chart 3 and Chart 4).

Chart 3: PPI-CPI Differences in Advanced Economies (Annual, % Points)



Source: Bloomberg.

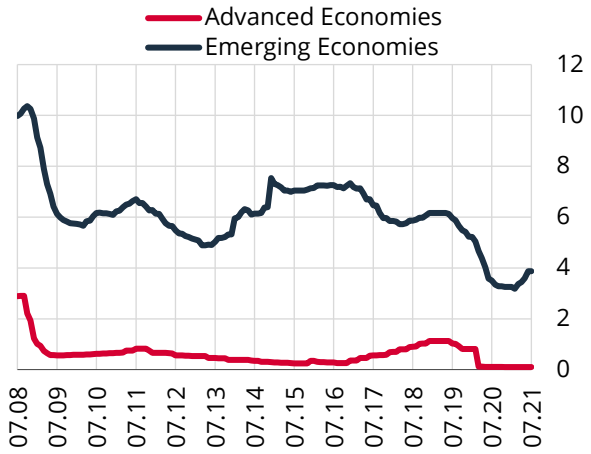
Chart 4. PPI-CPI Differences in Emerging Economies (Annual, % Points)



Source: Bloomberg.

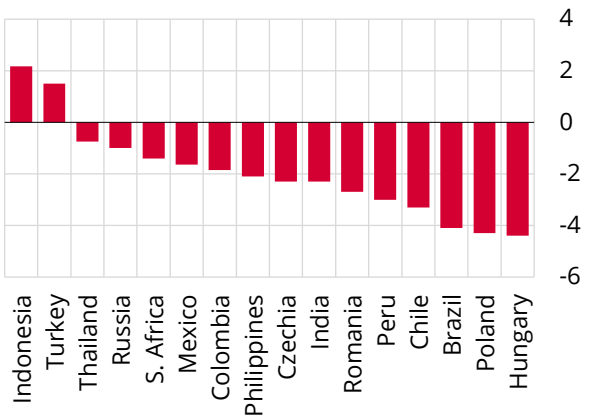
Although the Fed left asset purchases and forward guidance unchanged at its June meeting, the policy rate projections of the FMOC members were revised indicating to an earlier-than-previously expected increase in rates. Despite the drastic rise in inflation, the Fed did not change its statements of policy rate, bond purchases and forward guidance, however it did tighten somewhat its communication tone. At the June meeting, while the number of FOMC members who expected a rate hike for 2022 and 2023 increased compared to the March meeting, the first hike was brought forward to 2023 based on median expectations. The Fed stated that the rise in inflation might be higher and stickier than projected. However, in its general communication, the Fed, as before, viewed that inflation would fall once supply constraints are removed and deferred consumption meterializes. Moreover, the tight labor market poses an upside risk to inflation and draws attention as a factor that may affect the Fed's policy in the future. (Zoom-In 2.4). Such a change in the Fed's communication has increased the likelihood of an earlier tightening in global financial conditions. Both the Fed's statements and monetary policies of emerging economies to counter inflation have been tightening further (Chart 2.1.9). Brazil and Russia were followed by Czechia, Hungary and Mexico as the countries that entered a rate hike process. However, the real policy rate is in negative territory for most of the emerging economies (Chart 2.1.10).

Chart 2.1.9: Policy Rates (%)



Source: Bloomberg.

Chart 2.1.10 Real Policy Rate in Emerging Economies (%)



Sources: Bloomberg, CBRT.

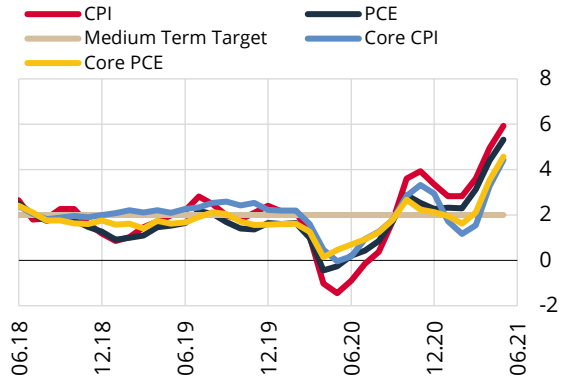
Portfolio flows to emerging economies showed fluctuations in line with decreased but still lingering uncertainties driven by the pandemic, and expectations about the Fed's schedule of tightening. Due to the fluctuations, outflows seen in the pandemic period could not been fully compensated for despite strong inflows at the end of 2020 (Chart 2.1.11). While inflows to bond markets that started in early June remained quite limited, China attracted almost all of the funds that steered towards equity markets (Chart 2.1.12). In the upcoming period, developments in advanced economies, as well as the projections on when and to what extent the monetary policies will be normalized will continue to effect portfolio flows and fluctuations in financial markets of emerging economies.

Zoom-In 2.4

Inflation and Labor Force Developments in the US

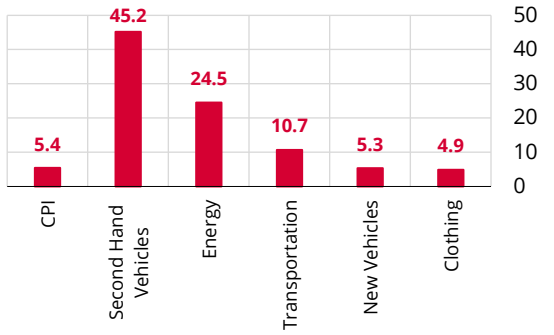
While both headline and core inflation rose to historic highs in the US, this rise seems to have concentrated in specific subitems. Inflation continued to show an uptrend in June for both CPI and PCE deflator indicators (Chart 1). The rise was largely driven by energy and motorized vehicles, and resulted in increases in the transport and insurance costs (Chart 2). Meanwhile, increases in the rents item under the PCE remain within a band of 4 to 5%. While a number of dynamics that are probably transitory are considered to be having an effect on the rise of inflation, some permanent, albeit more limited factors also stand out. Although the Fed judged in its latest statements that inflation may exceed previous expectations and may be somewhat more permanent, it emphasized that temporary factors predominate and the dynamics that caused inflation to remain low after the global financial crisis in 2008 are still valid.

Chart 1: Trend of Inflation in the US
(Seasonally Adjusted 6-Month Moving Average, Annualized, %)



Source: St. Louis Fed.

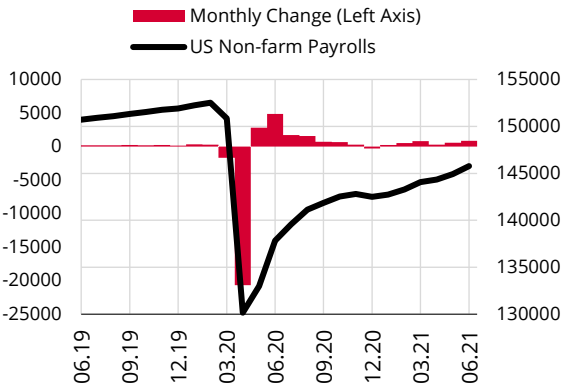
Chart 2: US Consumer inflation and Subitems (June, Annual,%)



Source: St. Louis Fed.

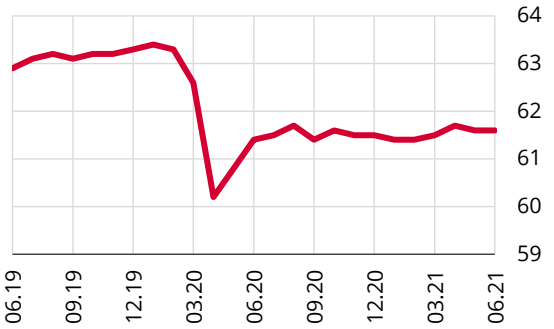
While the labor demand and employment have recently increased in the US with the reopening of the economy, the limited participation in the labor force indicated the likelihood of excess demand for labor. Although non-farm employment in the US has not yet reached its pre-pandemic level, it has gained pace in recent months (Chart 3). On the other hand, the participation rate has remained flatter in the recent period (Chart 4). Labor supply lagging behind demand implies the risks of an additional rise in inflation through wages, and an earlier-than-expected tightening in the Fed's monetary policy.

Chart 3: Non-Farm Employment in the US
(Level and Monthly Change, Thousand People)



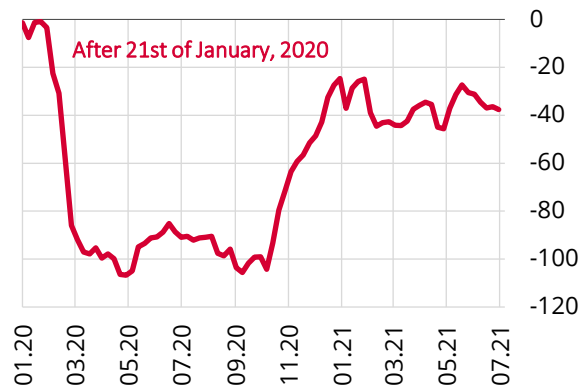
Source: St. Louis Fed.

Chart 4: Labor Force Participation Rate in the US (%)



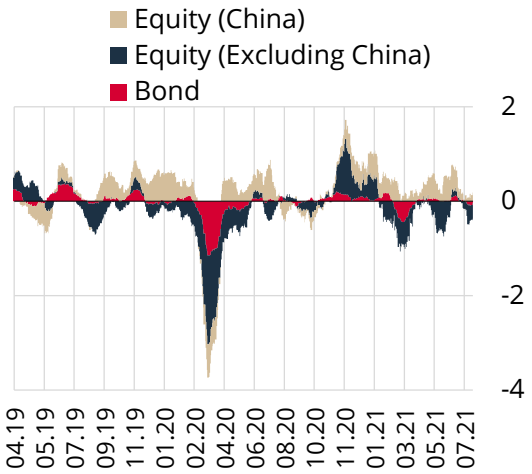
Source: St. Louis Fed.

Chart 2.1.11: Portfolio Flows to Emerging Economies (Cumulative, Weekly, USD Billion)



Source: IIF.

Chart 2.1.12: Portfolio Flows to Emerging Economies (USD Billion, 4-Week Moving Average)

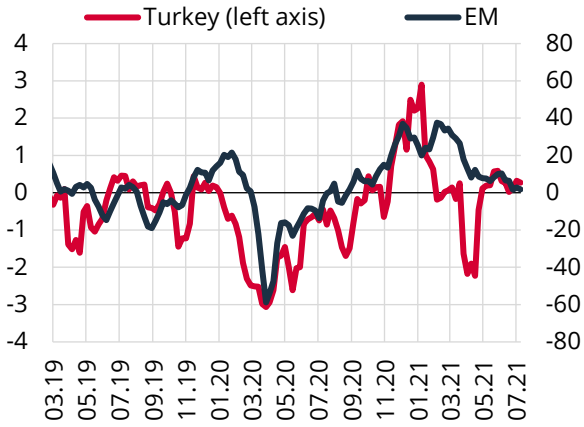


Source: IIF.

2.2 Financial Conditions

In a period in which global inflation developments have increased data-sensitivity in monetary policies and the global financial markets, Turkey's risk premium has declined. After February, portfolio inflows to emerging economies weakened and were mostly concentrated on the bond market. The CBRT's clear communication that it would make its policy decisions to ensure a permanent fall in inflation, followed by its adherence to this tight stance in the April-July period led portfolio inflows to resume and the country risk premium to fall (Charts 2.2.1 and 2.2.2). In the current reporting period, limited foreign capital inflows to GDDS and equity markets were observed and portfolio flows to bond markets became USD 0.7 billion. Foreigners' positions through swap transactions trended downwards due to the fluctuating global risk appetite during the reporting period. In this period, portfolio outflows through the swap channel stood above other portfolio inflows, causing a total net portfolio outflow.

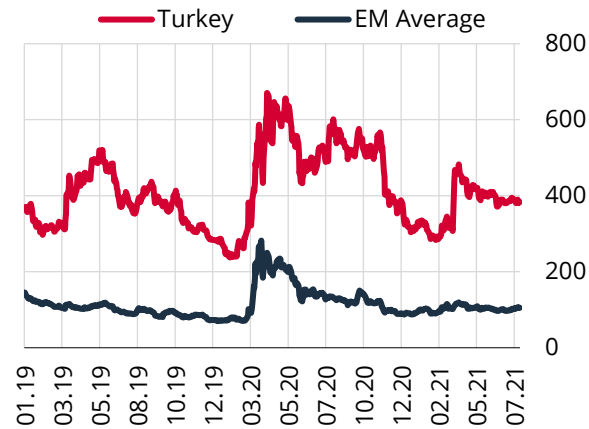
Chart 2.2.1: Portfolio Flows to Turkey and Emerging Economies* (4-Week Cumulative, Billion USD)



Sources: EPFR, CBRT.

* Turkey data includes portfolio flows to stocks and GDDS market. 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 Points)



Source: Bloomberg.

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

The Turkish lira has recently appreciated moderately. Currencies of emerging economies appreciated to a limited extent until the Fed *FOMC* Meeting in mid-June, while the Turkish lira diverged negatively in this period. This trend has recently reversed and despite the depreciation in the currencies of emerging economies, the Turkish lira has exhibited a mild appreciation (Chart 2.2.3). The share of foreign currency deposits has recently declined when examined under a fixed exchange rate (Chart 2.2.4). The decline in the money supply growth amid normalization steps caused the velocity of money to recover compared to the pandemic period (Zoom-in 2.5). The CBRT announced a new practice to gradually lower the cost of required reserves in the rate of transition from FX deposit accounts to TL deposit accounts. The aim of the arrangements in reserve requirements is to enhance the effectiveness of the monetary transmission mechanism. Moreover, the incentives given to banks aim to strengthen their motivation to shift to the Turkish lira in their balance sheets. The new practice will encourage TL-denominated savings and contribute to the balance sheet management of banks.

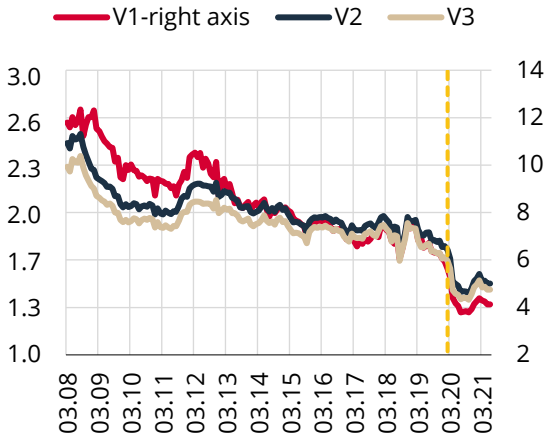
Zoom-in 2.5

Recent Developments on Velocity of Money

In the pandemic period, the demand to hold cash increased notably in Turkey as in many countries. In this period, in addition to workplace closures and curfews, the precautionary motive led by the uncertainties over the course of the pandemic pushed the demand for banknotes upwards, causing an upsurge in M1, the narrowly-defined money supply indicator.

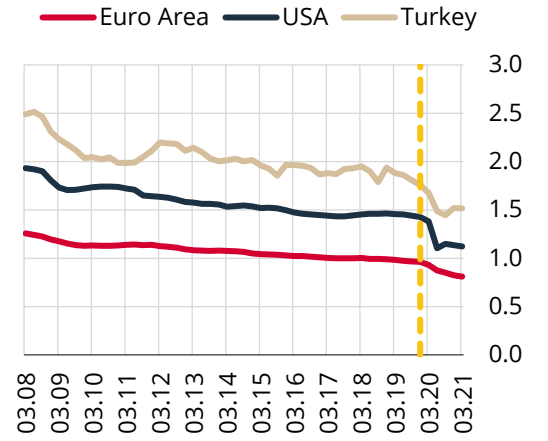
The number of times that the money changes hands within a year for different money supply indicators based on the Fisher equation (velocity, V) reveals that the velocity of money displayed a downtrend in the last couple of years. This downtrend became more pronounced with the pandemic (Chart 1). This trend is not exclusive to Turkey, and a significant decline was seen in the velocity of money in many countries. In the pandemic period, in addition to the money supply indicators that surged due to the supportive measures of governments, higher uncertainties in economies drove households to save more, leading money to change hands less (Chart 2). As the rate of increase in money supply decreases in the normalization period following the pandemic and uncertainties over the economic outlook wane, the indicators for velocity of money may improve.

Chart 1: Velocity of Money Stock (Rate)



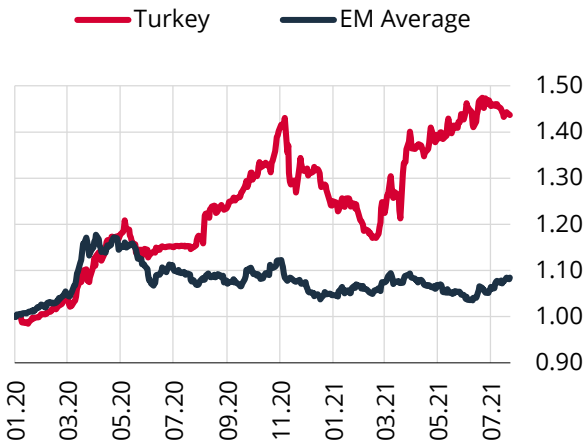
Source: CBRT.

Chart 2: Velocity of M2 Stock (Rate)



Sources: Eurostat, FRED, CBRT.

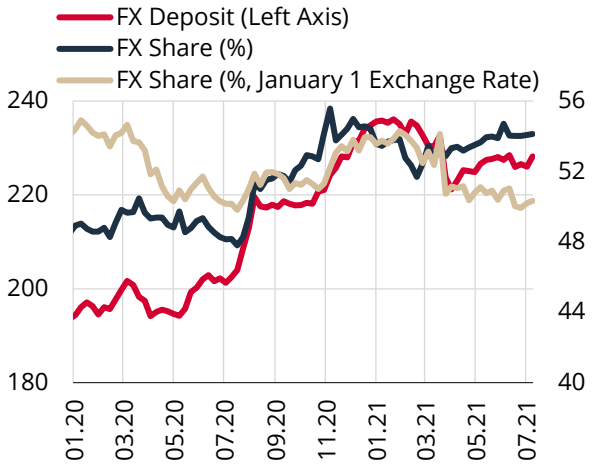
Chart 2.2.3: Turkish Lira and Emerging Market Currencies against US Dollar (31.12.2019 = 1)



Source: Bloomberg.

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

Chart 2.2.4: FX Deposits of Residents (Weekly, Billion USD)

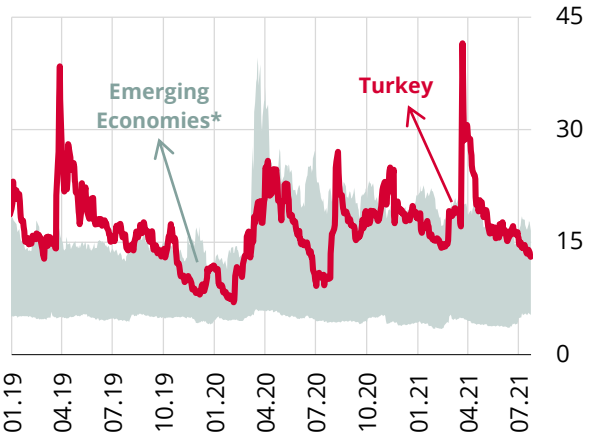


Source: CBRT.

* FX share series is calculated by taking the ratio of residents' FX deposits to their total deposits.

Although the country risk premium and implied foreign exchange volatilities decline, they remain relatively high. Twelve-month forward volatility has improved less than one-month forward volatility (Charts 2.2.5 and 2.2.6), which indicates that long-term risk perceptions are relatively higher.

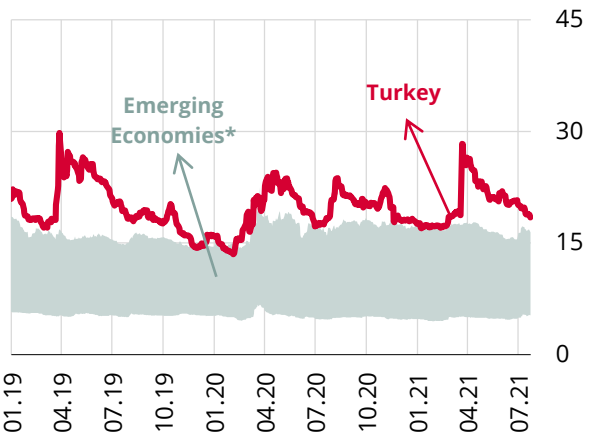
Chart 2.2.5: Exchange Rate Volatilities Implied by Options (against USD, 1-Month Forward, %)



Source: Bloomberg.

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

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

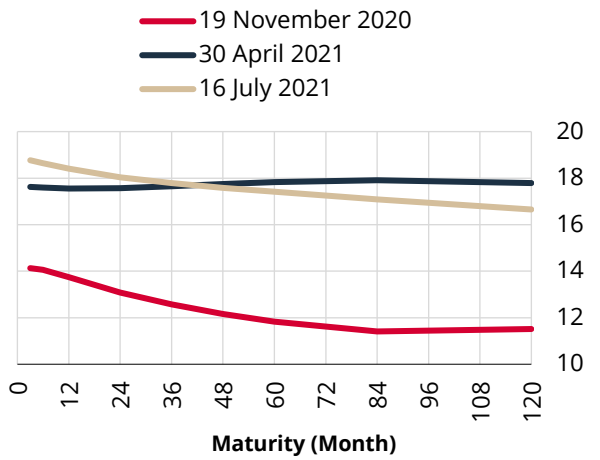


Source: Bloomberg.

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

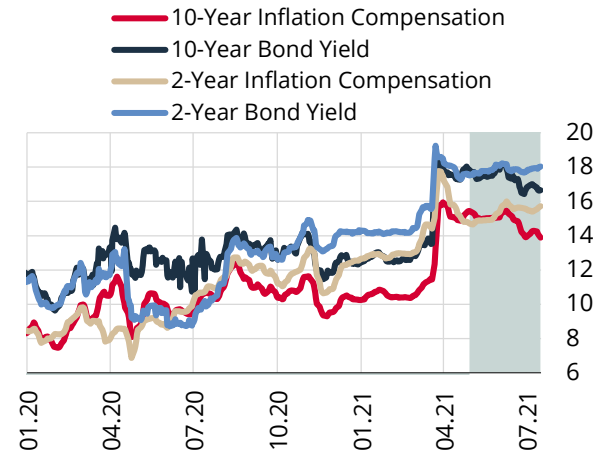
Amid limited portfolio inflows in the bond market, long-term yields have receded, while inflation compensations have hovered above historical averages. During the reporting period, GDDS returns with maturities up to two years rose slightly, while foreign investors' demand towards long-term securities in the bond market led the longer end of the yield curve to shift downwards (Chart 2.2.7). In this period of a limited change in real returns, the decline in 10-year nominal bond yields also caused inflation compensations with the same maturity to drop (Chart 2.2.8). Although the CBRT's monetary policy communication improved market pricing, medium and long-term inflation expectations are hovering above past averages.

Chart 2.2.7: GDDS Yield Curve (%)



Source: Bloomberg.

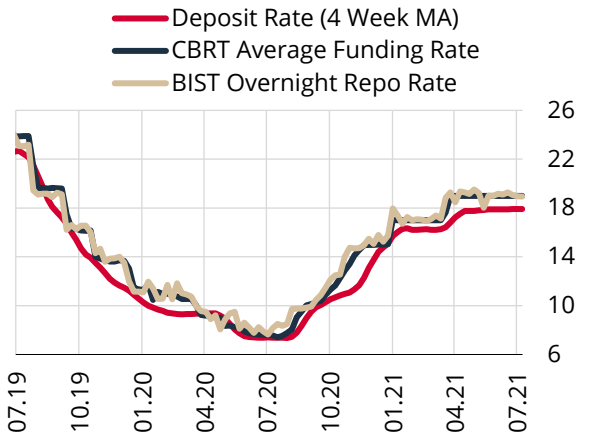
Chart 2.2.8: Long-term GDDS Yields and Inflation Compensations (%)



Source: Bloomberg.

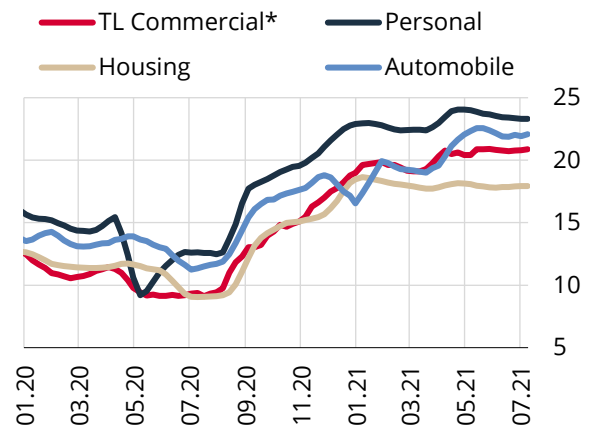
Compared to the previous reporting period, banks' funding costs remain unchanged. The monetary tightening in March caused funding costs to rise (Chart 2.2.9). This rise in funding costs spilled over into loan rates. In this period, all loan types excluding housing registered increasing rates (Chart 2.2.10). As a result of this, spread between housing loan rate and other consumer loans rates widened. In the recent period, TL business loan rates have remained unchanged, while consumer loan rates have declined slightly.

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



Source: Bloomberg, CBRT.

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

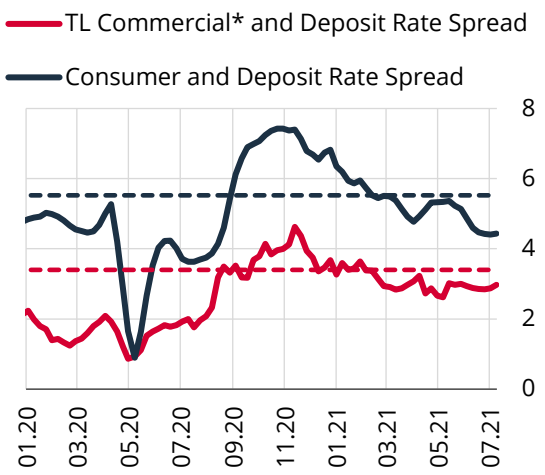


Source: CBRT.

* Overdraft accounts and credit cards excluded.

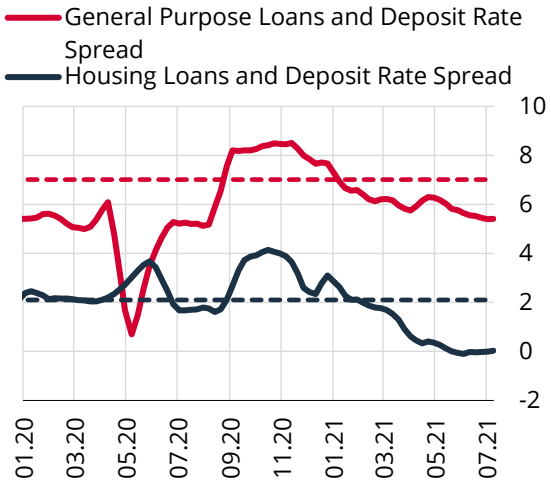
Loan/deposit spreads showing the banks' lending tendency hover close to past averages. The commercial loan to deposit rate spread has recently remained unchanged, while this difference declined for consumer loans (Chart 2.2.11). In housing loans, the loan deposit spread is around zero (Chart 2.2.12).

Chart 2.2.11: Deposit/ Loan Rate Spreads (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.

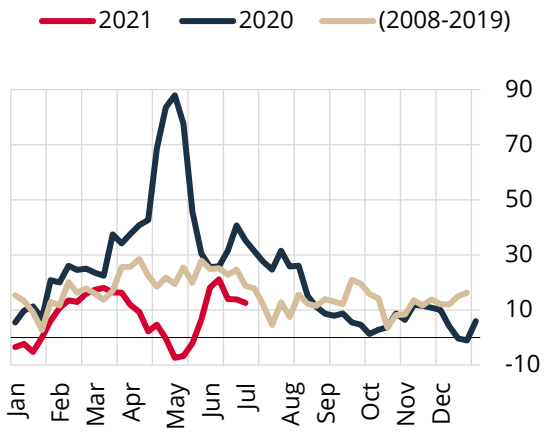
Chart 2.2.12: Deposit/ Loan Rate Spreads (Flow Data, Annual Rates, 4-Week Moving Average, %)*



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

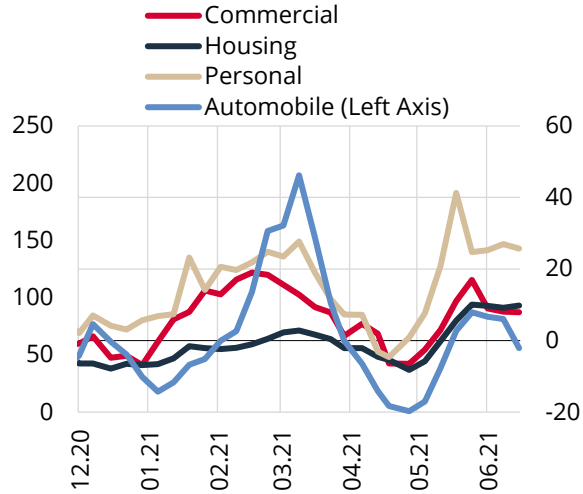
Total loans remain on a mild course owing to the monetary tightening. Having lost pace in the start of the second quarter amid tighter financial conditions, loans receded due to the lockdown measures implemented from 29 April to 17 May to prevent the spread of the pandemic (Charts 2.2.13 and 2.2.14). In the ensuing period, loans recovered rapidly and recovered their pre-pandemic trend (Charts 2.2.15 and 2.2.16). Credit composition suggests a mild course in corporate and housing loans, but an acceleration in consumer loans excluding housing loans. On 1 July, the BRSA introduced macroprudential arrangements to limit the increase in consumer loans excluding housing as well as personal credit cards.

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



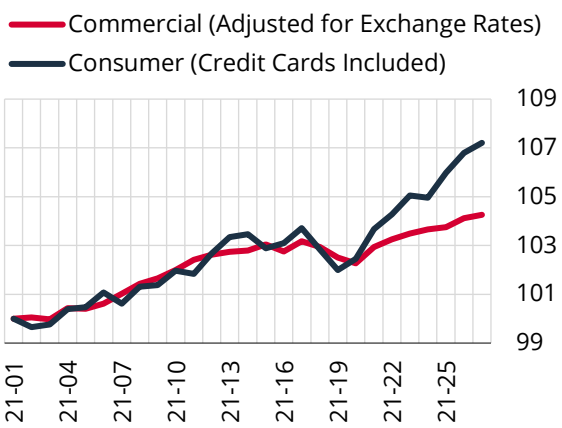
Source: CBRT.

Chart 2.2.14: Loan Growth Rates by Types of Loans (4-Week Annualized Growth, Adjusted for Exchange Rates, %)



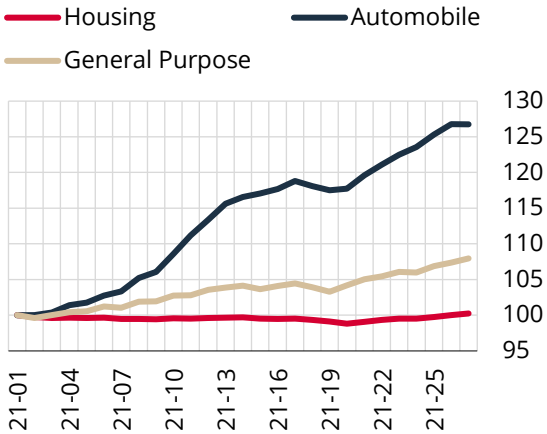
Source: CBRT.

Chart 2.2.15: Loan Tendency (21-1=100, Nominal, Weekly)



Source: CBRT.

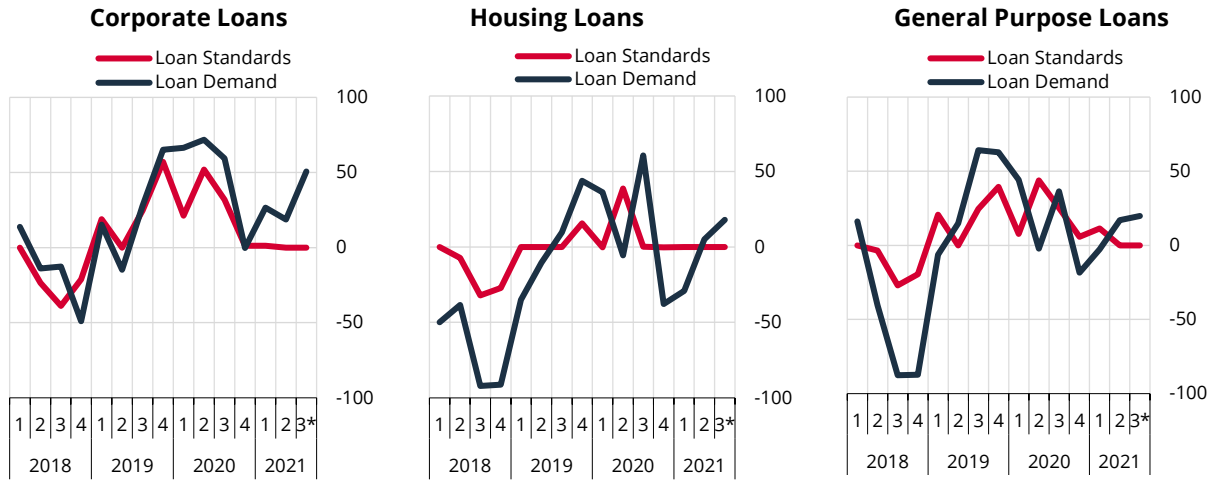
Chart 2.2.16: Tendency of Consumer Loans (21-1=100, Nominal, Weekly)



Source: CBRT.

According to BLTS data of the CBRT, the demand for corporate and general purpose loans increased in the second quarter of 2021, while the demand for housing loans remained limited (Chart 2.2.17). In the second quarter, loan standards remained the same for commercial loans in general and in all breakdowns of consumer loans. In this period, expectations for both the general economic activity and the outlook for the sector or firms led to a tightening in business loan standards. In addition to these factors, risks associated with the collaterals for consumer loans also had a tightening effect on loan standards. In the third quarter, banks expect an increased demand for loans and do not project any change in loan standards. On the other hand, it should be noted that the survey was conducted before the announcement of macroprudential measures on 1 July. Measures taken in this context may tighten the standards for general purpose loans and limit the loan demand.

Chart 2.2.17: Credit Standards and Loan Demand



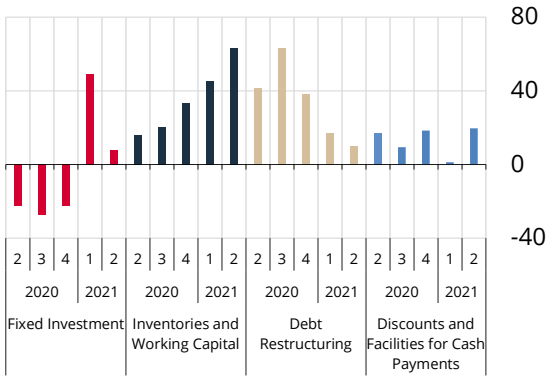
Source: CBRT.

* Expectations of banks.

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

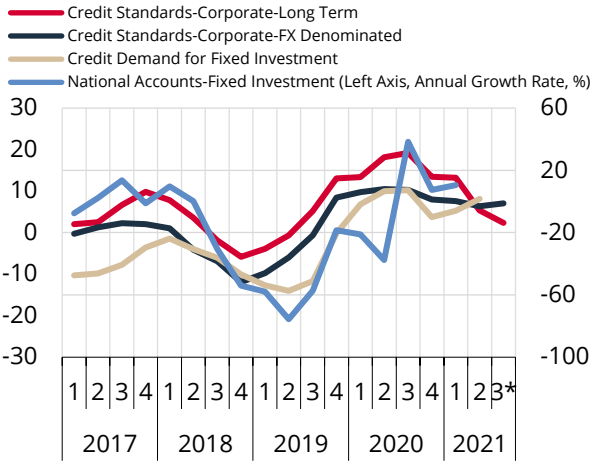
In the second quarter, loan demand was mainly for stock build-up and working capital purposes, while the effect of loan utilization for investment purposes stood lower than the previous quarter (Chart 2.2.18). Banks expect that the tightening in long-term loan standards will continue in the third quarter of 2021 (Chart 2.2.19).

Chart 2.2.18: Leading Factors Affecting Firms' Loan Demand (%)



Sources: 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 2.2.19: Effect of Fixed Investment on Loan Demand and Fixed Investment

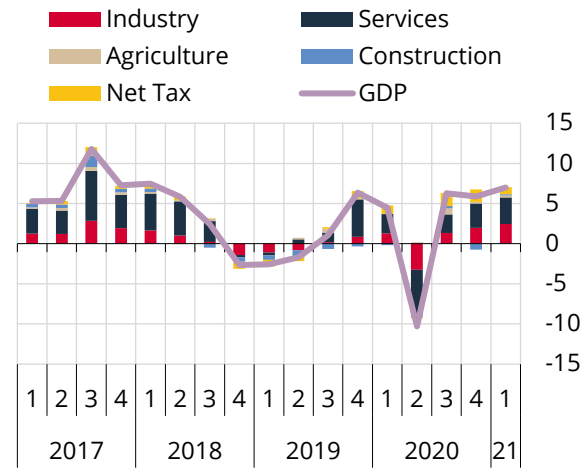


Sources: CBRT BLTS, TURKSTAT.
* Expectation of banks.

2.3 Economic Activity

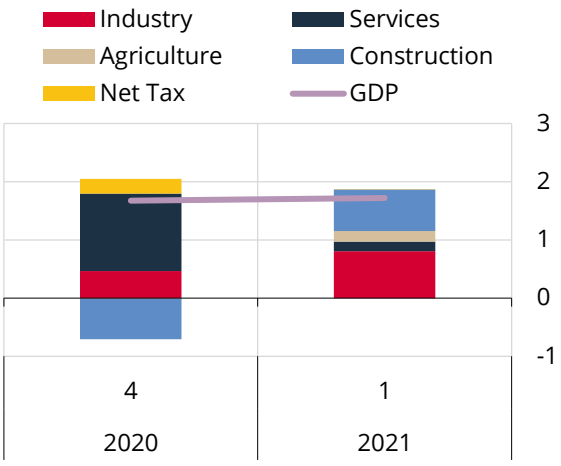
In the first quarter of 2021, economic activity remained strong and kept running above potential despite the drag from the pandemic. In this period, GDP grew by an annual 7.0% and a quarterly 1.7%. On the production side, industry and services sectors provided the largest contribution to the first quarter's annual growth, while the main driver of quarterly growth was the value added of industry and construction (Charts 2.3.1 and 2.3.2). The value added of services, on the other hand, made a limited contribution to quarterly growth due to COVID-19 restrictions. Thus, except for the impacts of the pandemic, economic activity remained strong in the first quarter. On the expenditures side, the main driver of annual growth in the first quarter was domestic demand, while net exports contributed positively, by 1.1 percentage points, to annual growth for the first time since the third quarter of 2019 (Chart 2.3.3). Meanwhile, final domestic demand weighed on quarterly growth through consumption due to tight financial conditions and pandemic restrictions, while net exports added 1.5 points to quarterly growth (Chart 2.3.4).

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



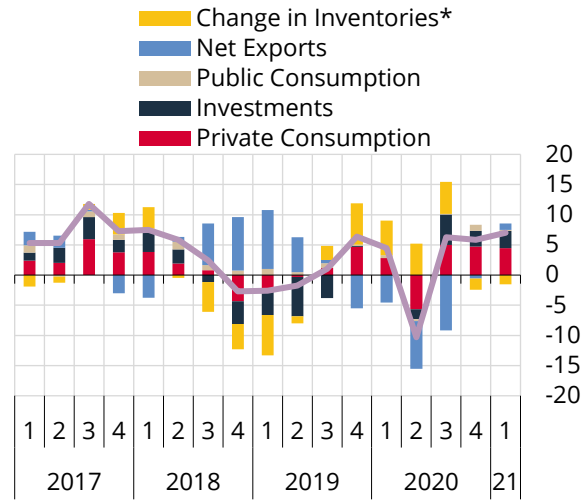
Sources: CBRT, TURKSTAT.

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



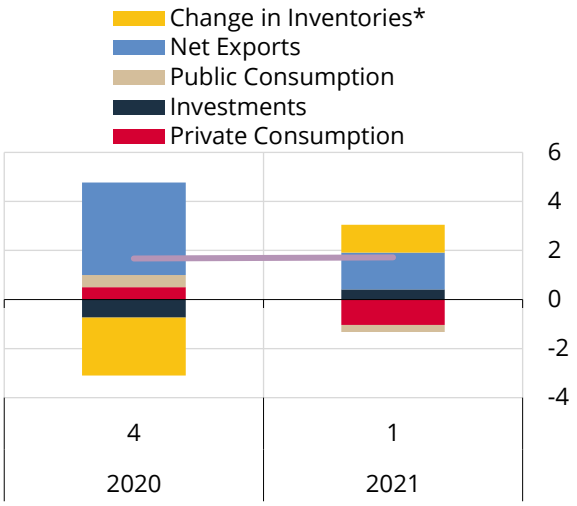
Sources: CBRT, TURKSTAT.

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.

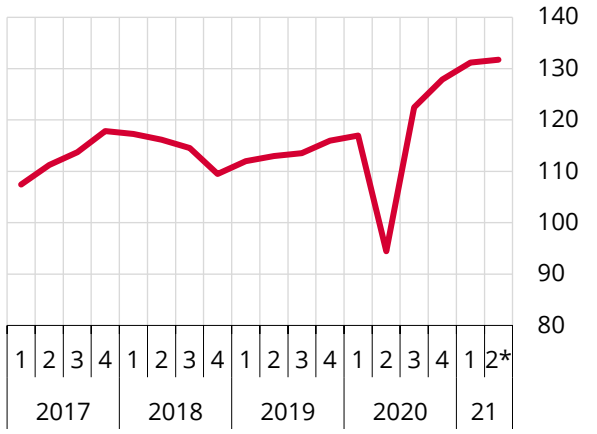
Chart 2.3.4: Quarterly GDP Growth and Contributions from Expenditures Side (% Points)



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

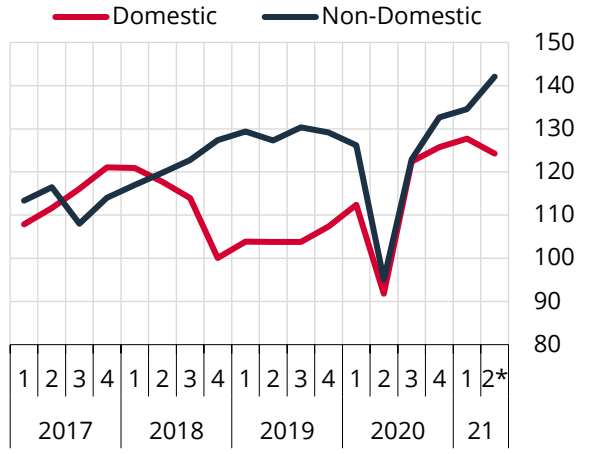
Data for the second quarter indicate that domestic demand lost momentum amid tight financial conditions and slowing loans as well as pandemic restrictions. Industrial production increased in May after a widespread decline in April. Thus, up by a mere 0.4% from the first quarter, industrial production lost momentum during April-May (Chart 2.3.5). Turnover indices indicate that this deceleration was driven by domestic demand due to pandemic measures, whereas external demand supported industrial production (Chart 2.3.6). In addition, supply constraints in some sectors, the vehicle industry in particular, hampered production in this period (Zoom-In 2.9).

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



Source: TURKSTAT.
* As of April and May.

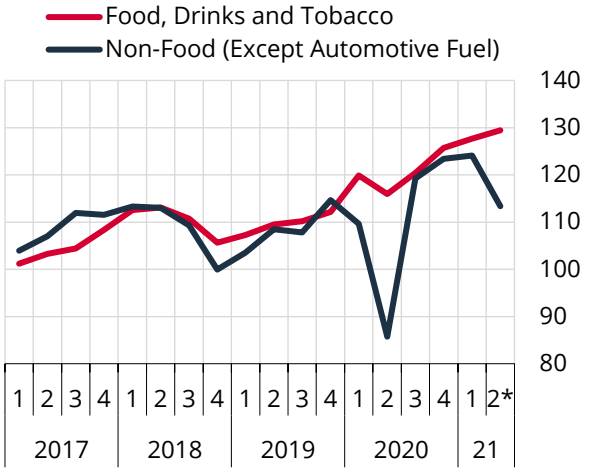
Chart 2.3.6: Sectoral Turnover Indices
(Seasonally and Calendar Adjusted, Real, 2015=100)



Sources: CBRT, TURKSTAT.
* As of April and May.

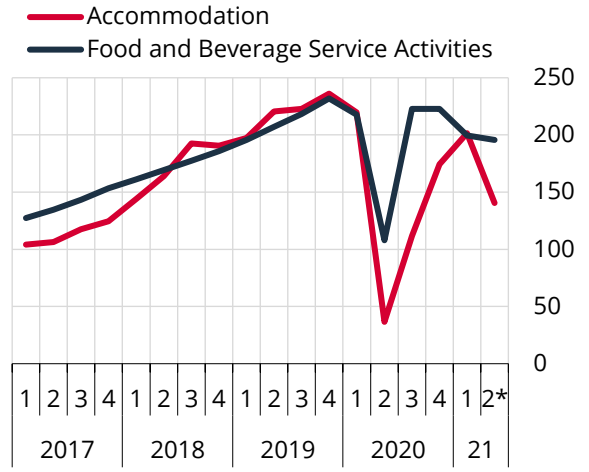
Coronavirus restrictions have caused sectoral divergence in consumption demand, while tight financial conditions curbed the demand for durable goods. The April-May average for the volume of retail sales points to a contraction of 8.6% in non-food items and an increase of 1.4% in food, drinks and tobacco from the first quarter (Chart 2.3.7). In this period, turnover indices were down in accommodation and food and beverage service activities as COVID-19 restrictions were reimposed (Chart 2.3.8). On the other hand, survey-based order indicators and data for domestic sales of durable consumer goods such as automobiles and white goods suggest that tight financial conditions dampened consumption demand (Charts 2.3.9 and 2.3.10).

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



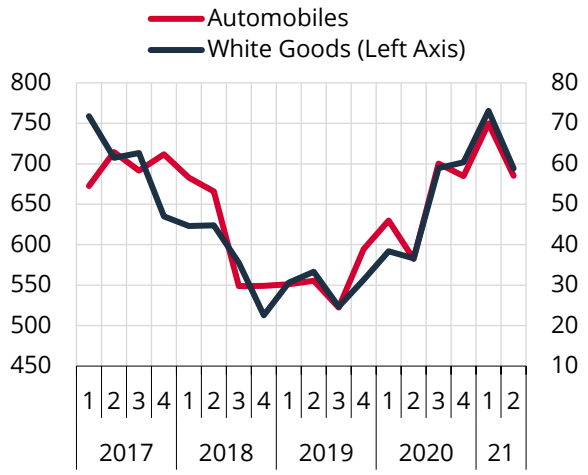
Source: TURKSTAT.
* As of April and May.

Chart 2.3.8: Services Turnover Indices
(Seasonally and Calendar Adjusted, 2015=100)



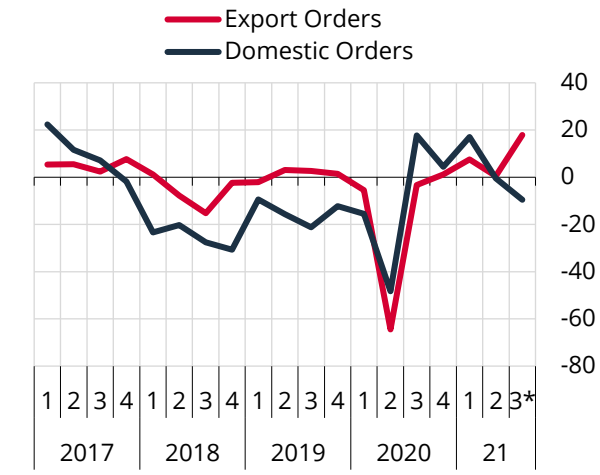
Source: TURKSTAT.
* As of April and May.

Chart 2.3.9: Domestic Sales of Durable Goods (Seasonally and Calendar Adjusted, Thousand)



Sources: ADA, CBRT, TURKBESD.

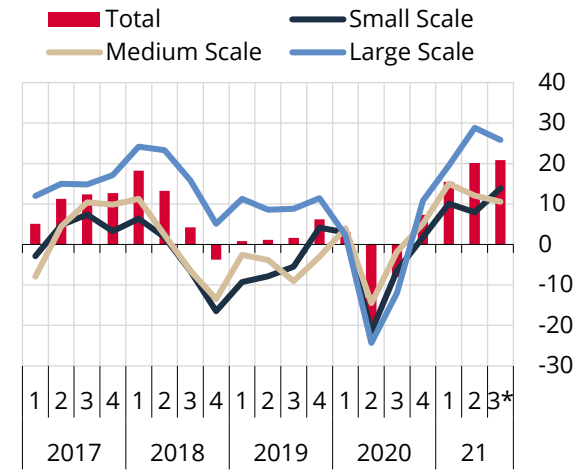
Chart 2.3.10: Durables Goods Orders** (Seasonally Adjusted, Above/Below Normal)



Source: CBRT.
* As of July.
** Refers to the BTS question on currently registered orders.

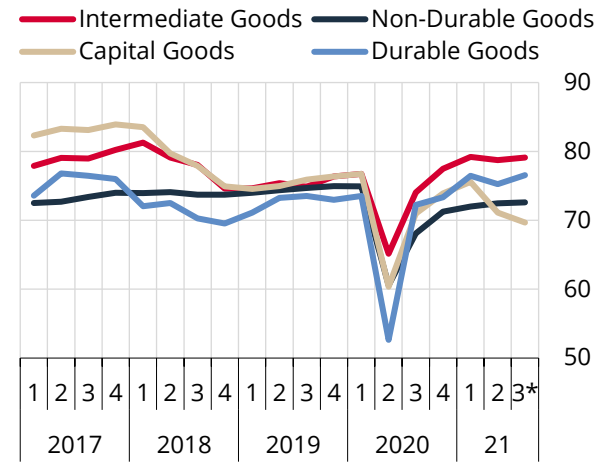
The investment tendency remains strong. BTS data indicate that the 12-month-ahead investment tendency of the manufacturing industry continued to rise in the second quarter on the back of large-scale firms (Zoom-In 2.6). The investment tendency remained in positive territory for small and medium-sized firms despite some decline (Chart 2.3.11). The capacity utilization rate (CUR) of the manufacturing industry continued to increase in the second quarter and converged to its pre-pandemic level. In this period, the CUR was significantly lower for the vehicle industry, which has been severely affected by supply constraints, and for investment goods due to factory shutdowns (Chart 2.3.12). Without this effect, the underlying trend of the manufacturing industry appears much stronger.

Chart 2.3.11: BTS Expectations for Fixed Investment Expenditure (Seasonally Adjusted, Increase-Decrease, %)



Source: CBRT.
* As of July.

Chart 2.3.12: Capacity Utilization Rate (Seasonally Adjusted, %)



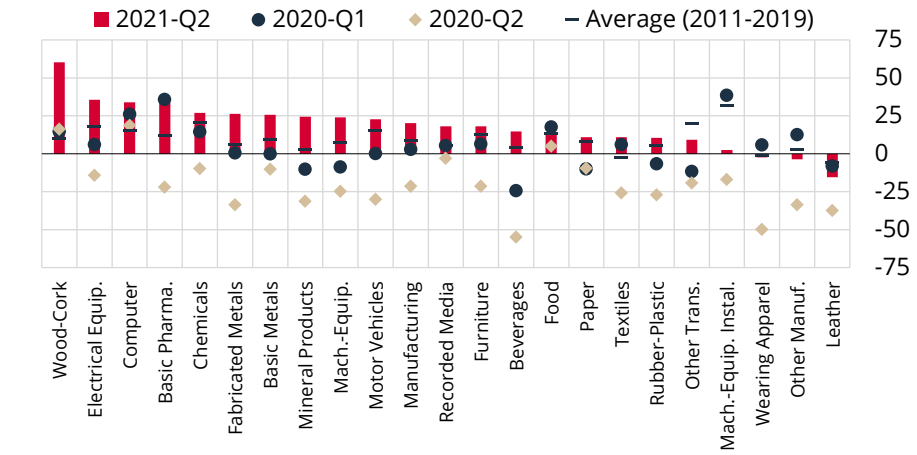
Source: CBRT.
* As of July.

Zoom-In 2.6

The Role of Demand Conditions in Investment Tendency

The investment tendency of the manufacturing industry has been on a strong upward trend since the third quarter of 2020. In the second quarter, the BTS question for expected 12-month-ahead fixed investment expenditure recorded its highest value since the second quarter of 2012. The investment tendency is in positive territory overall, but not every sector recovered at the same rate following the decline during the pandemic (Chart 1). As of the second quarter of 2021, the investment tendency was the highest in wood and cork, electrical equipment, computers and optical instruments, and basic pharmaceuticals sectors, above average in construction-related intermediate goods sectors, and below average in clothing, leather, textiles, food, beverages, paper, and rubber and plastics sectors.

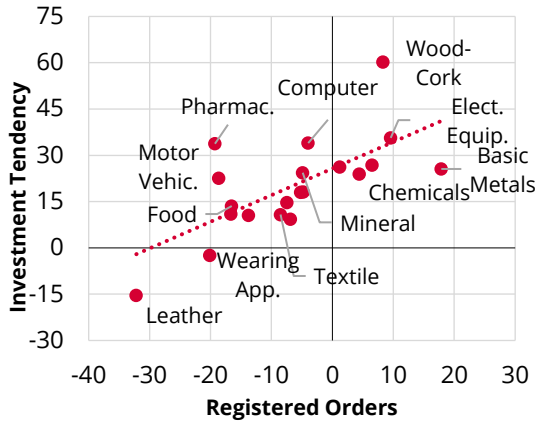
Chart 1: Expected 12-Month-Ahead Fixed Investment Expenditure
(Seasonally Adjusted, Increase-Decrease, %)



Source: CBRT.

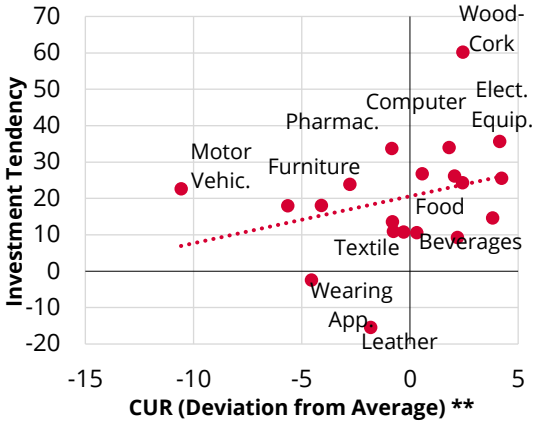
The divergence in investment tendencies reflects the shifts in demand across sectors. BTS data indicate that the investment tendency is higher in sectors with stronger demand and higher capacity utilization rates (Charts 2 and 3). The outlook for the investment tendency is more positive in durable goods and intermediate goods, which gained a strong momentum after credit and monetary expansion, and in sectors with strong external demand, and weaker in tourism-related sectors or nondurable goods, which are more severely hit by coronavirus measures.

Chart 2: Registered Orders and Investment Tendency*



Source: CBRT.
* Seasonally adjusted data as of 2021-Q2.

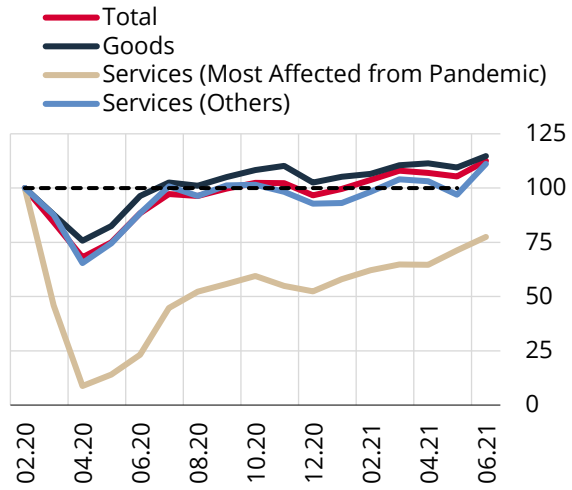
Chart 3: Capacity Utilization Rate and Investment Tendency*



Source: CBRT.
** As of 2011 to 2019.

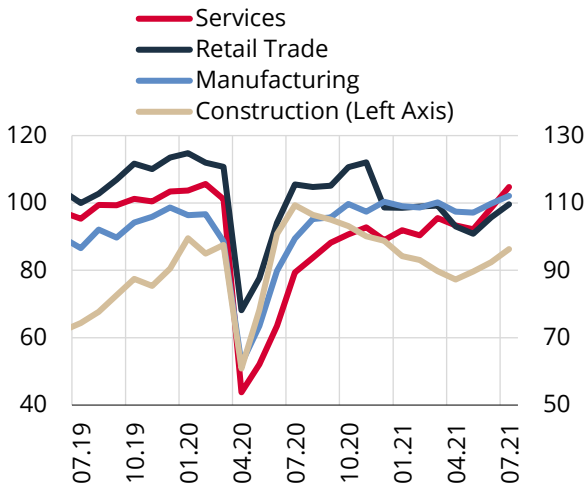
Faster vaccination and the relaxation of COVID-19 measures support economic activity. High-frequency data point to a rapid recovery in mobility indices and credit card spending following the gradual easing of restrictions after the full lockdown from 29 April to 17 May (Box 2.1). The rebound has been stronger in the services sectors that are most affected from the pandemic, but as of June the level of activity in these subsectors remains below pre-pandemic levels (Chart 2.3.13). The Weekly Economic Conditions Index (WECI) involving high-frequency data indicates that annual growth may come in at more than 20% in the second quarter due to base effects.

Chart 2.3.13: Credit Card Spending (Seasonally Adjusted, Real, February 2020=100)



Source: CBRT.

Chart 2.3.14: Sectoral Confidence Indices (Seasonally Adjusted)

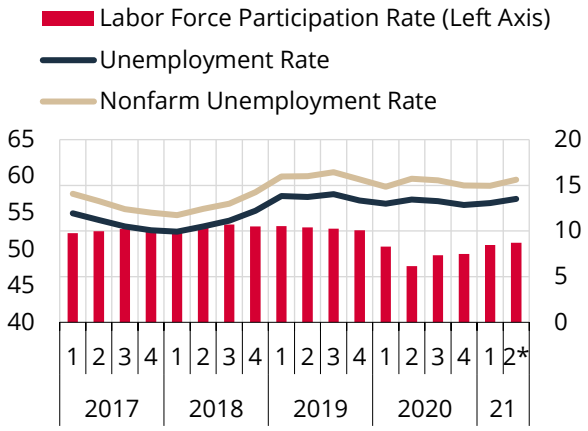


Sources: CBRT, TURKSTAT.

Economic activity is expected to show a more balanced composition of growth in the second half of the year. As of July, the rate of vaccination in Turkey has caught up with that of countries in the lead and diverged positively from other emerging economies (Box 2.2). Travel restrictions against Turkey have thus been gradually lifted. Accordingly, activity will likely recover in tourism and the heavily affected subsectors of services over the second half of the year, which is confirmed by sectoral confidence indices (Chart 2.3.14). On the other hand, tight financial conditions may further restrain domestic demand while the global economic recovery may continue to prop up exports.

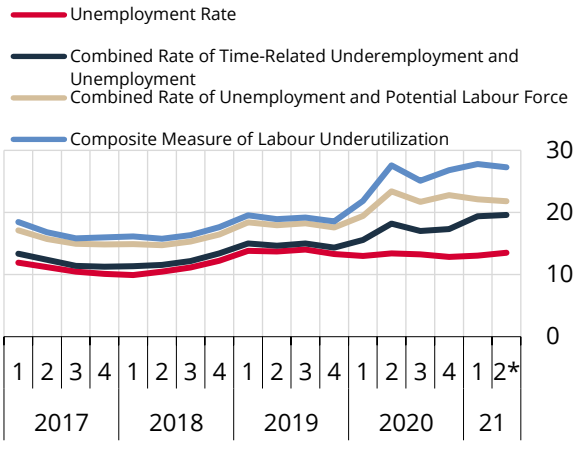
The impact of restrictions on economic activity was also reflected in the labor market. As of May, total and non-farm unemployment rates increased quarter-on-quarter by 0.5 points and 0.7 points to 13.5% and 15.6%, respectively (Chart 2.3.15). Broad unemployment indicators also remained high in this period due to pandemic restrictions (Chart 2.3.16).

Chart 2.3.15: Unemployment and Labor Force Participation Rates (Seasonally Adjusted, %)



Source: TURKSTAT.
* As of April and May.

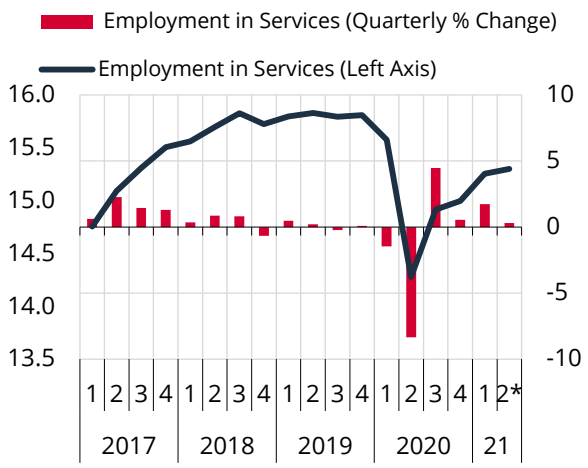
Chart 2.3.16: Broad Unemployment Rates (Seasonally Adjusted, %)



Source: TURKSTAT.
* As of April and May.

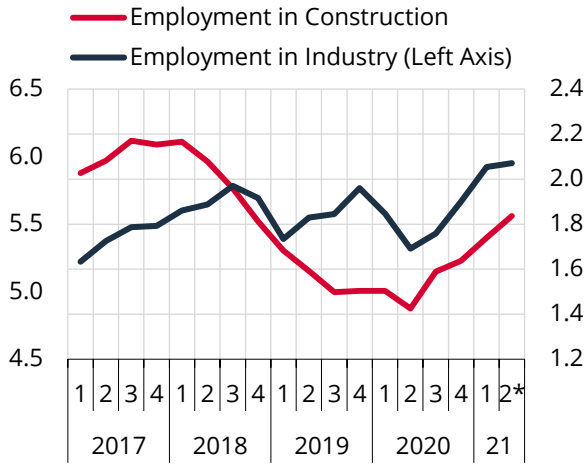
The sectoral divergence in employment continues. As of May, the quarterly rate of employment growth was relatively weaker in services sector, which has been relatively more affected by the restrictions, than in industry and construction sectors (Charts 2.3.17 and 2.3.18). However, the gradual easing of pandemic restrictions, the rapid vaccine rollout and the impending recovery in tourism will affect services employment positively.

Chart 2.3.17: Employment in Services (Seasonally Adjusted, Million People)



Source: TURKSTAT.
* As of April and May.

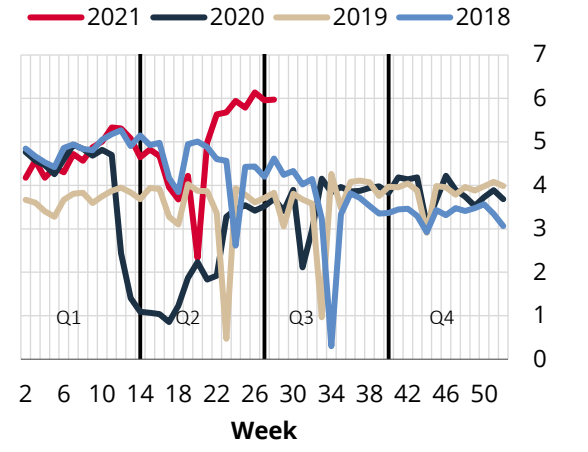
Chart 2.3.18: Employment in Industry and Construction (Seasonally Adjusted, Million People)



Source: TURKSTAT.
* As of April and May.

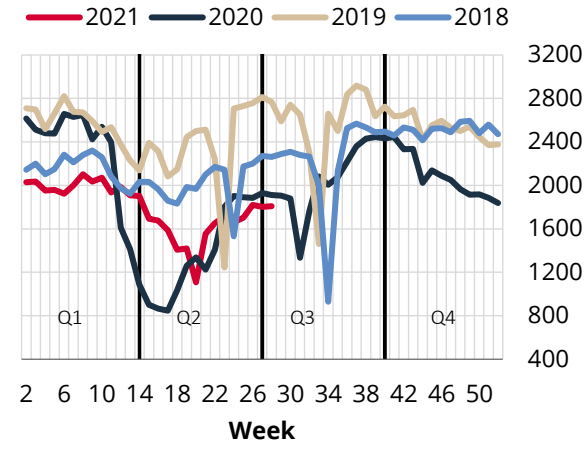
High-frequency data point to a recovery in employment prospects and job applications as restrictions are eased (Charts 2.3.19 and 2.3.20). Following the reopening, employment may grow significantly, especially in the services sector, in the coming months. However, the imminent increase in labor force participation may limit the impact of employment increases on unemployment rates.

Chart 2.3.19: Kariyer.net – New Job Vacancies (Weekly, Thousand)



Source: Kariyer.net.

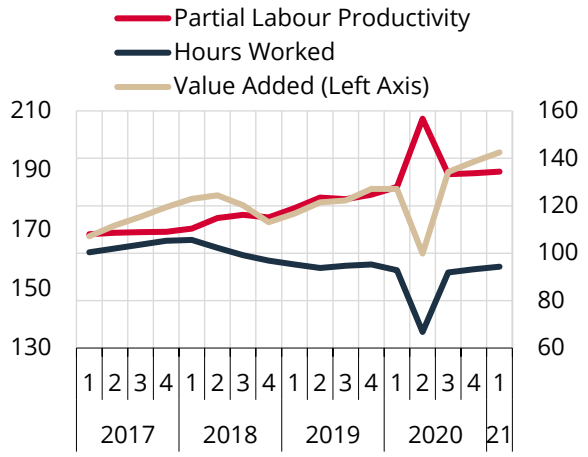
Chart 2.3.20: Kariyer.net – Total Job Applications (Weekly, Thousand)



Source: Kariyer.net.

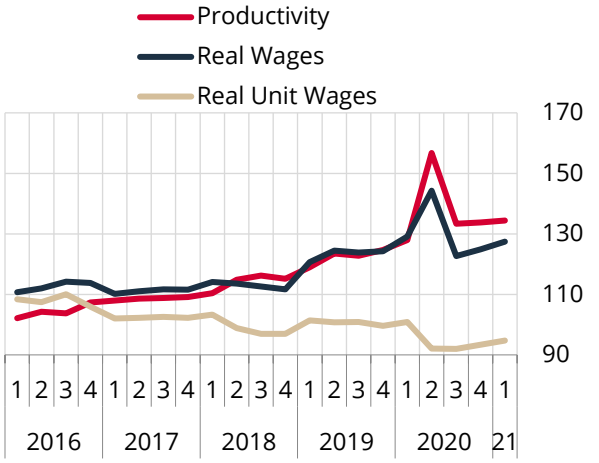
Real wages continue to rise amid economic recovery. Despite the substantial minimum wage hike for 2021 (by 21.6%), the strong course of economic activity and high inflation, labor cost increases were smaller in the first quarter due to the increase in hours worked (Chart 2.3.21). Real labor costs rose in the same period, whereas productivity per hour remained flat and real unit wages thus posted a quarterly increase (Chart 2.3.22).

Chart 2.3.21: Nonfarm Partial Labor Productivity per Hours Worked* (Seasonally Adjusted, 2015=100)



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

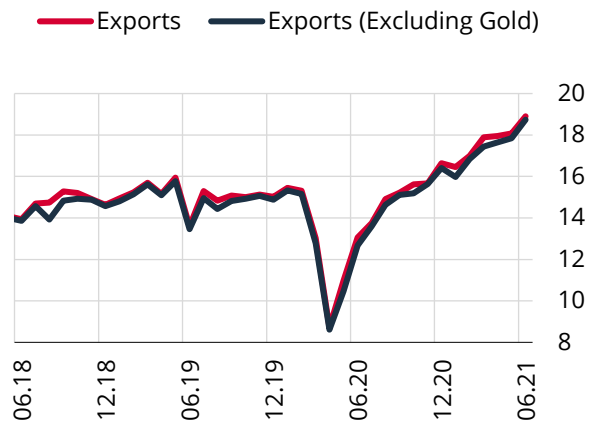
Chart 2.3.22: Nonfarm Productivity per Hours Worked, Real Wages and Real Unit Wages* (Seasonally Adjusted, 2015=100)



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

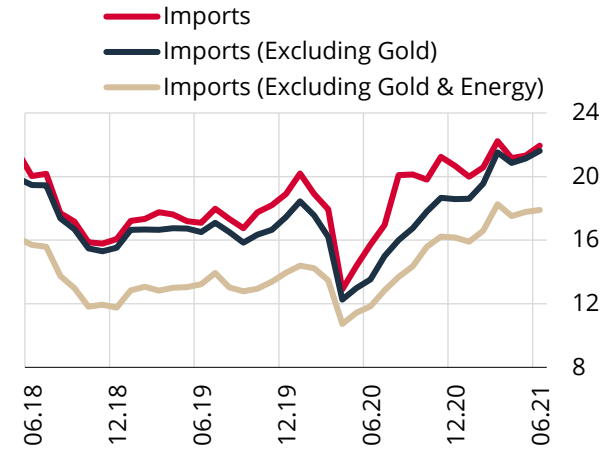
Exports continued to trend upward in the second quarter of 2021. The recovery in global industrial production, especially in Europe, and rising export prices support exports. Exports destined for both European and non-European markets were higher (Chart 2.3.23 and Box 2.3). Among sectors, vehicle exports contracted significantly in the second quarter due to supply constraints, while clothing exports remained weak. In addition, the course of international commodity prices continues to affect exports of intermediate goods positively.

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



Sources: CBRT, TEA, TURKSTAT.
* June data is provisional.

Chart 2.3.24: Imports* (Seasonally and Calendar Adjusted, Billion USD)



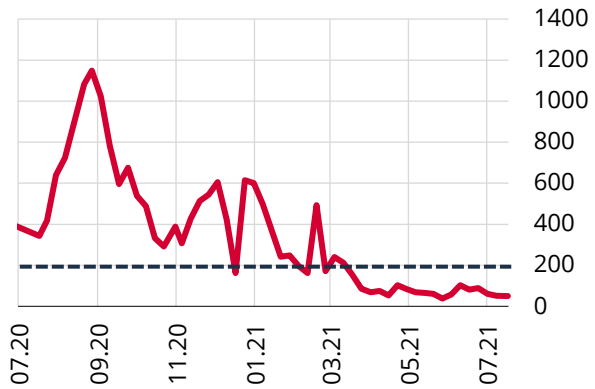
Sources: CBRT, Ministry of Trade, TURKSTAT.
* June data is provisional.

Despite surging international commodity prices, imports were relatively moderate in the second quarter due to slowing loans and dipping gold imports. In this period, the decelerating effect of monetary tightening on loans and domestic demand weighed on imports (Chart 2.3.24). Moreover, external trade seems to reflect some rebalancing in real terms (Chart 2.3.25). On the other hand, as gold imports fell significantly below their historical averages in the second quarter due to the tight monetary stance and the measures taken, the current account balance was relatively unharmed by the negative effects of import prices (Chart 2.3.26).

Chart 2.3.25: External Trade Volume (Seasonally Adjusted, 2015=100)

Sources: CBRT, TURKSTAT.
* As of April and May.

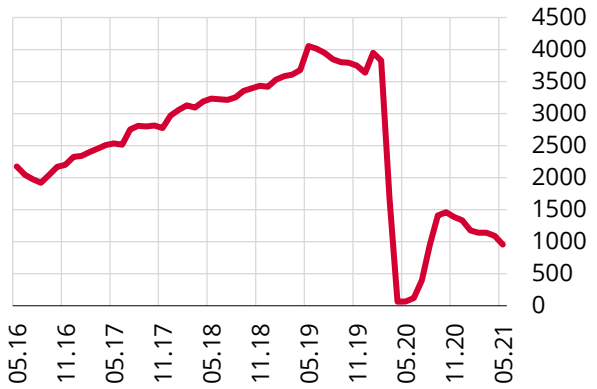
Chart 2.3.26: Gold Imports* (Weekly, Million USD)



Source: Ministry of Trade.
* Data last updated 19 July. The historical average covers the period from 2010 to 2020 and is USD 197 million.

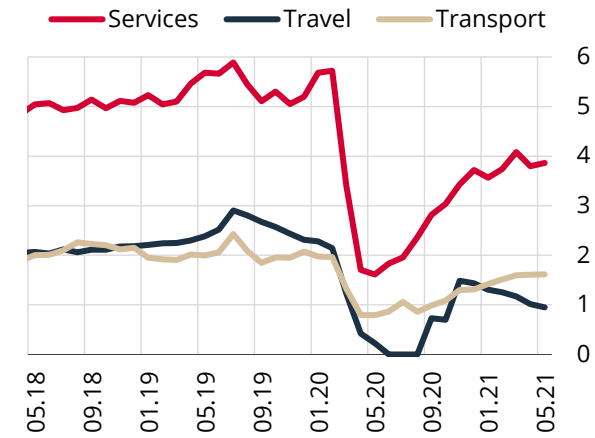
With faster vaccination and the lifting of restrictions, services revenues are expected to see a tourism-led recovery in the second half. In the second quarter, international arrivals continued to weaken due to travel restrictions amid rising coronavirus cases in Turkey and abroad, causing a drop in travel revenues (Charts 2.3.27 and 2.3.28). On the other hand, transport revenues have been on the rise since early 2021. The number of tourists and thus travel revenues might see a recovery in the second half of 2021 thanks to rapid vaccination and lifted lockdown measures (Box 2.4).

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



Sources: CBRT, TURKSTAT.

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



Sources: CBRT, TURKSTAT.

The current account balance began improving in the second quarter. The current account balance ran a deficit of USD 1.7 billion and USD 3.1 billion in April and May, respectively, and the annual deficit decreased to USD 31.9 billion (Charts 2.3.29 and 2.3.30). Preliminary data for June indicate that the seasonally adjusted increase of May in the current account deficit will be temporary and the current account balance will improve both in monthly and annual terms. Despite rising commodity prices, the improvement in the current account balance may accelerate due to the strong upward trend in exports, the slowdown in loans, the significant decline in gold imports and the tourism rebound amid rapid vaccination, meaning that the current account may post a surplus in the rest of the year (Zoom-In 2.7).

Zoom-In 2.7

Current Account Balance in 2021

As of May, the annualized current account balance has improved compared to the end of 2020. In the first five months of the year, the deficit of the current account balance (CAB) contracted by a cumulative USD 5.5 billion from a year earlier to USD 12.7 billion (Table 1). The fall in the external trade deficit accounted for USD 4.8 billion of this decrease, while the improvement in the gold trade balance was the main driver of the improved external trade balance. Import prices that soared due to international commodity prices have curbed the improvement in the CAB in 2021. On the other hand, the services balance improved partially thanks to travel revenues, while total primary and secondary income balances remained unchanged from a year ago.

The CAB is expected to improve further in the remainder of the year. In the second half of 2020, there was a rapid deterioration in the CAB due to a rise in imports, driven by a robust credit growth and gold demand, and significantly weaker tourism and transport activities during the pandemic. Against this background, given the strong course of exports, the slowing credit growth, the anticipated recovery in tourism and the fact that gold imports are well below historical averages, there is plenty of room for the CAB to improve in the upcoming period.

The current account is expected to register a surplus in the remainder of the year as the strong upward trend in exports and the accelerated vaccination stimulate tourism. If the first five months' outlook holds firm through the remaining seven months in terms of historical averages, the CAB is estimated to record a deficit of USD 10.9 billion in the rest of the year and USD 23.6 billion the entire year. On the other hand, if the seasonally adjusted May figures of the components constituting the current account balance remain constant throughout the June-December period, the CAB is estimated to run a deficit of USD 5.4 billion in the remainder of the year and USD 18.1 billion throughout the year. However, given the current trends and the vaccination-driven upbeat outlook for tourism and external demand, the external trade and services balances are expected to perform much better in the remainder of the year. In addition, gold trade might move closer to balance. Therefore, the CAB is likely to record a surplus in the remainder of the year.

Table 1. Current Account Balance (Billion USD)

	January-May			June-December				Entire Year			
	2020	**2021**	**Gap (2021-2020)**	**2020**	**2021(1)**	**2021(2)**	**2021(3)**	**2020**	**2021(1)**	**2021(2)**	**2021(3)**
Current Account Balance	**-18.2**	**-12.7**	**5.5**	**-19.2**	**-10.9**	**-5.4**	**1.4**	**-37.3**	**-23.6**	**-18.1**	**-11.3**
External Trade Balance*	**-16.2**	**-11.4**	**4.8**	**-21.7**	**-15.4**	**-12.1**	**-8.5**	**-37.9**	**-26.8**	**-23.5**	**-19.9**
Non-gold	-10.5	-9.4	1.1	-5.0	-10.2	-10.9	-8.5	-15.5	-19.6	-20.3	-17.9
Gold	-5.7	-2.0	3.8	-16.7	-5.2	-1.2	0.0	-22.4	-7.2	-3.2	-2.0
Services Balance	**2.9**	**3.5**	**0.6**	**6.2**	**10.3**	**11.4**	**14.6**	**9.2**	**13.8**	**15.0**	**18.1**
Travel	2.7	3.1	0.4	6.5	8.3	8.7	11.3	9.2	11.4	11.8	14.4
Transport	2.4	2.3	-0.2	3.2	4.6	5.4	6.0	5.7	6.9	7.7	8.3
Other	-2.2	-1.8	0.4	-3.5	-2.7	-2.7	-2.7	-5.7	-4.5	-4.5	-4.5
Primary Income Balance	**-4.6**	**-5.5**	**-0.9**	**-4.1**	**-5.8**	**-6.2**	**-6.2**	**-8.7**	**-11.2**	**-11.7**	**-11.7**
Secondary Income Balance	**-0.3**	**0.6**	**0.9**	**0.4**	**0.0**	**1.5**	**1.5**	**0.1**	**0.6**	**2.1**	**2.1**

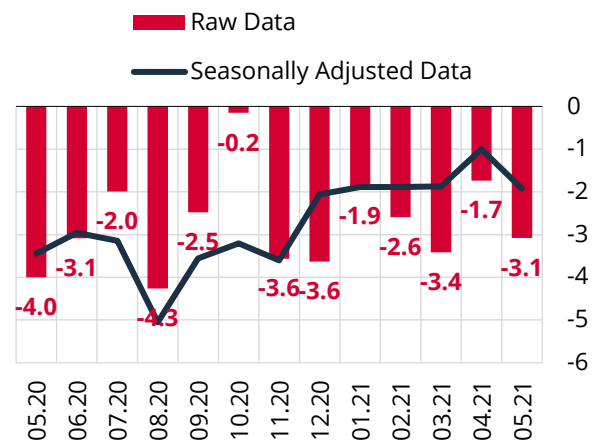
(1) If the year-round share of the January-May period between 2013 and 2019 materializes in 2021.

(2) If the seasonally adjusted May figures remain constant throughout the year.

(3) If tourism revenues are in line with the scenario of USD 18.6 billion in Box 2.4, gold imports remain in balance, and the non-gold external trade balance improves more moderately than in (2).

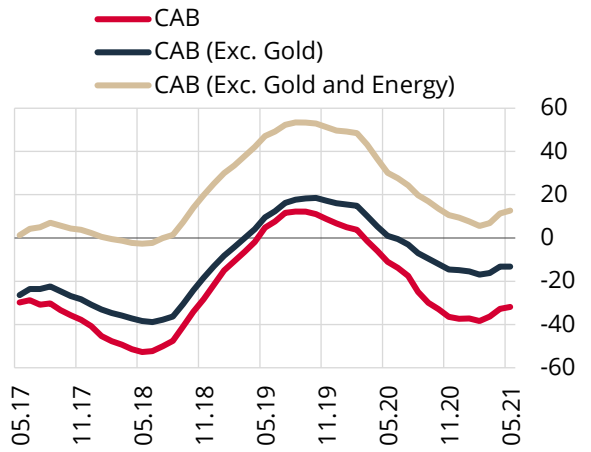
* On a balance of payments basis.

Chart 2.3.29: Current Account Balance (Billion USD)



Source: CBRT.

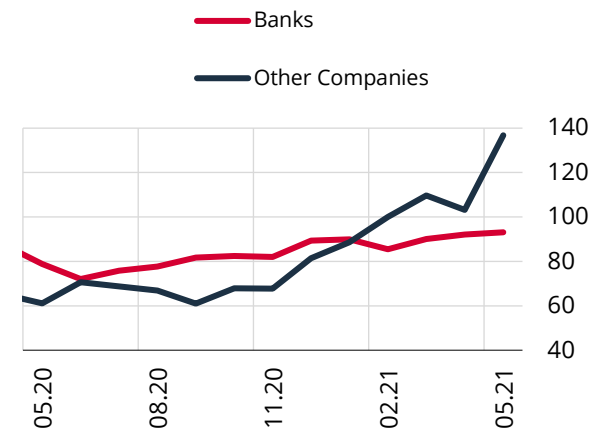
Chart 2.3.30: Current Account Balance (12-Month Cumulative, Billion USD)



Source: CBRT.

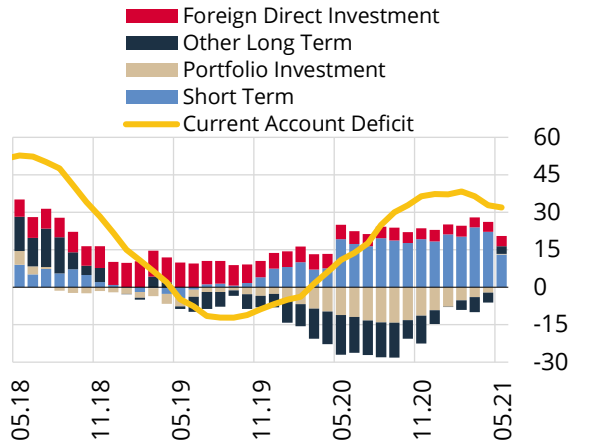
The anticipated improvement in the current account balance will reduce the financing need in the second half of the year. After having prevailed in March due to increased financial volatility and a higher country risk premium, portfolio outflows came to a halt in April and were followed by portfolio inflows in May. Meanwhile, the private sector's external debt rollover ratio increased sharply to 180% in May after declining to 92% in April due to the increased risk premium. The banking sector's external debt rollover ratio, on the other hand, continued to be below 100% in May (Chart 2.3.31). Short-term investments have recently had a smaller share in financing the current account deficit, while long-term investments have improved (Chart 2.3.32). On the other hand, analyses of import debts suggest that short-term external debt indicators might be revised (Box 2.5). The ongoing improvement in the external balance, the likely recovery in tourism revenues, the recent currency swap agreements and bond/sukuk issuances all help to reduce the financing need and boost reserves.

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



Source: CBRT.

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



Source: CBRT.

In the first half of 2021, the central government budget performed well as the positive tax revenue outlook was accompanied by a relatively weaker public spending due to the course of economic activity. In this period, total and primary expenditures increased by 17.4% and 16.0% year-on-year, respectively, while total revenues grew by 38.5% due to the rise in tax revenues. Thus, in the first six months of the year, the central government budget posted a deficit of TRY 32.5 billion and a primary surplus of TRY 58.3 billion. The annualized budget deficit and primary surplus to GDP ratios are estimated to be 1.6% and 1.0%, respectively. These ratios indicate that the budget has performed better than what the initially announced 2021 budget deficit target of 3.5% implies (Zoom-In 2.8).

Zoom-In 2.8

Public Fiscal Stance in 2021

Fiscal policies were effective against the negative consequences of the pandemic in 2020, while budget deficits widened globally due to increased support, rising expenditures and decreased tax revenues. In Turkey, the budget deficit to GDP ratio rose from 2.9% in 2019 to 3.4% in 2020, and is predicted to reach 4.3% in 2021.[1] As the pandemic has continued to exert upward pressure on the budget deficit in 2021, the Ministry of Treasury and Finance has decided to take measures to reduce the budget deficit and updated its budget estimates for 2021. Expenditures and revenues are revised up from the 2021 budget whereas the budget deficit is revised downward (Table 1).

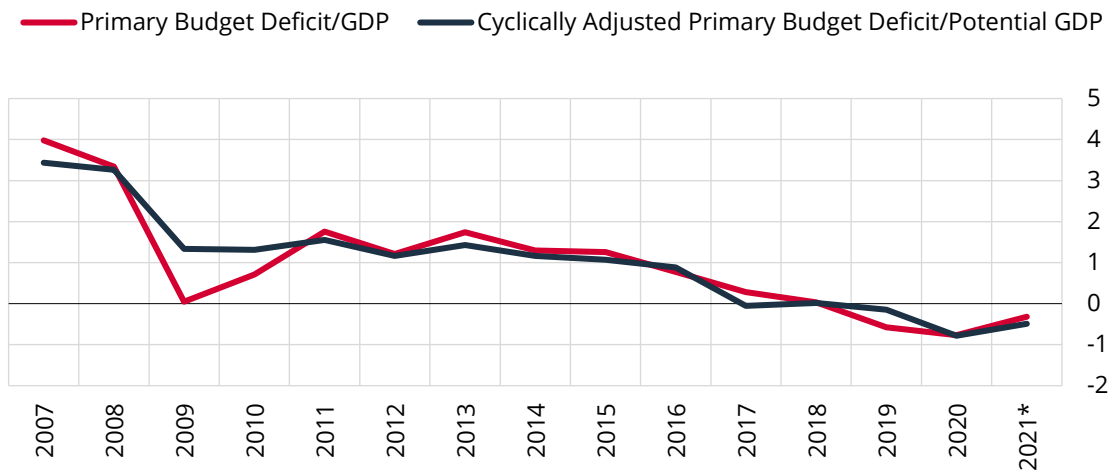
Table 1: Central Government Budget Aggregates (Billion TRY)

	Budget for 2021	Forecast for End-2021	Rate of Increase/Decrease
Budget Revenues	1,101.1	1,254.6	153.5
Tax Revenues	922.7	1,051.1	128.4
Non-Tax Revenues	178.4	203.6	25.2
Budget Expenditures	1,346.1	1,454.5	108.4
Primary Expenditures	1,166.6	1,274.9	108.3
Interest Expenditures	179.5	179.6	0.1
Budget Deficit	245.0	199.9	-45.1
Primary Deficit	65.5	20.3	-45.2

Source: Ministry of Treasury and Finance.

Revised year-end forecasts point to a slightly tighter fiscal policy compared to 2020. The cyclically adjusted primary budget balance, calculated by taking into account the effects of the cyclical movement in economic activity on the budget balance through automatic financial stabilizers, indicates a lower budget deficit compared to 2020 (Chart 1). This outlook is in line with the objective of maintaining fiscal discipline.

Chart 1: Budget Balance and Cyclically Adjusted Budget Balance (%)



Sources: MTF, CBRT calculations.

* Calculated by CBRT based on the MTF's Public Finance Report estimates.

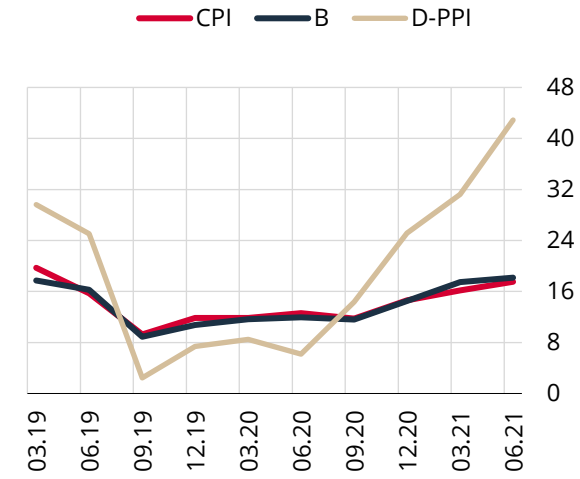
[1] New Economic Program (NEP) forecasts of September 2019 covering the 2021 to 2023 period.

2.4 Inflation

In the second quarter of 2021, consumer inflation was 17.53% while inflation in the B index was 18.16%, both slightly below the upper bound of the forecast range presented in the April Inflation Report. While consumer inflation in April and May were relatively consistent with forecasts in the April Inflation Report, it moved closer to the upper bound of the forecast range in June due to the controlled normalization process. In the second quarter, aggregate demand conditions displayed a more moderate outlook; meanwhile, the inflation outlook was adversely affected by the rise in international food and commodity prices, the depreciation in the Turkish lira and the elevated levels of inflation expectations. Moreover, the disruptions in global supply chains, the increments in freight costs and supply constraints in some sectors have also influenced the inflation outlook (Zoom-In 2.9). On the other hand, supported by the sliding scale practice, the impact of tax adjustments and administered prices has been disinflationary. In May, price increases in those items that suffered pandemic-led activity disruptions remained low and due to the following normalization, upward price movements were observed in some sectors in June. Because of these developments, seasonally adjusted consumer prices increased, quarter-on-quarter, by 4.62% (Table 2.4.1). The annual producer Inflation, which assumed an uptrend with the pandemic, continued to rise in this quarter due to exchange rate developments, cumulative rises in international commodity prices and ongoing supply constraints in certain sectors. Thus, the producer prices-led pressures on consumer prices grew stronger, and the spread between producer and consumer inflation widened (Chart 2.4.1). Analyses based on sectors reveal that producer prices-led pressures have been mostly reflected on consumer inflation in groups such as core goods, while pressures on consumer prices in those sectors such as oil products have been alleviated by tax policies (Box 2.6).

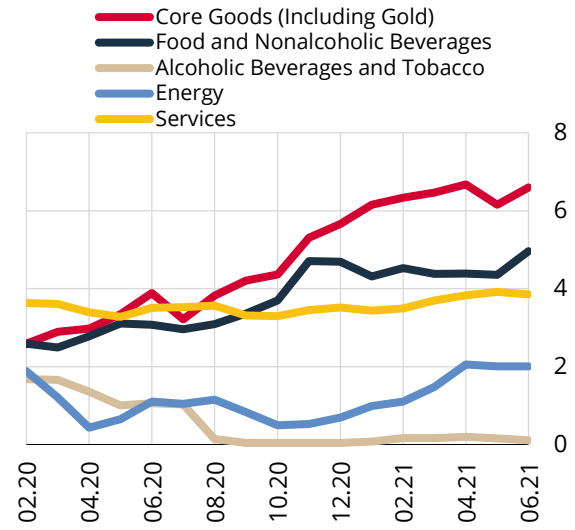
Consumer inflation increased from 16.19% in the first quarter to 17.53% in the second quarter, mainly due to food and energy. In this period, food group's contribution to annual inflation increased by 0.58 points to 4.96 points, while that of the energy group increased by 0.53 points to 2.00 points (Chart 2.4.2). In the second quarter, core goods groups' contribution, which increased by 0.26 points to 6.07 points, was mainly driven by exchange rate developments, the cumulative rise in commodity prices and the controlled normalization process. In this period, services inflation's contribution increased by 0.15 points to 3.85 points mainly because of exchange rate developments, price adjustments due to capacity constraints, food prices, backward-indexation in pricing of some items, termination of temporary VAT reductions in the education sector and the effects of gradual normalization. In the second quarter, the contribution of alcohol-tobacco and gold groups curbed consumer inflation.

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



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

Chart 2.4.2: Contributions to Annual CPI
(% Points)



Source: CBRT, TURKSTAT.

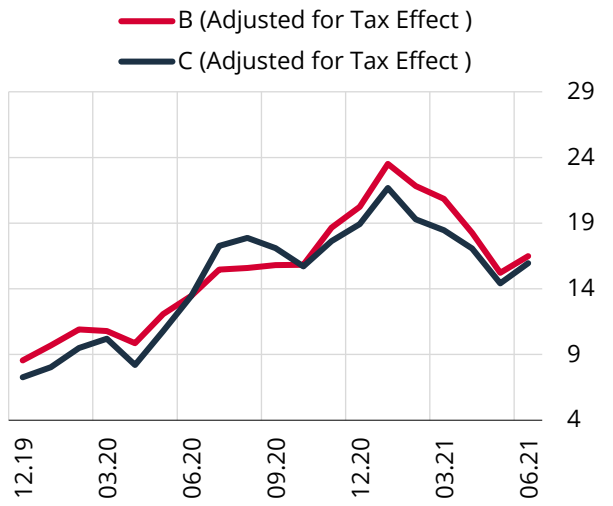
Table 2.4.1: Consumer Prices

	Quarterly % Change (Seasonally Adjusted)				Annual % Change			
	2020		2021		2020		2021	
	III	IV	I	II	III	IV	I	II
CPI	**3.10**	**4.94**	**3.80**	**4.62**	**11.75**	**14.60**	**16.19**	**17.53**
1. Goods	3.62	5.70	3.48	5.25	12.07	15.87	17.81	19.29
Energy*	**4.34**	**4.45**	**3.60**	**3.88**	**6.77**	**5.64**	**12.43**	**17.28**
Food and Non-Alcoholic Bev.	**2.14**	**7.56**	**2.18**	**6.85**	**14.95**	**20.61**	**17.44**	**19.99**
Unprocessed Food	1.82	9.43	-2.30	8.92	17.47	26.34	14.98	18.70
Processed Food*	2.47	6.27	7.11	3.91	12.79	15.52	19.87	21.20
Core Goods	**5.16**	**5.85**	**5.46**	**3.90**	**11.68**	**17.24**	**22.14**	**21.92**
Clothing and Footwear	0.33	-0.62	4.47	2.13	6.79	-0.57	7.33	6.86
Durable Goods (excl. Gold)	7.53	11.40	4.34	4.76	17.38	30.40	33.29	30.86
Furniture	9.08	9.39	7.64	5.70	10.58	18.08	36.19	35.75
Automobile	7.91	17.36	2.15	5.19	23.60	42.32	41.11	36.03
Electrical and Non - Electrical Devices*	7.46	6.52	-0.03	5.01	12.11	20.48	20.53	20.17
Other Durable Goods*	4.86	9.79	4.85	5.31	13.95	22.84	26.11	27.12
Other Core Goods*	2.88	5.45	4.74	6.15	8.09	13.12	16.80	20.61
Alcoholic beverages Tobacco Pro. and Gold*	**5.62**	**0.25**	**-0.19**	**3.25**	**12.86**	**13.14**	**10.95**	**9.12**
2. Services	**2.37**	**3.34**	**3.66**	**3.43**	**10.84**	**11.66**	**12.56**	**13.46**
Rent	2.11	2.40	2.54	2.49	8.72	9.07	9.24	9.93
Restaurants and hotels	3.18	4.07	4.83	5.12	10.92	12.70	15.39	18.86
Transport	-1.30	2.33	3.45	5.36	8.62	8.65	9.96	10.28
Communication	1.90	1.48	2.03	1.24	7.21	4.87	7.36	7.36
Other Services	3.65	4.00	3.31	3.65	13.66	15.14	14.69	15.45

Source: CBRT, TURKSTAT.
* No seasonality detected.

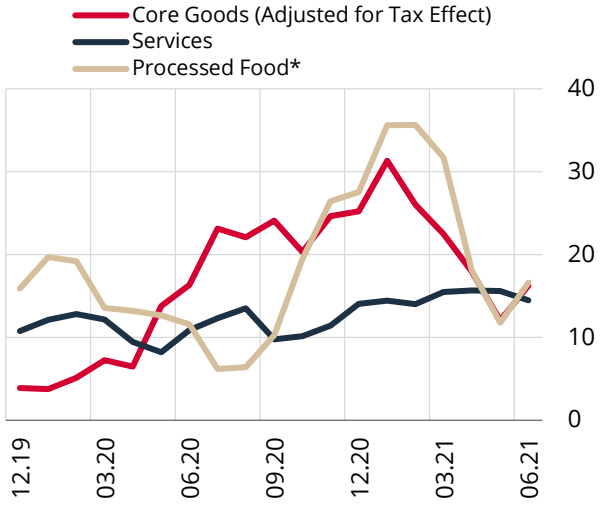
Annual inflation rates of core indicators increased compared to the previous quarter, and their trends remained high despite some decline (Chart 2.4.3). Underlying inflation, which had been trending down for a while, increased again in June led by core goods and processed food (Chart 2.4.4). Seasonally adjusted data suggest that the strong course of core goods inflation, which has been observed over the last few quarters, continues despite some slowdown owing to the pandemic shutdowns (Table 2.4.1). Across sub-categories, prices of consumer durables significantly increased in the second quarter mainly due to stronger exchange rate-led effects and ongoing adverse impact of the rise in industrial metal prices while effects driven by credit conditions slightly decreased. Despite the arrival of the new season and the gradual normalization, the effects of demand conditions during the lockdown in May were still felt in clothing and footwear in the second quarter. As for the other core goods group, on which the effects of exchange rate developments were observed, price increases became stronger in the second quarter led by materials for home maintenance and repairs and personal care products. Increasing at rates similar to those in the previous two quarters, services inflation remained high in the second quarter (Table 2.4.1 and Chart 2.4.4). In this quarter, in the restaurants-hotels group, the impact of the developments in food prices were seen and during the gradual normalization process following the lock-down in May, the accumulated cost pressures were mostly reflected on prices as the demand increased (Table 2.4.1 and Box 2.7). While prices in education services were mainly driven by the past inflation-indexation behavior and the termination of the temporary VAT reductions; in transport services, intercity transport fares were adversely affected by capacity limitations introduced because of the pandemic. The impact of the re-opening was significant in recreation and cultural services and package tours, while price increments were observed in repair and maintenance of personal transportation vehicles due to exchange rate developments. The quarterly increase in inflation in the processed food group, another subcategory of the core B index, was slower compared to the previous quarter, but remained high. In this quarter, processed food prices was affected by international food prices and exchange rate developments along with the reflection of accumulated costs onto prices after the re-opening (Chart 2.4.4).

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



Source: CBRT, TURKSTAT.

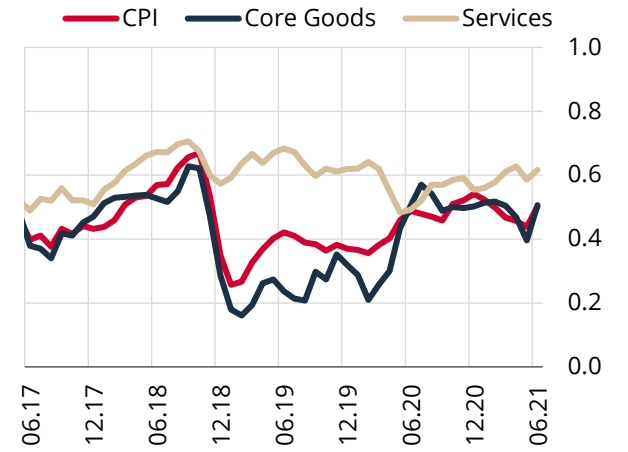
Chart 2.4.4: Sub-Groups of B Index (Seasonally Adjusted, Annualized 3-Month Average % Change)



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

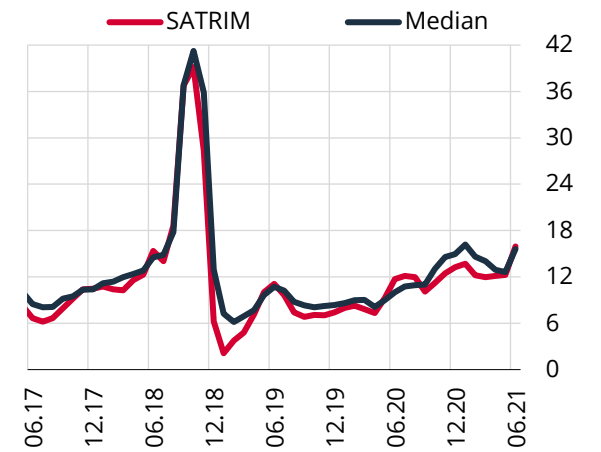
The tendency to raise prices was still high and alternative core inflation indicators point to a recent increase in the underlying trend of inflation. In the second quarter, diffusion indices continued to hover above long-term averages. Indices suggest that in June, the tendency to raise prices became stronger again (Chart 2.4.5). Among other indicators for the underlying trend, SATRIM and Median inflation, increased in June, consistent with other trend indicators (Chart 2.4.6).

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



Source: CBRT, TURKSTAT.

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

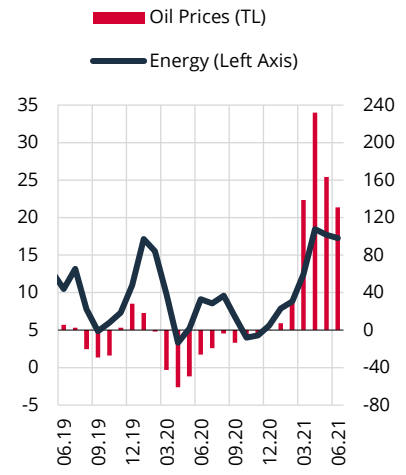


Source: CBRT, TURKSTAT.
* SATRIM: Seasonally adjusted, trimmed mean inflation.
** Median: Median monthly inflation of seasonally adjusted 5-digit indices.

In the first half of the year, energy inflation increased compared to the end of the previous year. In the second quarter, energy prices increased by 3.88% (Table 2.4.1). Despite the depreciation of the Turkish lira in April, fuel prices decreased thanks to the sliding scale and ceiling price implementations; however rallied again in the following two months because the SCT ratios on fuels were re-defined on 20th of May and the ceiling price implementation was terminated. In the second quarter, despite the rise in crude oil prices and the depreciation in the Turkish lira, the sliding scale system helped decrease the impact of these factors on inflation. The rise in natural gas prices, which is among administered prices, continued in this quarter as well, increasing the annual inflation in the energy group by 4.85 points to 17.28% (Chart 2.4.7). Effective as of 1 July 2021, electricity price was increased by 15%, natural gas price for households was increased by 12% and natural gas for industry was raised by 20%. The direct impact of these increments on July inflation was calculated as 0.61 points.

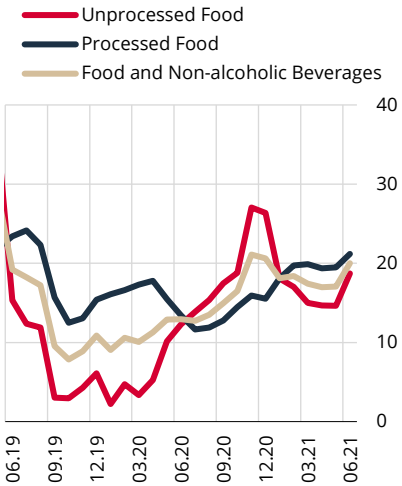
In addition to exchange rate developments, the ongoing rise in international agricultural commodity prices and the supply outlook in certain products made an adverse impact on food inflation. Seasonally adjusted quarterly rise in prices of food and non-alcoholic drinks, which had slowed down in the first quarter of 2021, was 6.85% in this quarter (Table 2.4.1). While both unprocessed and processed food groups were influential on the rise in annual food inflation, the rise in unprocessed food prices was higher (Chart 2.4.8 and Table 2.4.1). Seasonally adjusted data suggest that in unprocessed food prices, there was a high quarterly rise in both fresh fruits and vegetables and other groups. Based on US dollars, FAO international food prices, which had surged by almost 10% in the first quarter, increased by 4.63% in the second quarter. Over the last year, external price increments in oil seeds and grains accelerated significantly. The rise in white and red meat prices continued as the adverse course in feed prices in the first quarter stemming from the ongoing increases in international prices of key imported inputs such as soybean and corn persisted this period (Chart 2.4.9). The reference raw milk price, which was determined at TRY 2.80 for the period between 1 January and 30 April, increased moderately between 1 May and 30 June and the reference raw milk price was increased to TRY 3.20 to be effective as of 1 July. Processed food inflation continued to increase in the second quarter; processed meat prices following the increase in meat prices, and fats and oils, affected by international commodity prices, are the leading items in this respect (Chart 2.4.9). In the food sector, the spread between producer inflation and consumer inflation has been growing wider (Box 2.6).

Chart 2.4.7: Energy Prices (Annual % Change)



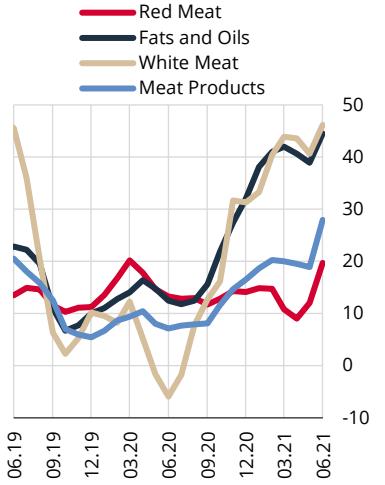
Source: Bloomberg, CBRT, TURKSTAT.

Chart 2.4.8: Food Prices (Annual % Change)



Source: TURKSTAT..

Chart 2.4.9: Selected Food Items (Annual % Change)

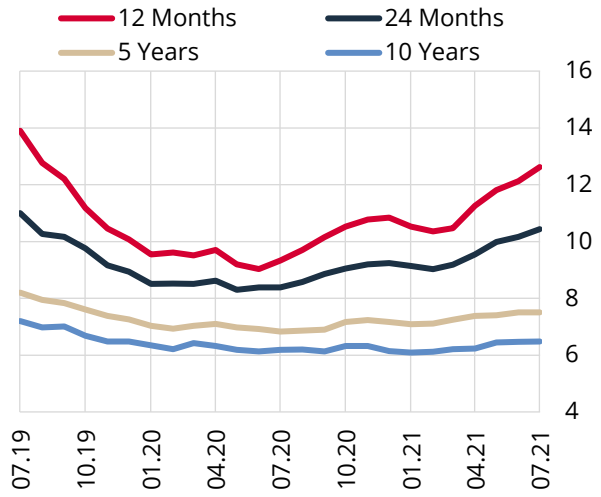


Source: CBRT, TURKSTAT.

Drivers of Inflation

In the last quarter, inflation expectations increased. According to the Survey of Market Participants, consumer inflation expectations have climbed. Participants' upward revisions have been higher for short-term expectations. According to the Survey, in July, the year-end consumer inflation expectation was 15.64%. Compared to the previous quarter, the 12-month-ahead inflation expectation increased by 1.36 points to 12.62% and expectation for the 24-month-ahead inflation increased by 0.88 points to 10.43% (Chart 2.4.10).

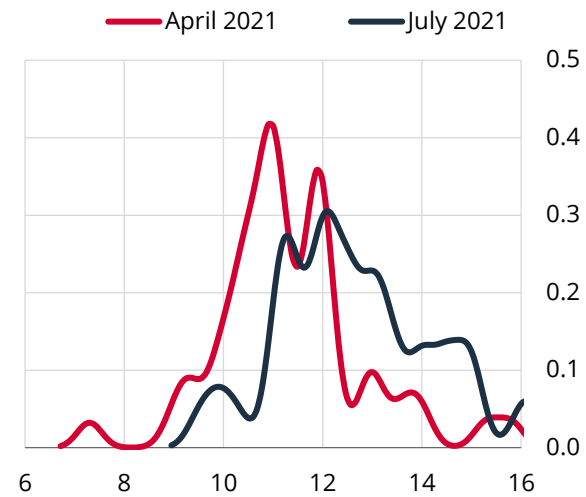
Chart 2.4.10: Consumer Inflation Expectations * (%)



Source: CBRT.

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

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



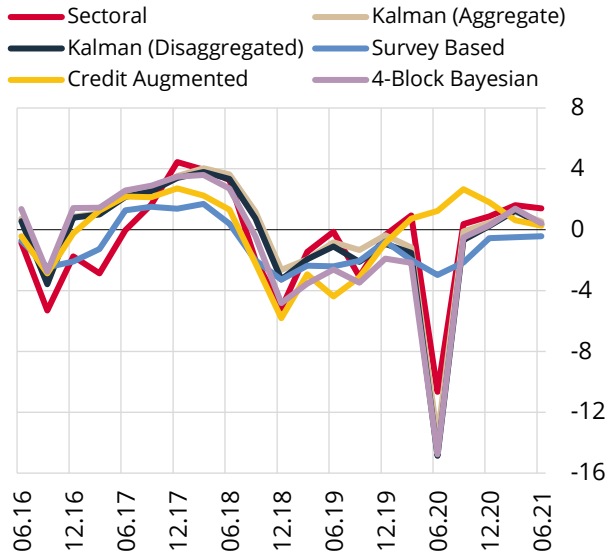
Source: CBRT.

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

While the distribution of inflation expectations deteriorated, inflation uncertainty remained high. The distribution of 12-month-ahead CPI inflation expectations, which were obtained from the responses to the Survey of Market Participants, indicates that the median has shifted to the right in July compared to April (Chart 2.4.11). Meanwhile, recently, market-based expectations have moderately decreased, nevertheless, they are still higher than historical averages (Chart 2.2.8).

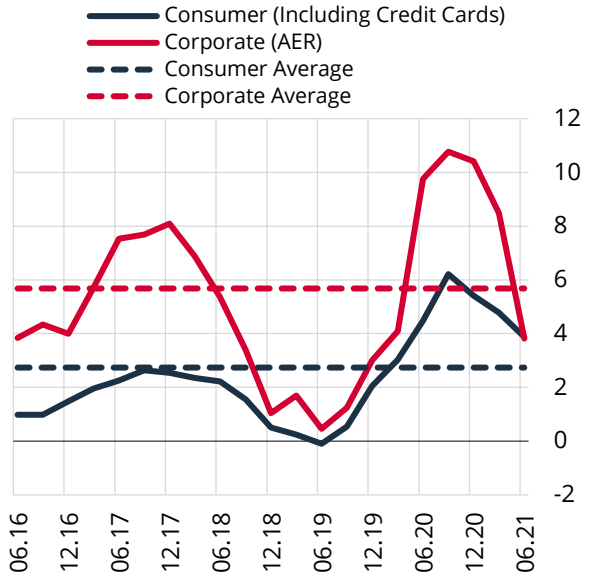
In the second quarter, aggregate demand conditions displayed a more moderate outlook. The output gap, which had remained in the positive territory in the second half of 2020 and in the first quarter of 2021, decreased in the second quarter of 2021 but remained in the positive territory. Output gap indicators monitored by the CBRT point to a more moderate demand outlook compared to the first quarter and this outlook is broadly consistent with the framework presented in the April Inflation Report (Chart 2.4.12). In this quarter, while external demand remained strong, the deceleration in domestic demand became the primary factor weakening aggregate demand pressure. With the impact of the tight monetary policy stance, credit growth continued to slow down and the slowdown was more significant in business loans (Chart 2.4.13). Also with the effect of the macroprudential measures taken, credit market developments and aggregate demand conditions are forecasted to display a moderate course in the second half of the year.

Chart 2.4.12: Output Gap Indicators (%)



Source: CBRT.

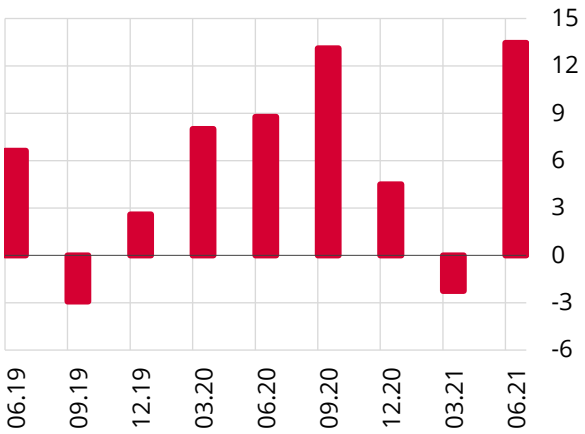
Chart 2.4.13: Net Credit Utilization* (%)



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 2006Q1-2021Q2.

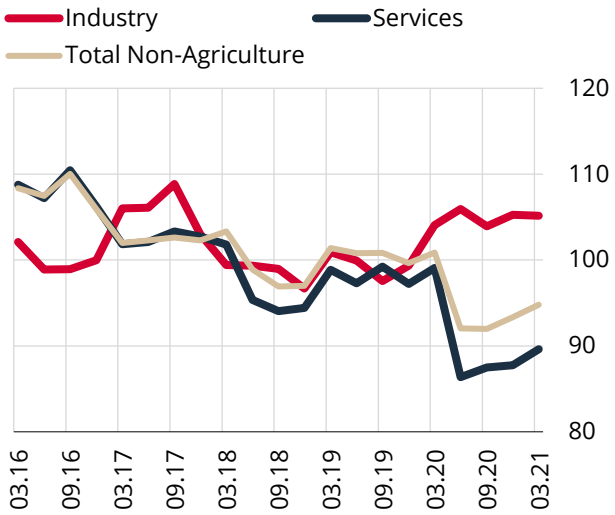
The depreciation in exchange rate and ongoing volatility continue to affect inflation outlook. The depreciation in the Turkish lira in the second quarter fueled the cost pressure stemming from rising commodity prices (Chart 2.4.14). Although the lockdown and re-opening measures lead to fluctuations in monthly inflation series, in June, relatively high increases were observed in inflation in groups that are highly sensitive to exchange rate. The impact of exchange rate developments was also observed on core goods inflation, primarily on consumer durables. While prices of import-dependent items such as fats and oils increased, the rise in red and white meat prices became more significant due to the increment in feed prices.

Chart 2.4.14: Currency Basket* (Quarterly % Change)



Source: CBRT.
* US dollars and Euro has equal weights.

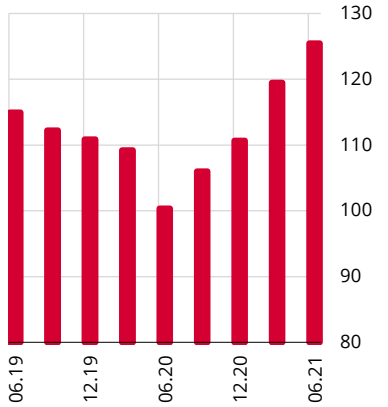
Chart 2.4.15: Real Unit Wage per Hours Worked* (Value Added, 2015=100, Seasonally Adjusted)



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

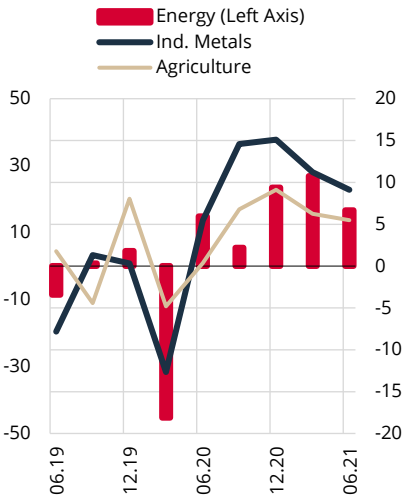
The increase in real unit wages remained limited notwithstanding the rise in the minimum wage. Despite the large increase announced for the minimum wage in 2021, real wage per hour worked displayed a limited rise. With partial productivity hovering almost flat, real unit wages displayed a similar course as well (Chart 2.3.22). An analysis of sectoral developments reveals that the real unit wage per hour worked is higher in the manufacturing industry but it is still flat; on the other hand, the real unit wage per hour worked in the services sector, which is more sensitive to the minimum wage and has a more limited potential for productivity increase, has been recovering from the low level that it had dropped because of the pandemic (Chart 2.4.15).

Chart 2.4.16: Import Unit Value Index* (2016Q1=100)



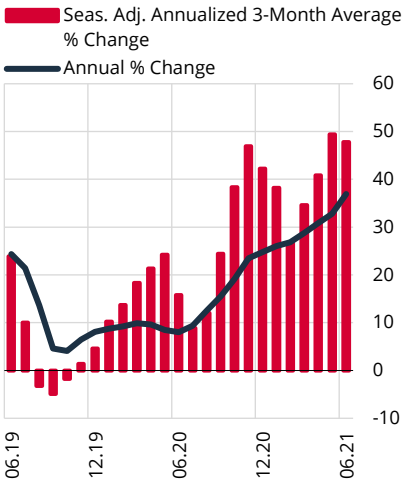
Source: TURKSTAT.
*Q2 data is the average of April and May.

Chart 2.4.17: World Bank Commodity Price Indices (Quarterly % Change)



Source: World Bank.

Chart 2.4.18: Manufacturing Price Indices Exc. Petroleum and Base Metals



Source: CBRT, TURKSTAT.

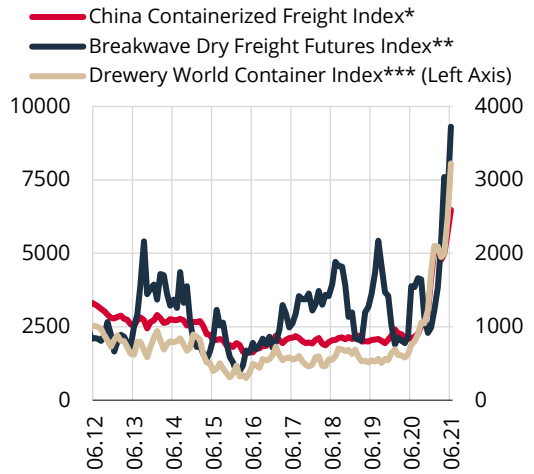
The strong increases in international commodity prices in Turkish lira terms coupled with problems in supply chains have pushed producer prices higher. The import unit value index had dropped to low levels in the second quarter of 2020 when the effects of the pandemic were most severely experienced, and the rise observed in the index thereafter continued in the second quarter of 2021. While the index hovers above the pre-pandemic level, the rate of annual increase reached 24% with the effect of the low base (Chart 2.4.16). The key factor driving import unit value index up is the sharp price developments in international commodity markets. In June, although prices of agriculture and industrial metals slightly decreased, the rise in energy prices became more significant and main commodity groups ended the quarter with high levels of increases. Compared to the pre-pandemic period, the most significant rise was observed in industrial metals again (Chart 2.4.17). Global supply problems and the rise in freight costs continued to affect producer prices negatively (Zoom-in 2.9). Because of these developments, the annual PPI significantly increased in the second quarter. The rise in the underlying trend of producer prices was driven by exchange rate developments, commodity prices as well as disruptions in supply chains (Chart 2.4.18). While the high level of producer prices rapidly passes through consumer prices in some sectors, in certain other sectors, public measures taken curb the adverse impact on consumer prices (Box 2.6).

Zoom-in 2.9

Some Observations Regarding Supply Constraints

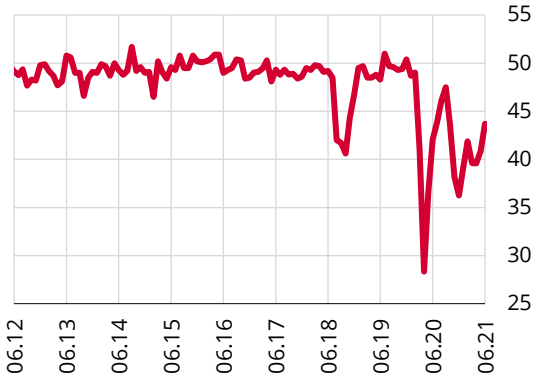
Problems in global supply and the rise in freight costs have been affecting the inflation outlook. Freight costs significantly increased, particularly in the final quarter of 2020, on the back of the recovery in global demand and global trade (Chart 1). In this period, the rise in global oil and fuel prices accelerated transport costs. The increments in international transportation costs and problems in accessing raw materials and shipping containers cause mishaps in the supply chain. Turkey's PMI data suggest that lags in suppliers' delivery times continue and the mentioned supply constraints have been observed for a year and a half (Chart 2).

Chart 1: International Transportation Costs (US dollars)



Source: Bloomberg.
* Derived from the volume-based weighted average of spot and on contract freight costs for transportation by freight containers from Chinese harbors.
** Derived from weighted average of dry cargo freight futures contracts of Capesize, Panamax ve Supramax based on volume-contract size.
*** 40 ft container freight cost representing a weighted average of 8 shipping routes by volume.

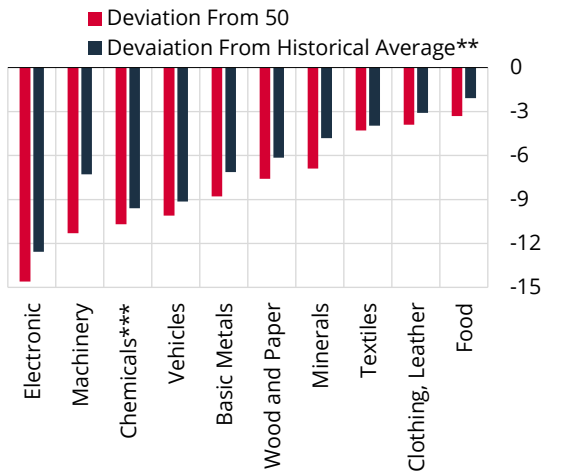
Chart 2: PMI Suppliers' Delivery Times* (Manufacturing Industry, Seasonally Adjusted)



Source: IHS Markit.
* Lower values in the series denote longer delivery times.

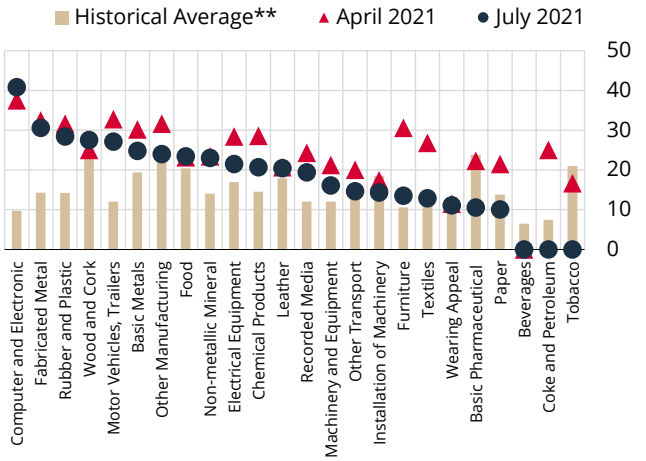
The supply chain problems, which prevail across the manufacturing industry, lead to lags in delivery times, particularly in sectors experiencing serious raw-material shortages and in turn lead to the effects of supply constraints on inflation to remain high. An analysis of the PMI data by sectors reveals that sectors with longest delivery times compared to historical averages are electronics, machinery, chemicals, plastics-rubber, vehicles and basic metal industry (Chart 3). The Business Tendency Survey points to a similar outlook as well. The ratio of survey participants stating that raw material-equipment shortages have limited their production has significantly increased compared to historical averages in the pre-pandemic period (Chart 4). The survey results suggest that problems pertaining to supply of raw materials is even more pronounced in computer, fabricated and basic metals, vehicles, rubber-plastic, furniture and textile sectors. In July, despite some improvements were observed across all sectors, the ratio of firms suffering raw material supply problems is still above historical averages. The mentioned supply problems and longer delivery times have an impact on producer and consumer prices. To sum up, the recent climb in producer inflation was not only driven by exchange rates and external price pressures, but also the ongoing global supply constraints and the rise in freight costs.

Chart 3: Delivery Times of PMI Suppliers in June* (Manufacturing Industry, Seasonally Adjusted)



Source: IHS Markit.
* Lower values in the series denote longer delivery times.
** Average of period between 2016 and 2019.
*** Chemicals, plastics and rubber products.

Chart 4: The Ratio of Firms Stating that Raw Material/Equipment Inadequacy has Limited Production* (%)



Source: CBRT.
* Denotes the ratio of firms that have checked the "raw material/ equipment inadequacy" choice in question 8.4 of the quarterly Business Tendency Survey as the first two factors that limit production.
** Average of period between 2010 and 2019.

In the second quarter, administered prices and taxes decreased headline inflation. In May, an adjustment was made in the sliding scale system and the ceiling price practice was terminated. These developments led to a rise in the final fuel prices while the sliding scale system prevented further price increments. When international crude oil prices are analyzed in Turkish lira terms, it is observed that the disinflationary impact of the sliding scale system on annual consumer inflation has become stronger and in July, this effect was -1.05 points. The moderate rise in natural gas and municipal water tariffs continued in the second quarter, nevertheless, both natural gas and electricity tariffs increased significantly in July. The six-month PPI increase was not reflected on specific and minimum specific taxes on alcoholic drinks and tobacco products, becoming another supporting factor.

Box 2.1

The Effects of the Covid-19 Pandemic on Expenditures by Cards

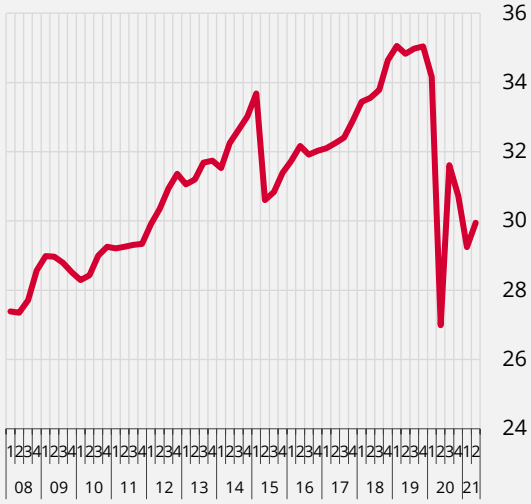
The full lockdowns, partial precautionary measures and normalization steps (reopenings) introduced in different periods of 2020 and 2021 within the framework of pandemic measures had different effects on consumption expenditures. In the second quarter, consumption decreased because of the mobility restrictions imposed in the face of the pandemic. In this period, expenditures by cards also decreased. However, in the following normalization periods, such spending increased at a high rate with the effect of the change in consumption patterns. While the share of expenditures by cards in private consumption decreased sharply in the second quarter of 2020, it increased again in the following period (Chart 1). Cyclical spending increased while demand for services declined due to pandemic restrictions. Thus, while the share of the services sectors, which were most affected by the pandemic, in expenditures by cards dropped to the levels of 2008 in the second quarter of 2020, it has now picked up with the recent acceleration of vaccination and the normalization (Chart 2). This indicates that high-frequency monitoring of expenditures by cards will be useful in providing information about the pandemic period.

In this box, the effects of the reopening and lockdown periods in 2020 and 2021 on expenditures by cards are also examined on a sectoral basis. To this end, weekly bank and credit card expenditures by sectors are deflated by the CPI and the price indices of the relevant sub-item. The weekly card expenditures data for March, April, May and June of 2020 and 2021 are used to cover the full lockdown, partial precautionary measures and reopening periods.

Chart 1: Ratio of Expenditures by Cards to Private Consumption (Seasonally Adjusted)

Sources: CBRT, TURKSTAT.

Chart 2: Share of Services in Expenditures by Cards (Seasonally Adjusted)

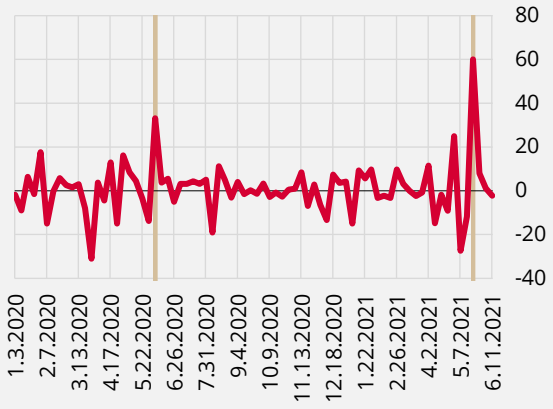


Sources: CBRT.

When the weekly percentage change in real expenditures by cards is analyzed, it is seen that the highest increase in 2020 occurred in the week of June 1-5, when the full reopening took place (Chart 3). The highest weekly increase in real expenditures by cards in 2021 occurred in the week of May 17-21, following the Ramadan Feast and the partial reopening. When expenditures by cards are analyzed for these two periods, the increase in 2021 is found to be higher, and the difference between the two periods is found to be statistically significant. In addition, expenditures by cards increased significantly in the weeks of reopening due to normalization and the effect of deferred demand, but return to their normal course in the following period.

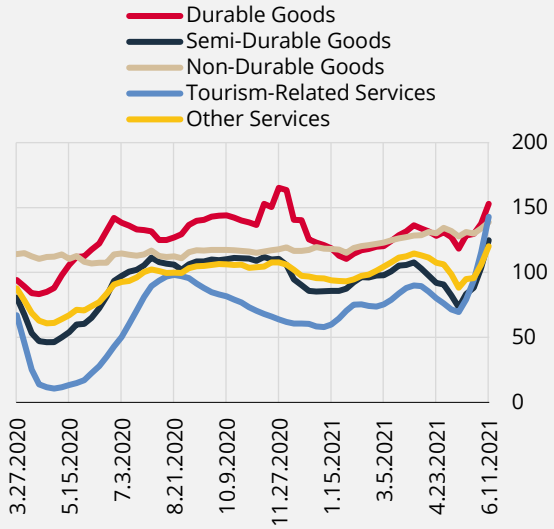
When the expenditures by cards are analyzed in a breakdown of goods and services sectors, it is seen that the expenditures have increased in both groups recently (Chart 4).[1] For the period since the beginning of the pandemic, durable goods expenditures displayed an increasing trend until July 2020, and then followed a relatively flat course. In the CBRT (2021) study, it is found that the increasing demand for durable goods is also supported by increases in savings and the wealth effect in the recent period. Expenditures on non-durable goods, on the other hand, are relatively flat, as they cover basic needs such as food and grocery shopping. Other services sector expenditures increased gradually until the end of July with the effect of full reopening in 2020, and remained flat afterwards. In the tourism-related services sectors, large increases are observed in the reopening periods of both 2020 and 2021. The acceleration of domestic vaccination rollout is thought to be effective in the high rate of increase registered in the expenditures of this group in the reopening period of 2021. Across all groups analyzed, a V-shaped decreasing-increasing movement is noted due to the Ramadan Feast in the week of 14 May 2021.

Chart 3: Expenditures by Cards (Real, % Change)



Sources: CBRT.

Chart 4: Expenditures by Cards for Goods and Services (Real, 6 March 2020=100, 4-Weeks Moving Average)

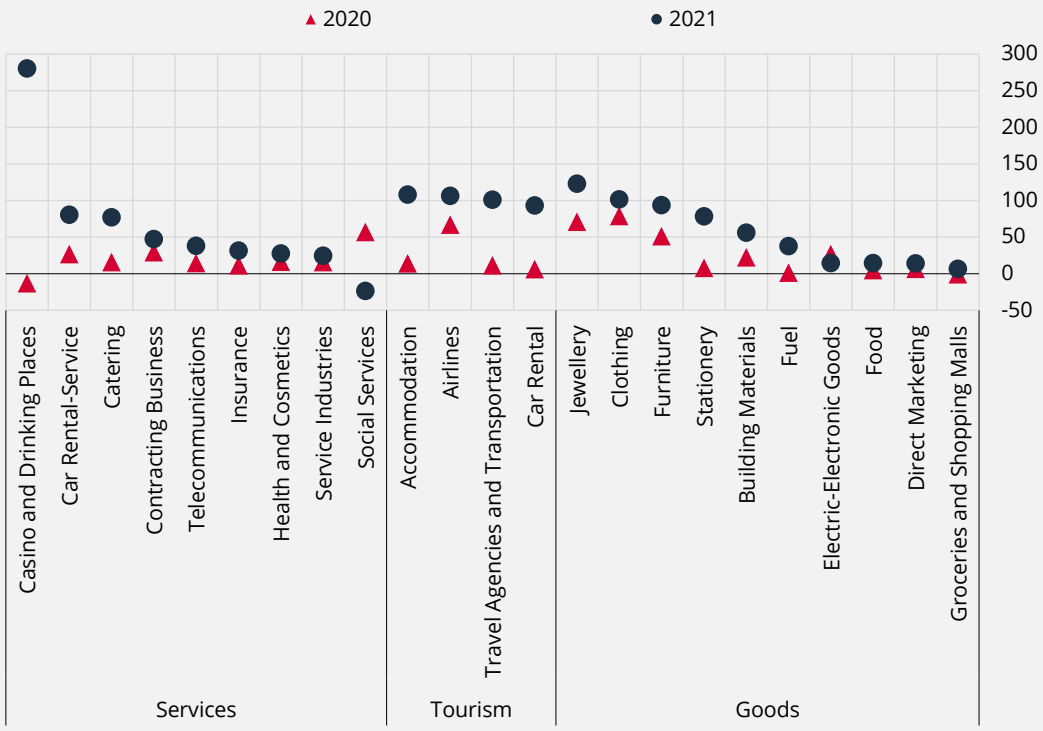


Sources: CBRT.

When the sub-items in expenditures by cards are examined, it is seen that there are increases in 2020 and 2021 that spread across sectors in the weeks when the reopenings took place following the periods of precautionary measures (Chart 5). These increases were at higher rates in 2021 compared to 2020. It is considered that the easing of pandemic measures on a global scale and the revival of tourism were behind the stronger increases in tourism-related groups in 2021.

[1] Durable goods classification includes electrical-electronic goods, jewellery, and furniture sectors. The semi-durable goods classification includes fuel, direct marketing, stationery, clothing, and building materials sectors. The non-durable goods classification includes the food, grocery, and shopping mall sectors. The tourism-related services classification includes car rental, airlines, accommodation, travel agencies, and transportation sectors. Other services classification includes car rental-sales-service-spare parts, service industries, social services, casino and drinking places, contracting business, health and cosmetics, insurance, telecommunications, and catering industries.

Chart 5: Expenditures by Cards in Sub-Items* (Real, % Change)



Sources: CBRT.

* Shows percentage changes of expenditures in the first four weeks after reopening compared to the previous four weeks for 2020 and 2021.

In summary, the full lockdowns, partial precautionary measures and normalization steps (reopenings) introduced in different periods of 2020 and 2021 affected consumption expenditures differently by sectors. While expenditures by cards increased strongly in the normalization (reopening) periods after the precautionary measures, the rates of increase slowed down in the following periods and returned to their normal course. It is expected that the recent acceleration of nationwide vaccination will increase the demand for the services and tourism sectors that have been negatively affected by the pandemic, and support a more balanced growth composition in economic activity.

References

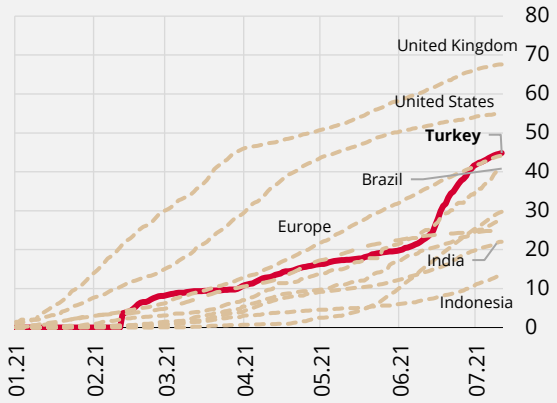
CBRT (2021). Private Savings and Their Effects on Consumption Demand during the Pandemic. Inflation Report 2021-II, Box 2.4.

Box 2.2

The Impact of Vaccination Performance on Economic Activity

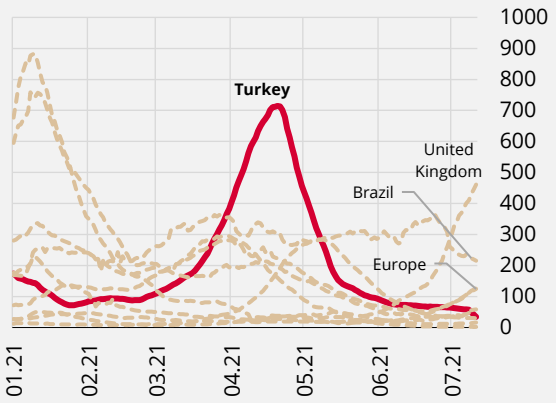
The recent positive developments in vaccine supply have caused vaccination efforts to become a widespread focus of global attention. With the momentum it has gained recently, Turkey has approached the leading countries in terms of vaccination rates and diverged favorably from other emerging economies (Chart 1). Widespread vaccination has also helped keep the number of cases in Turkey relatively low (Chart 2).

Chart 1: Share of People Who Received at Least One Dose of Covid-19 Vaccine* (%)



Source: Our World in Data.
* Emerging economies include Turkey, Brazil, Romania, Mexico, India and Indonesia; advanced economies include Europe, US, Japan and UK.

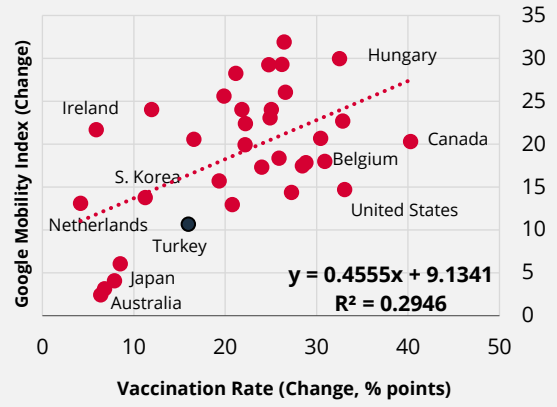
Chart 2: Daily Newly Confirmed Covid-19 Cases* (7-days Rolling Average, Per Million People)



Source: Our World in Data.
* Emerging economies include Turkey, Brazil, Romania, Mexico, India and Indonesia; advanced economies, include Europe, US, Japan and UK.

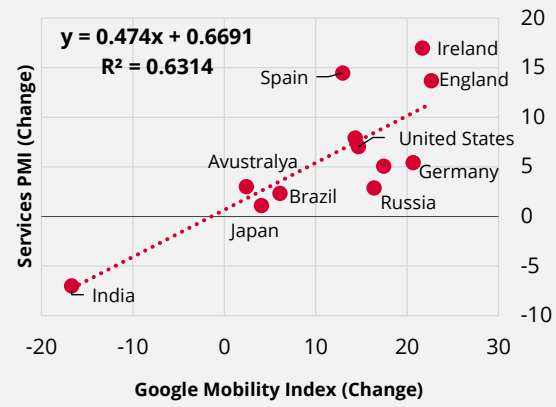
The spread of vaccination contributes to the increase in social mobility along with the decrease in the number of cases. It is apparent that mobility increases more in countries with a high vaccination rate (Chart 3). Again, increases in mobility are considered to have a positive impact on service sectors, which are more affected by the anti-pandemic social restrictions (Chart 4).

Chart 3: Relationship Between Change in Vaccination Rate and Change in Mobility*



Source: Our World in Data, Google.
* Charts show the change in the second quarter of 2021 data compared to the first quarter data. Data represent quarterly average values.

Chart 4: Relationship Between Change in Mobility Level and Change in Services Sector Activities*



Source: Our World in Data, IHS Markit.
* Charts show the change in the second quarter of 2021 data compared to the first quarter data. Data represent quarterly average values.

Recently, the impact of changes in mobility on economic activity has been frequently discussed both in the academic field and in policy circles. As a matter of fact, the relationship between the decrease in the Google mobility index and the decline in the growth of countries was examined in the OECD Economic Outlook report (OECD, 2020). The IMF, on the other hand, analyzed the economic activities of countries in its World Economic Outlook report using high-frequency mobility indices (IMF, 2020). Similarly, the relationship between the Google mobility index and economic activity for Turkey has been discussed recently (CBRT, 2021).

Although it is expected that the acceleration of vaccination on a global scale will affect mobility and support the recovery in economic activity, the findings regarding the extent of this effect are limited. Sexton and Tito (2021) examined the impact of vaccination on various economic activity indicators for the USA and found that the improvement in mobility was largely due to vaccination. However, this relationship has not been examined for a broader set of countries. In this framework, model (1) is estimated with weekly frequency data for OECD countries to investigate the relationship between vaccination performance and mobility.

$$\boldsymbol{Mobility_{it} = c + \alpha Vaccination_{it} + \beta Stringency_{it} + \sigma_i + \varepsilon_{it}} \qquad \textbf{(1)}$$

In this model, in which the Google mobility index (*Mobility*) is the dependent variable at the country level, the total and two doses of vaccine (*Vaccination*) applied by countries per hundred people and the index (*Stringency*) that measures the strictness of the measures taken by countries against the pandemic are included as explanatory variables.[1] σ_i represents the country-fixed effects, while ε_{it} is the error term.

Table 1: Estimation Results*

	(1a)[1]	(1b)[1]	(2a)[2]	(2b)[2]	(3a)[3]	(3b)[3]
Total Vaccination	0.478***		0.291***		0.432***	
Two Doses of Vaccination		0.670***		0.254**		0.586***
Stringency Index	-0.433***	-0.571***	-0.418***	-0.542***	-0.573***	-0.711***
Number of Observations	908	801	908	801	908	801
Adj-R^2	0.89	0.88	0.84	0.84	0.92	0.92

[1] Mobility is defined as the average of the mobility indices for retail and recreation, groceries and pharmacies, parks, transit stations and workplaces.

[2] Mobility is defined as the average of the mobility indices for retail and recreation, groceries and pharmacies, and workplaces.

[3] Mobility is defined as the mobility index for retail and recreation.

* For the period December 2020-June 2021, the model in which the month-fixed effects are also controlled is estimated using the pooled OLS (ordinary least squares) method. * 0.10, ** 0.05, *** 0.01 represent significance levels. Robustness tests with the first and second lags of the explanatory variables also support the main findings.

The estimation results indicate a positive relationship between vaccination and mobility, when the strictness of the measures taken by the countries within the scope of the pandemic is controlled (Table 1). Accordingly, a 10-point increase in the total vaccination per hundred people leads mobility to increase by 2.9 to 4.8 points on average, although the impact varies with respect to the definition of mobility. Consistent with expectations, the stringency index has a negative effect on mobility. Model results are robust to the use of different definitions of mobility and vaccination variables. In this context, considering the recent positive vaccination performance in Turkey, it is evaluated that mobility will increase in the rest of the year and will support economic activity, especially in the service sectors, which are affected more severely by restrictions. In addition, the rapid convergence to vaccination rates of countries that can be considered as alternative tourism destinations to Turkey and the countries that have an important place in the number of tourists coming to Turkey will stimulate the tourism activity and support the improvement in the current account balance. Despite the increasing trend in the number of cases globally in the recent period, the current pace of vaccination may also contribute to economic activity by limiting the risk of new waves in the pandemic.

[1] Country-level daily vaccination statistics are available at https://ourworldindata.org. As the stringency index, "Oxford COVID-19 Government Response Tracker", developed by Hale et al. (2021), is used.

References

Hale, T., Angrist, N., Goldszmidt, R., Kira, B., Petherick, A., Phillips, T., Webster, S., Cameron-Blake, E., Hallas, L., Majumdar, S. ve Tatlow, H. (2021). A Global Panel Database of Pandemic Policies (Oxford COVID-19 Government Response Tracker), Nat Hum Behav, 5, 529-538.

IMF (2020). World Economic Outlook, October 2020: A Long and Difficult Ascent, Chapter 2: Dissecting the Economic Effects.

OECD (2020). OECD Economic Outlook, Volume 2020, Issue 2, No: 108, Box 1.1.

Sexton, A. and Tito, M. D. (2021). The Vaccine Boost: An Analysis of the Impact of the COVID-19 Vaccine Rollout on Measures of Activity, FEDS Notes, The Federal Reserve System.

CBRT (2021). Effects of Pandemic Restrictions on Economic Activity. Inflation Report 2021-II, Box 2.5.

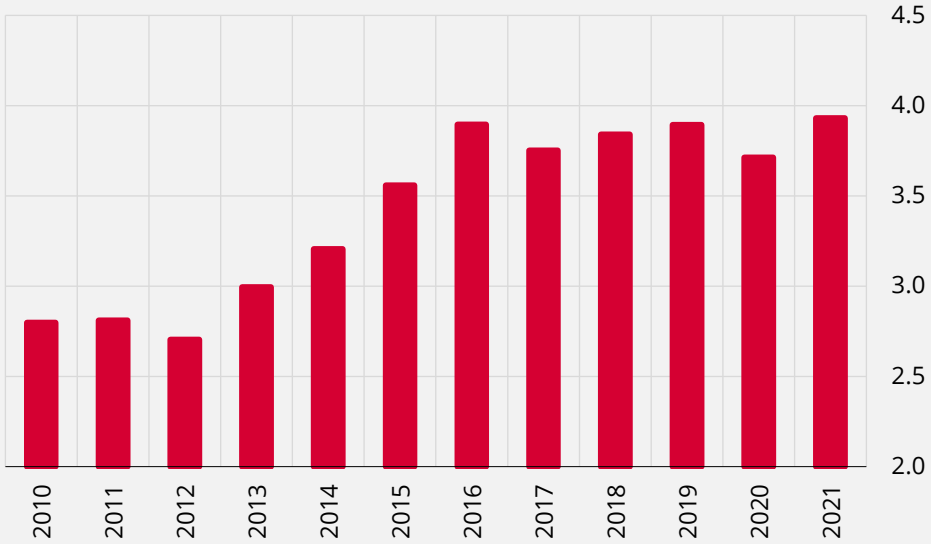
Box 2.3

Market Share Developments in Turkey's Exports to the European Union During the COVID-19 Pandemic

The COVID-19 pandemic has hit supply chains with uncertain demand, delays in raw material supply, disruption of production and increased logistics costs. In response, firms have turned to alternative supply channels to ensure supply security and remain competitive in the face of increasing costs. There is a widespread view that Turkey will be among the countries that can benefit most from the change in global supply structures by drawing orders away from developing Asian countries, especially China, in sectors where Turkey has infrastructure and competitive advantages in production and exports (TIM, Export 2021 Report).

In this box, the market share developments of Turkey's exports to the European Union (EU) during the pandemic period are analyzed on the basis of product groups by using United Nations (UN) Comtrade monthly foreign trade data. The sectors that increased their market share are identified and these developments will be compared to developing Asian countries that are likely to be more adversely affected by the supply developments in the EU market compared to Turkey.

Chart 1: Share of Turkey's Exports in the EU Market by Years (%)

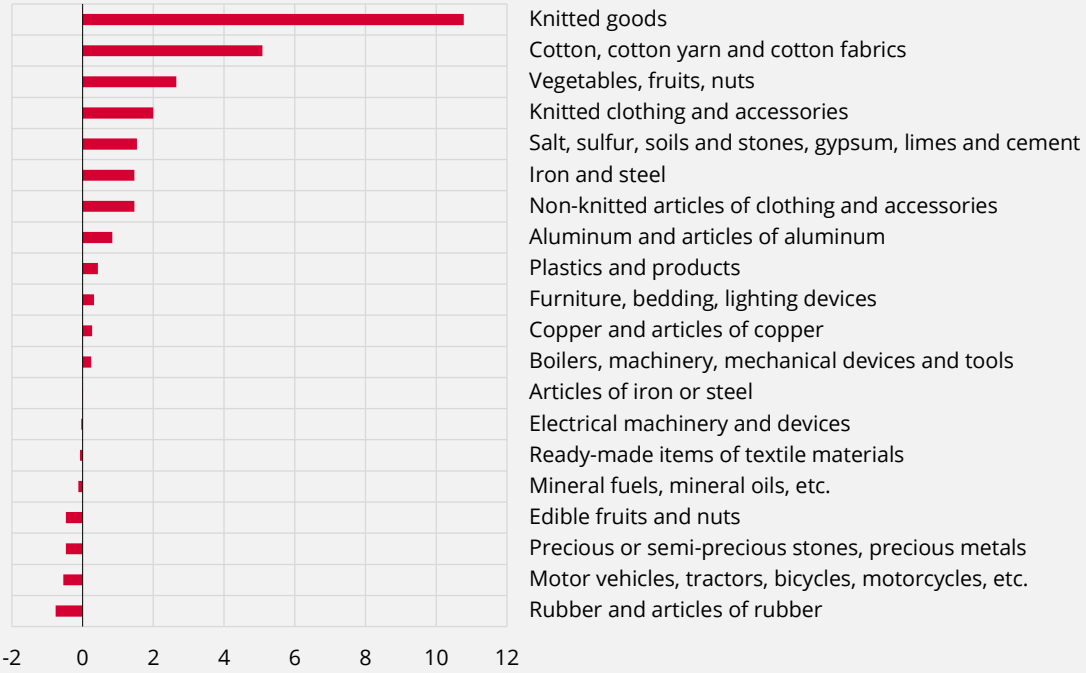


Sources: UN Comtrade, authors' calculations.

Chart 1 shows the market share of Turkey's exports in the EU since 2010. After 2012, Turkey's export market share to the EU accelerated as the impact of the global crisis on EU economies began to ease. The share increased gradually until 2016 after which it followed a horizontal course. In 2020, marked by the pandemic, total global exports to the EU decreased by 15% compared to the previous 12-month period and amounted to USD 1.9 trillion. In the same period, Turkey's exports to the EU decreased by 18% compared to the previous year. In light of these developments, Turkey's market share in the EU as a whole decreased by 0.18 points to 3.71% in 2020. On the other hand, the increase in freight prices due to maritime transport and the bottleneck in container supply in the last months of 2020 provided a competitive advantage to Turkey, which is geographically close to and has a road connection with the EU, as opposed to Far East countries.[1] With the effect of these developments, Turkey's EU market share started to increase again in 2021. The level of 3.93% reached as of the first quarter of 2021 is a historic high for Turkey's export market share in the EU.

When the 20 product groups with the largest share in exports to the EU are examined, the top three product groups are automotive, boilers and machinery, and knitted clothing. Chart 2 shows the market share changes as of the first quarter of 2021 for the 20 product groups with the largest share in exports to the EU. Accordingly, market share gains are seen in 13 of the 20 product groups that export the most compared to a year ago. Knitted goods, cotton, cotton yarn and cotton fabrics, and vegetables and fruits were the product groups with the highest increase in market share.

Chart 2: Changes in Export Shares of Main Product Groups in 2021Q1 (% Point Difference, Compared to 2020Q1)



Sources: UN Comtrade, authors' calculations.

Table 1 shows the 20 product groups in which Turkey increased market share to the EU the most during the pandemic period, and the market share of the developing Asian countries which are expected to be more negatively affected by the recent supply developments in these product groups, and the changes during the pandemic period. If Turkey's market share in a sector is increasing while the share of developing Asian countries is decreasing, it can be said that the gain is due to a better Turkish export performance compared to these countries. According to this definition, in 13 of the 20 product groups where Turkey's market share increased the most during the pandemic, the gains were accompanied by losses for the developing Asian countries. In this context, knitted goods, edible vegetables and specially woven fabrics stand out as the main product groups that gained market share from developing Asian countries in the EU market during the pandemic period. When we look at the developments in the first quarter of 2021, in the last four columns of Table 2, it is seen that the market share gains continued in this period as well.

[1] According to the Global Container Index data prepared by Drewry, the spot freight pricing of a 40-ft container increased to an average of USD 5,340.30 on 21 January 2021. This pricing corresponds to an increase of 198% compared to a year earlier (UTIKAD Logistics Sector Report 2020). As of 15 July 2021, the annual percentage increase of the said index was 339.

Table 1: 20 Product Groups in which Turkey Increased Export Share to the EU the Most During the Pandemic Period

	Pandemic Period (2020 April- 2021 March)				2021 First Quarter			
Product Group	Emerging Asia Export Share (%)	Emerging Asia Market Share Change (% Points Difference)	Turkey Export Share (%)	Turkey Market Share Change (% Point Difference)	Emerging Asia Export Share (%)	Emerging Asia Market Share Change (% Points Difference)	Turkey Export Share (%)	Turkey Market Share Change (% Point Difference)
Knitted Goods	37.35	-6.05	42.78	7.16	34.59	-6.38	46.18	7.04
Railway etc. Line Vehicles and Materials	24.25	2.56	6.62	3.32	27.12	4.30	7.76	4.60
Edible Vegetables and Some Roots and Tubers	12.44	-2.19	10.47	2.33	9.95	-2.27	12.30	4.06
Special Woven Fabrics etc.	51.69	-8.11	19.14	1.62	51.40	-3.67	18.84	0.87
Vegetables, Fruits, Nuts	17.28	-2.21	21.48	1.62	17.78	-0.24	22.85	3.60
Articles of Stone, Plaster, Cement, Asbestos, Mica or Similar Materials	39.27	-1.93	7.23	1.26	40.06	2.80	7.04	2.08
Salt, Sulfur, Soils and Stones, Gypsum, Limes and Cement	10.79	-3.11	15.62	1.23	12.45	0.59	16.87	4.17
Furs and Faux Furs and Their Products	36.91	2.66	11.63	0.94	29.19	13.63	8.07	3.64
Ceramic Products	50.42	-4.04	14.71	0.92	51.72	-0.67	14.43	1.04
Knitted Clothing and Accessories	59.09	-3.72	13.98	0.89	60.83	-0.55	15.11	1.25
Non-Knitted Articles of Clothing and Accessories	58.98	-2.27	10.80	0.85	58.93	0.23	11.64	1.81
Metal Ores, Slag and Ash	2.03	1.15	2.27	0.84	2.15	1.66	2.08	0.94
Cotton, Cotton Yarn and Cotton Fabrics	30.85	-1.24	27.71	0.82	29.88	-1.92	30.91	4.51
Vegetable Materials Suitable for Knitting	56.73	7.66	2.01	0.67	64.48	18.61	2.45	0.68
Furniture, Bedding, Lighting Devices	72.05	-1.90	5.07	0.60	74.44	1.84	4.88	0.82
Headgear and Accessories (Hats, Caps, Protective Caps, etc.)	76.28	-3.78	1.54	0.59	81.40	3.09	1.10	0.56
Personal Belongings, Provisions and Materials Given to Marine and Aircraft (Excluding Fuels)	7.57	2.37	1.63	0.58	5.04	-0.89	1.78	0.44
Tobacco and Tobacco Substitutes	18.29	-0.95	5.23	0.55	17.07	-1.47	5.20	-2.54
Lead and Articles of Lead	1.14	0.13	2.55	0.53	1.84	0.55	1.83	-0.10
Mushrooms and Articles of Cork	25.95	0.45	0.77	0.48	25.34	1.73	0.64	0.40

Sources: UN Comtrade, authors' calculations.
Note: Related data is based on the HS 2-digit product classification. The April 2020-March 2021 period was considered as the pandemic period and compared with the April 2019-March 2020 period. In addition, exports in the first quarter of 2021 and exports in the first quarter of 2020 were compared. Developing Asian countries include China, the Philippines, Indonesia, Malaysia, Vietnam, Thailand, Bangladesh and India.

References

Turkish Exporters Assembly (TIM), Export 2021 Report, https://tim.org.tr/files/downloads/Strateji_Raporlari/TIM_Ihracat_2021_Raporu.pdf) (in Turkish).

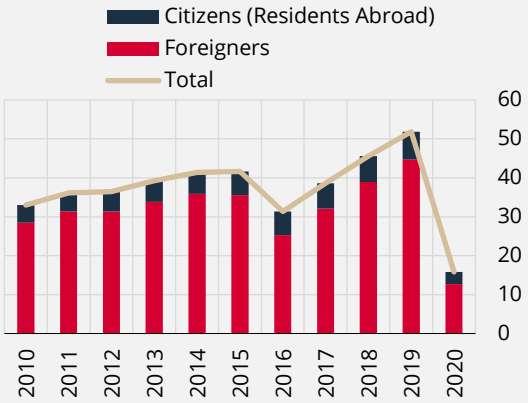
UTIKAD Logistics Sector Report 2020, https://www.utikad.org.tr/images/HizmetRapor/utikadlojistiksektoruraporu2020-53923.pdf (in Turkish).

Box 2.4

The Impact of Tourism on Growth, the Labor Market and the Current Account Balance

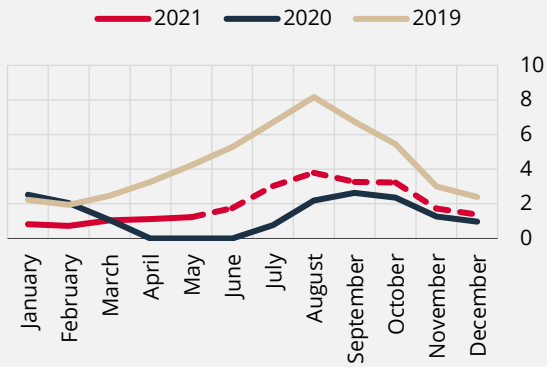
In 2020, the number of foreign visitors to Turkey plummeted by around 70% and tourism revenues decreased approximately to USD 12 billion, due to the travel restrictions imposed alongside other pandemic-related measures (Charts 1 and 2). This situation heavily weighed on growth and employment in 2020, as well as the current account balance outlook, due to the high share of tourism in national income and its strong ties with related sectors (such as restaurants-hotels, transportation, retail trade, etc.). In this box, effects of the contraction in tourism in 2020 and the expected recovery in 2021 on growth, the labor force and the current account balance are quantified by empirical methods.

Chart 1: Annual Number of Visitors (Million People)



Source: TURKSTAT.

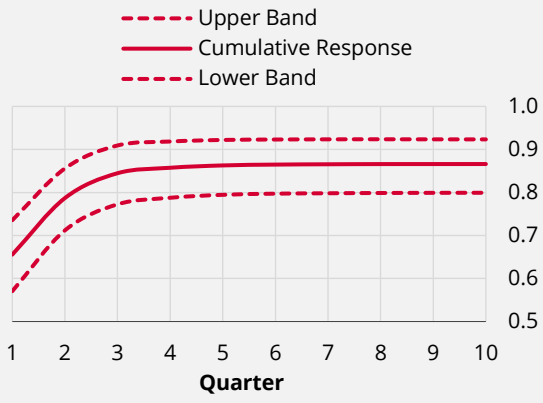
Chart 2: Monthly Number of Visitors* (Million People)



Sources: CBRT calculations, TURKSTAT.
* For the June-December 2021 period, Scenario 2 presented in Chart 5 is used.

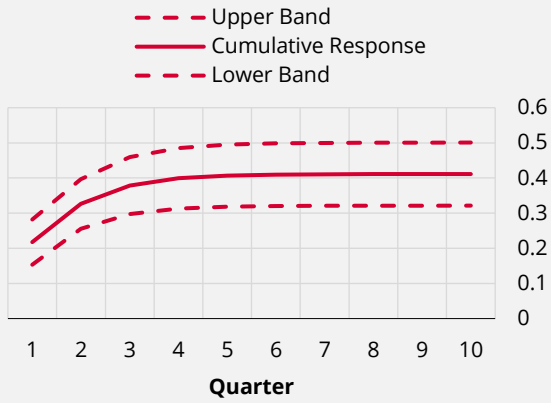
Çelgin et al. (2021) estimate the possible effects of tourism shocks on growth and employment with a vector autoregression (VAR) model. Findings indicate that a 10% increase in the number of tourists increases GDP growth by 0.9 percentage points and employment by 0.4% on a cumulative basis in one year (Charts 3 and 4). Impacts on employment are 1.3% in the accommodation and food services sector, which is closely related to the tourism sector, and 0.5% for wholesale and retail trade. In this context, taking into account the uncertainty range regarding the effects in the model, estimations suggest that the USD 22.5 billion (around 65%) fall in tourism revenues in 2020 reduced growth by 5-6 points and employment by 2.5%-3% (700-800 thousand people).

Chart 3: Impact of 10% Increase in Number of Tourists on GDP Growth (% Points)



Source: Çelgin et al. (2021).

Chart 4: Impact of 10% Increase in Number of Tourists on Employment (%)



Source: Çelgin et al. (2021).

The limiting effect of the pandemic-related restrictions on tourism continued in the first half of 2021. However, the strong momentum in vaccination in the June-July period played an important role in the improvement of the risk perception towards Turkey and the easing of restrictions. In this context, the recovery in the number of tourists is expected to accelerate in the second half of 2021. In addition, the increases in the average expenditure per person and the average number of overnights in the recent data are likely to support the positive contribution of tourism revenues to the current account balance (Table 1). If the current trend continues, there may be a moderate increase in the average expenditure per person in 2021 compared to the previous year.

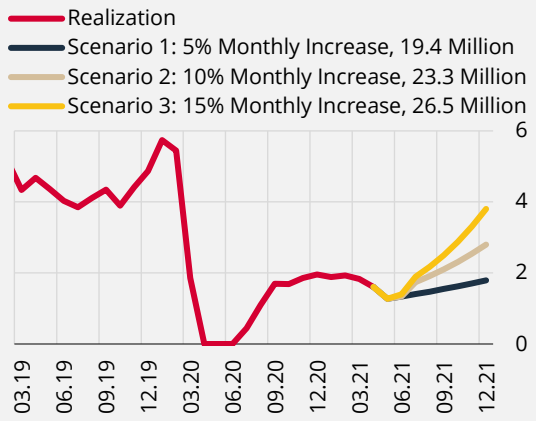
Table 1: Average Tourism Expenditure per Person (USD) **and Average Number of Overnights**

		Average Tourism Expenditure per Person			Average Number of Overnights		
		Total	**Foreigners**	**Citizens***	**Total**	**Foreigners**	**Citizens***
2019	**Annual**	**666**	**642**	**796**	**9.9**	**8.9**	**15.9**
	I	697	678	765	10.4	9.7	13.6
	II	625	607	766	9.3	8.9	12.2
	III	649	623	789	9.0	8.2	13.9
	IV	727	702	859	11.9	9.8	24.6
2020	**Annual**	**762**	**716**	**926**	**12.4**	**10.2**	**21.1**
	I	727	710	788	10.3	9.7	13.5
	II	-	-	-	-	-	-
	III	722	649	969	11.8	9.3	21.1
	IV	854	804	1019	15.6	12.1	29.2
2021	**Annual**						
	I	943	918	983	16.8	14.5	22.4

Source: TURKSTAT.
* Residents abroad.

In this context, under the assumptions that losses in the second quarter of the year are quickly compensated for in July, and a seasonally-adjusted 10% increase is achieved for the rest of the year, the number of visitors may exceed 23 million in 2021 (Chart 5).

Chart 5: Number of Visitor Scenarios for 2021* (Monthly, Seasonally Adjusted, Million People)



Sources: TURKSTAT, CBRT calculations.

* The seasonally-adjusted monthly increase in number of visitors are for the June-December period under Scenario 1, and for the August-December period under Scenario 2 and 3. Scenario 2 and 3 assume that losses in the second quarter are compensated for in July. The share of citizens residing abroad is assumed to be 15%.

Table 2: Tourism Revenue Scenarios for 2021

		Scenario 1	Scenario 2	Scenario 3
Total Number of Visitors				
(Million People)		19.4	23.3	26.5
Ratio to 2019 Level (%)		37	45	51
Tourism Revenues (Billion USD)				
Average Spending (USD)	750	14.6	17.4	19.9
	800	15.5	18.6	21.2
	830	16.1	19.3	22.0

Sources: CBRT calculations.

The course of the pandemic and consumer behavior will affect the strength of the prospective recovery in tourism. Although there is uncertainty in these two areas, scenarios regarding the number of tourists and per capita expenditure may provide a view of the range in which tourism revenues may be realized. In this context, in the second half of the year, the scenarios constructed for the trend in the number of tourists, the average expenditure per person and length of stay, indicate that tourism revenues may realize between USD 14.6 and 22 billion in 2021 (Table 2). These estimates imply that around 11 to 44 points of the loss of 65% compared to 2019 can be compensated this year. According to the scenarios, the recovery in tourism is likely to add USD 2.5 to 10 billion to the current account balance, while it is likely to contribute by 0.6 to 2.7 points to GDP growth and by 0.3% to 1.2% to employment in 2021.

References

Çelgin, A., Gökcü M., Gül, S., Kazdal, A. (2021). The Effects of Tourism on Growth and Employment (in Turkish), CBRT Research Notes in Economics, No: 21/02.

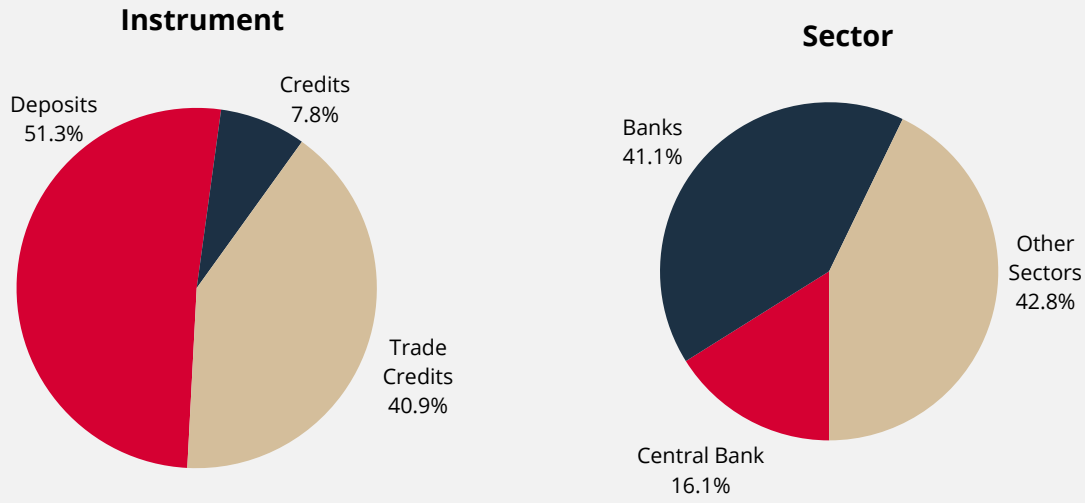
Box 2.5

Possible Biases in Short-Term External Debt Statistics

The short -Term External Debt (STED) stock, at any given time, is the outstanding amount of those actual current and not contingent liabilities that require payment(s) of principal and/or interest within one year of the drawings by the debtor and that are owed to non-residents by residents of an economy.

STED Statistics published monthly by the CBRT are classified under four sectors on the basis of borrowers: the Central Bank, the General Government, Banks and Other Sectors. In terms of instrument type, the data are broken down into three sections: deposits, loans and trade credits. Chart 1 shows the intrument and sectoral breakdown of STED stock for the first quarter of 2021.

Chart 1: Short-Term External Debt by Instrument and Sector (2021Q1, %)



Source: CBRT.

Biases can be detected over time in STED statistics compiled from various sources, for reasons such as updates in international standards, access to new data sets, and developments in data sharing technologies. As a result, STED data can be updated in accordance with international standards and the revision policy for statistics. In this context, possible biases identified on the basis of relevant instruments are summarized below.

Deposits

Deposit balances at the CBRT are composed of FX Deposit Accounts with Credit Letters and Super FX Accounts of the Turkish citizens residing abroad, which have been quite low in recent years, liabilities arising from bilateral currency swap agreements with other central banks, and deposit accounts of non-resident banks held at the CBRT.

Deposit balances at the banks consist of foreign currency and TL deposits of real and legal persons residing abroad, and all of them are assumed to be short term. However, the bank trial balance data allows for a distinction based on the maturity, up to one year and above one year. In this context, if the deposit items in the current STED data are broken down into short and long term, long term deposits will not be covered by STED.

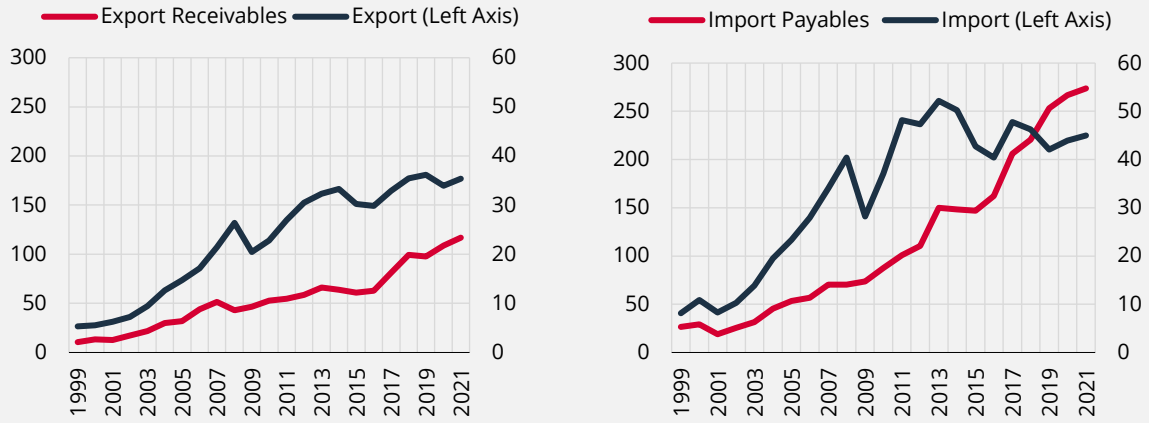
Loans

Loans obtained by banks and other sectors from abroad include cash loans with an original maturity of up to one year. The data source for cash loans is foreign loans compiled monthly by the CBRT, and short/long term maturity breakdown can be made. The international methodology[1], suggests that funds provided by banks from non-residents via security repurchase agreement (repo) should be classified as loan obligations. In the event of such an adjustment for repo transactions with non-residents for securities (Eurobond, GDDS, etc.), an increase in banks' short-term loans may be expected.

Trade Credits

Trade credit liabilities consist of two components: One is import payables, and the second is cash-in-advance and pre-export financing for export. Import payables are the loans that importers receive directly from foreign exporters and the cost of the goods/services are paid on a deferred basis. Cash-in-advance and pre-export financing for export is the provision of the cost of the goods from the foreign customer (importer) in advance and in cash, and fulfilling the obligation to the other party by exporting after a certain period of time.

Chart 2: Foreign Trade and Trade Credits* (Billion USD)



Source: CBRT.

* Export receivables and import payables figures are as of 2021 Q1, export and import figures are annualized as of March 2021.

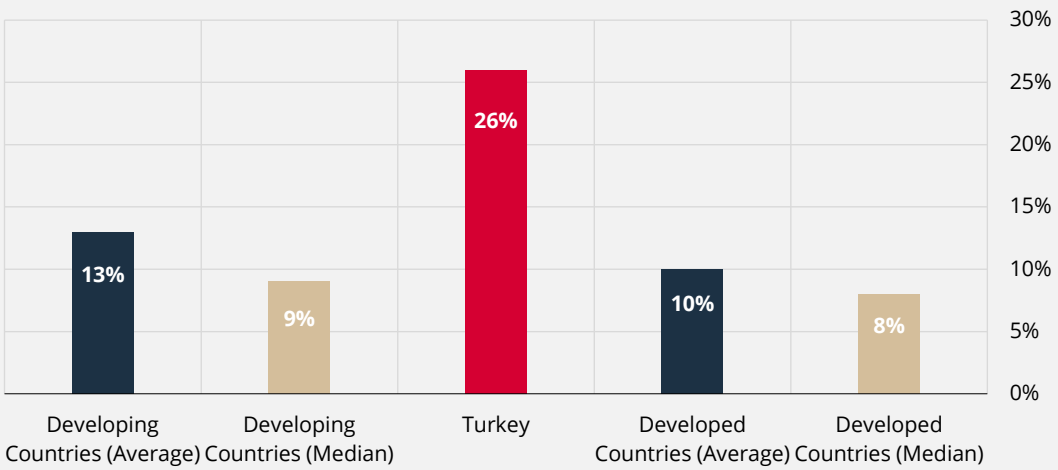
When the course of import and import payables is analyzed considering the relationship between export receivables and exports, a remarkable increase is observed in import payables in recent years although there has been no structural change in Turkey's imports and trade credits for imports (Chart 2).

A comparison with other countries also reveals that Turkey's import payables to imports ratio is considerably higher than the average and median values of developed and developing countries (Chart 3).[2]

[1] See IMF BOP and IIP Manual 6th Edition (BPM6, p 5.53); BIS-ECB-IMF Handbook on Securities Statistics (p 3.40). Moreover, within the context of G20 DGI countries are expected to disseminate debt securities statistics based on "economic ownership" instead of "legal ownership".

[2] Developed countries: Austria, Belgium, Canada, Czechia, Denmark, Finland, France, Germany, Greece, Hong Kong, Israel, Italy, Japan, Korea, Netherlands, Norway, Portugal, Singapore, Slovak Republic, Sweden, Switzerland, United Kingdom and United States.
Developing countries: Argentina, Belarus, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica,Egypt, El Salvador, Guatemala, Hungary, India, Indonesia, Jordan, Kazakhstan, Kyrgyz Republic, Mexico, Morocco, Nicaragua, Pakistan, Philippines, Poland, Romania, Russian Federation, South Africa, Thailand and Turkey.

Chart 3: Import Payables / Import Ratio (2020)



Source: CBRT, World Bank, IMF IFS.
Note: In the calculation of Import Payables / Import ratios for the countries, the stock of import payables as of 4th quarter of 2020 and the total import figures in 2020 are used.

The fact that Turkey's trade credits due to imports are relatively high compared to other countries further indicates a possible bias and makes it necessary to enhance compliance with international standards by reviewing the current data sources and the calculation method currently in use.

To this end, a study was initiated in 2020, in cooperation with the Central Bank of the Republic of Turkey and the Turkish Statistical Institute, to compile data at the firm level with the direct reporting technique, which is widely used in many countries. Those companies that represent at least eighty percent of total imports and exports on a quarterly basis are requested to report their export receivables and import payables on a domestic – international basis, including their foreign currency composition. In addition to the STED Statistics, the findings to be obtained from this study, carried out with technical support from international organizations, are also expected to contribute to the correction of possible biases in the Gross External Debt Stock of Turkey, International Investment Position, Foreign Exchange Assets and Liabilities of Non-Financial Companies and Balance of Payments statistics, where importpayables and export receivables data serve as inputs.

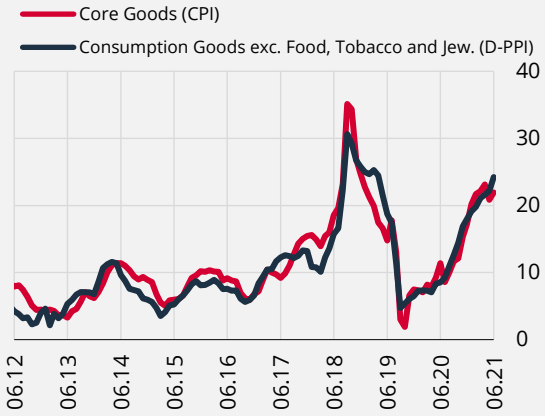
Box 2.6

Sectoral Tendencies in the Pass-through from D-PPI to CPI

As the annual producer prices inflation rose to 42.89% in June, the producer prices-led effects on consumer prices became more evident. Model estimates suggest that the pass-through from producer prices to consumer inflation has fluctuated within the 40-45% band over time and currently, the pass-through effect may be slightly lower than historical averages owing to the sliding scale system.[1]

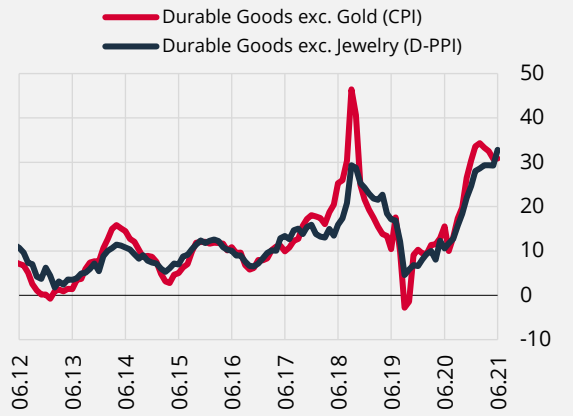
How the pass-through evolves by sub-groups is as crucial as the total extent of the pass-through. While consumer inflation consists of core goods, services, food, energy, alcohol-tobacco and gold, the services sector is not included in the D-PPI by definition. In this context, when developments in producer and consumer prices are analyzed on a sectoral basis, it is observed that producer price increases have already been largely reflected on consumer inflation in core goods-related groups (Chart 1). As for durable consumption goods, although the rise in consumer prices in the first five mounts of the year exceeded that of producer prices, this trend reversed as of June (Chart 2).

Chart 1: CPI and D-PPI Related Subgroups: Core Goods (Annual % Change)



Source: CBRT, Turkstat.

Chart 2: CPI and D-PPI Related Subgroups: Durable Goods (Annual % Change)

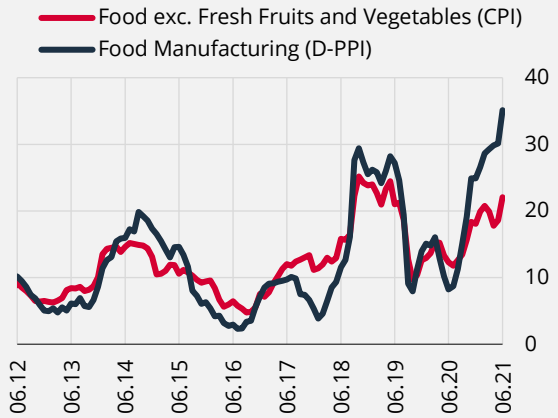


Source: CBRT, Turkstat.

Comparisons of food and energy prices point out that the increase in consumer prices is relatively low for both groups (Chart 3 and Chart 4). For the food component, the gap between producer and consumer inflation has widened significantly, diverging from the historical pattern. The limiting effect of the measures taken by the Food Committee also plays partly a role in this development. For instance, as a result of the actions taken by the Food Committee, the impact of the rise in producer prices in fats and oils on consumer prices was much more limited in last year. The wedge in energy inflation largely reflects the effect of taxes and the sliding scale system. As a matter of fact, there were times in the past when energy price changes on the producer side had a more limited effect on the consumer side (Chart 4). D-PPI compiles sales prices of domestically-produced products excluding taxes, while the CPI compiles final prices including taxes. While an increase in international oil prices by 10 percent affects refined petroleum products of D-PPI at the same rate, its effect on consumer prices is approximately one third due to the tax burden on domestic fuel prices. In addition, due to the currently implemented sliding scale system, the effects of increases in oil prices or the exchange rate are offset by taxes, and hence fuel prices (apart from tax updates) do not show a significant change in the CPI. As a result, in this period, even if the prices of refined petroleum products in producer prices increase at a high rate, their impact on the final consumer remains limited. On the other hand, electricity prices were increased by 15% and natural gas prices by 12% for housing in July. This will have an upward impact on the energy inflation under CPI.

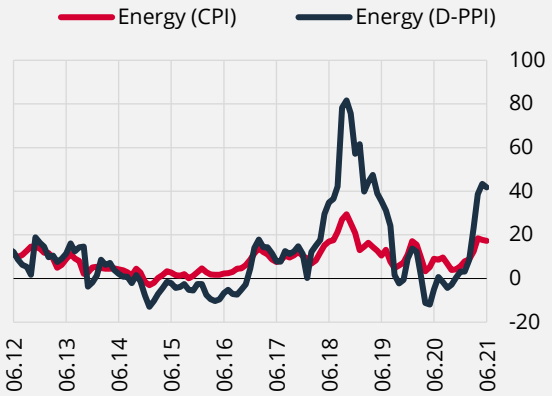
[1] For further information refer to Inflation Report 2021-II, Zoom-in 2.6: How is the course of the pass-through from producer inflation to consumer inflation?

Chart 3: CPI and D-PPI Related Subgroups: Food (Annual % Change)



Source: CBRT, Turkstat.

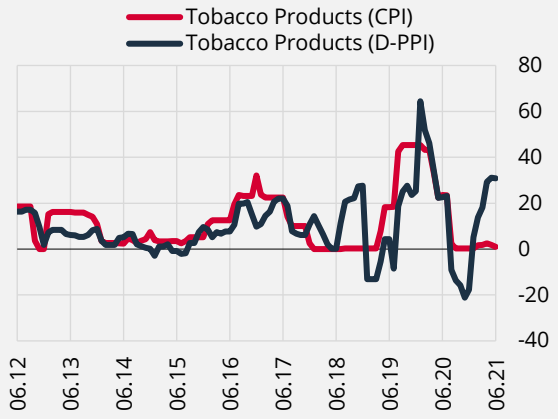
Chart 4: CPI and D-PPI Related Subgroups: Energy (Annual % Change)



Source: CBRT, Turkstat.

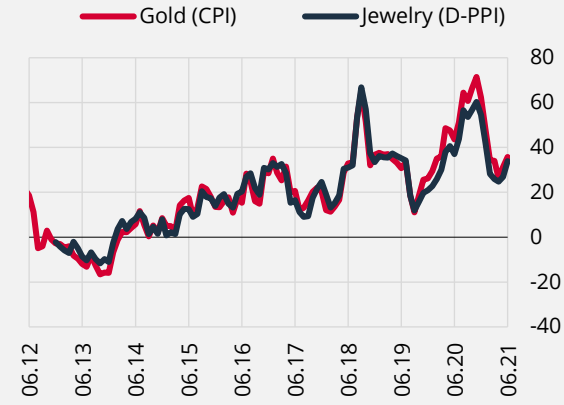
Producer and consumer inflation dynamics in tobacco products vary significantly too and this can be attributed to the fact that the D-PPI is compiled excluding taxes, as in the fuel sector (Graph 5). In tobacco products, the producer price constitutes a very low portion of the final retail price, and so the tax burden has a significant share in the final prices. Sometimes, the impact of pressures originating from producer prices on consumer prices can be curbed by changes made in the tax amount or tax composition (such as the specific and ad-valorem SCT rate changes). Thus, changes in producer prices may be reflected to consumer prices at a lower rate. In the gold/jewelry groups, producer and consumer prices follow similar trends based on the share of the added value created in the total value added (Chart 6).

Chart 5: CPI and D-PPI Related Subgroups: Tobacco Products (Annual % Change)



Source: CBRT, Turkstat.

Chart 6: CPI and D-PPI Related Subgroups: Gold (Annual % Change)



Source: CBRT, Turkstat.

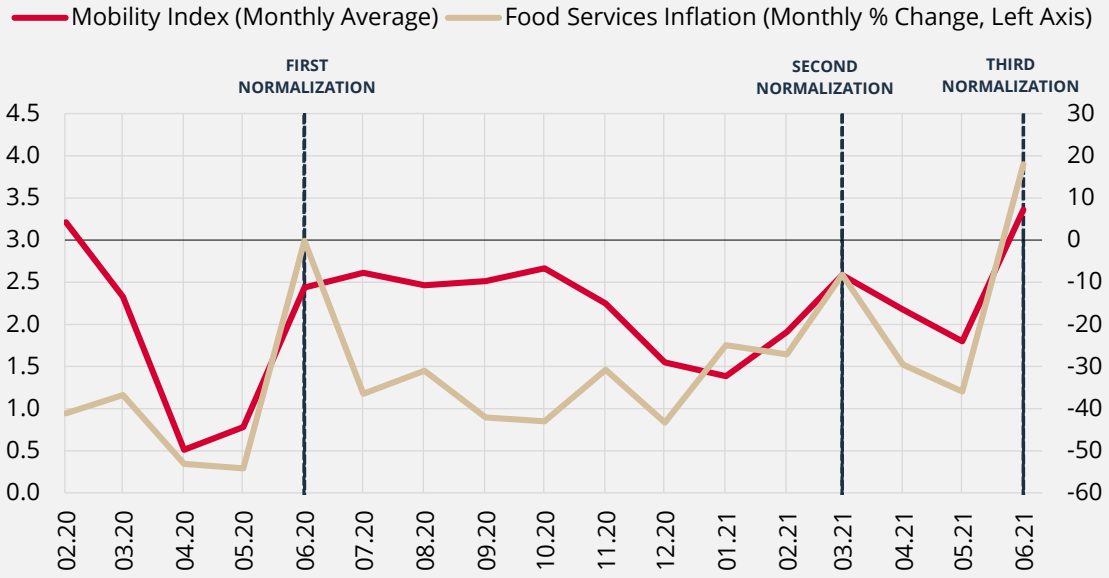
While sectoral analyses point out that producer price developments in certain groups (such as core goods, durable consumption goods, and gold) have been already largely reflected on consumer prices; pass-through from producer prices to consumer prices in the current period are more subdued because of the use of tax policies in groups such as petroleum and tobacco products. Consumer prices also increased in energy items such as electricity and natural gas as of July, whereas the developments regarding the food inflation are monitored closely.

Box 2.7

An Evaluation of the Impact of Normalization Steps on Food Services Inflation

The measures taken during the pandemic and the normalization processes that started with the easing in these measures had significant effects on inflation developments in some sectors. Food services stand out among these sectors as they are directly affected by these measures. In this context, an upward "opening effect" is observed in food services inflation during periods of increased activity following the normalization steps (Chart 1).

Chart 1: Mobility Index* and Food Services Inflation



Source: Google Mobility Index, TurkStat.

* The monthly average of the "Retail and Recreation", "Grocery and Pharmacy" and "Workplaces" groups of Google Mobility Indices.

The opening effect on inflation data is observed in two ways: 1) The price compilation process was interrupted due to temporarily suspended activities of restaurants; cumulative cost pressures spilled over into prices, which re-emerged with the easing of measures, 2) The relevant restrictions suppressed the markups of those restaurants that continued to operate, and when this pressure was relieved by the normalization process, an "opening effect" was observed on prices. This box summarizes the main findings of the Eldemir and Yürek (2021) study on the effect of re-opening on food services inflation. Due to the structure of the data used in the study, only the opening effect mentioned in the second item above can be estimated. It should therefore be noted that the results presented here should be considered as a "partial opening effect".

During the pandemic period, three different normalization periods were observed in Turkey: June 2020 (First), March 2021 (Second) and June 2021 (Third). When each period is evaluated in itself, a more significant easing is observed in the restrictions on restaurants with the normalization in the first and third periods (Table 1). On the other hand, in the second normalization process, restrictions varied across provinces, which were categorized according to color-coded risk groups. In the study, online price data[1], which are compiled twice a month, were used for the product types within the scope of

[1] Although the dataset used does not belong to official inflation statistics, it is representative of the official data. Prices in the dataset are observed twice a month, mostly around the 10th and 20th days of the relevant month.

food services of the restaurants that operated uninterruptedly, and a regression discontinuity design (RDD)[2] was used to examine whether there was an opening effect on prices. In other words, prices observed just before and immediately after the relevant normalization period were compared, and it was checked whether there was a price movement above what would be expected under normal conditions. For the increases that fit in this definition, the part that was evaluated as beyond normal was defined as the opening effect. This analysis was applied to the prices of food services across Turkey for each normalization period, and additionally, separate estimates were made for each risk group in the second opening period.

Table 1: June 2020, March 2021 and June 2021 Normalization Conditions

	June 2020	March 2021*	June 2021
Pre-Normalization Condition:	Just takeaway or home delivery	Weekdays: Takeaway and home delivery between 10 a.m-08 p.m, home delivery after 08 p.m Weekend: 10 a.m-08 p.m home delivery	Weekdays: Takeaway or home delivery between 07 a.m-08 p.m, home delivery between 08 p.m-12 p.m Weekends: Home delivery between 07 a.m - 12 p.m
Post-Normalization Condition:	Service at the table, takeaway or home delivery with a distance sitting within the rules determined until 10 p.m	Blue and Yellow: 50% capacity between 07 a.m-07 p.m, 07 p.m-09 p.m takeaway or home delivery, 09 p.m-12 p.m home delivery Orange: 50% capacity between 07 a.m-07 p.m, 07 pm-09 p.m takeaway or home delivery, 09 p.m-12 p.m home delivery, Sunday: 10 a.m-08 p.m takeaway or home delivery, 08 p.m-12 p.m home delivery Red: 10 a.m-08 p.m takeaway or home delivery, 08 p.m-12 p.m home delivery	Weekdays and Saturdays: Service at the table with distance sitting, takeaway or home delivery between 07 a.m-09 p.m, home delivery between 09 p.m-12 p.m Sunday: 07 a.m - 12 p.m only home delivery

Source: Ministry of Interior.

* According to the criteria determined by the Scientific Committee, provinces were divided into 4 different risk groups (low, medium, high, very high) and the degree of measures to combat the pandemic was set according to risk groups by color (blue, yellow, orange, red, respectively). The number of provinces by color: Blue (14), Yellow (28), Orange (22), Red (17).

Graphical analysis of average product and food services prices exhibits a spike at the beginning of the first and third normalization periods (Chart 2). On the other hand, the same analysis implies that there was no significant opening effect in the second period, or the effect is limited. Although the variation in these effects seems to be consistent with the content of the relevant normalization steps, an econometric estimation was conducted within the framework of equation (1) to obtain more reliable results.

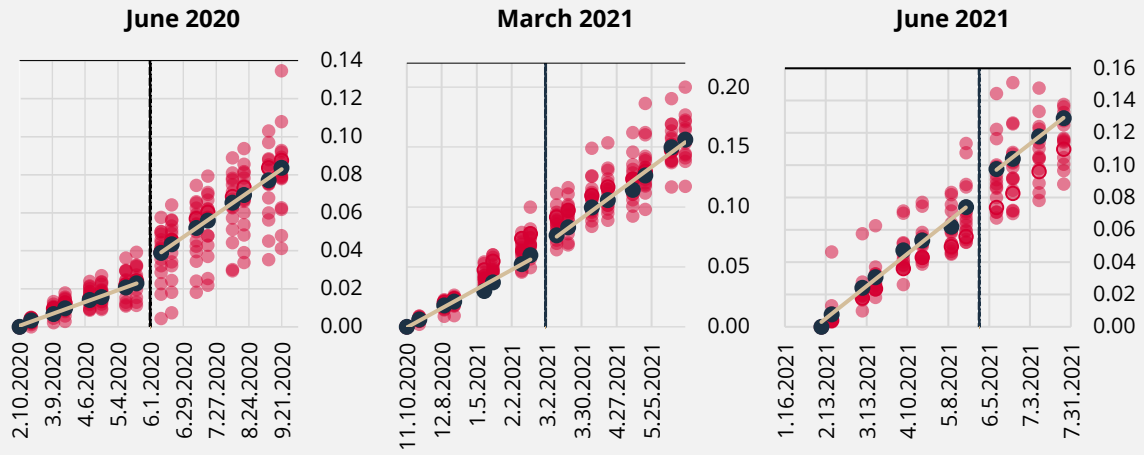
$$100 * \log(price)_{it} = \alpha + \beta D + \gamma_1 D * (R - c) + \gamma_2 * (1 - D) * (R - c) + \mu_i \quad (1)$$

D is a dummy variable that takes the value 0 for the pre-normalization period and 1 for the post-normalization period. R is a linear time trend (running variable), c is the discontiunity point that shows the date when normalization process begins and μ_i shows fixed effects for each product sold in each restaurant. In this formulation, the estimation for the parameter β shows the opening effect.

[2] For detailed information on regression discontinuity design, see Angrist and Pischke, (2008), Imbens and Lemieux, (2008), Lee and Lemieux, (2010). For detailed information and applications on the use of time as a running variable in regression discontinuity design, see Hausman and Rapson, (2018), Aysoy, Kırlı and Tumen (2015), Davis (2008).

The results of our estimations for the impact of normalization are presented in Table 2. The impact of nomalization observed on prices in the first and third periods is estimated to be around 1.1 percent and 1.3 percent, respectively. For the second period, although estimations by each group shows that there may be a partial opening effect for some of groups, no significant effect was found on average prices in Turkey. The impact identified via RDD with high frequency data, shows only the impact that emerges during the period from the last observation of pre-normalization in dataset to the first observation of post normalization. In order to evaluate the impact on the whole month after normalization, the high frequency price data is averaged for the months and the same estimation procedure was conducted again with the new low frequency data. Results show that estimations with the use of both frequency produce similar results, which implies that the opening effect mostly emerges at the beginning of normalization process.

Chart 2: Average Food Services Prices Before and After Normalization *



Source: Authors' calculations.

* Red dots show the logarithmic averages of online prices of the product varieties, and dark blue dots show the average logarithmic prices of food services. All series are normalized to be 10.02.2020=0.

Table 2: June 2020, March 2021 and June 2021 Periods Opening Effects

Window Width (3)		High Frequency(1)			Low Frequency (2)	
		4 Months	6 Months	8 Months	6 Months	8 Months
June 2020		**1.13***** (0.89 , 1.39)	1.12*** (1.00 , 1.29)	1.10*** (0.96 , 1.21)	1.19*** (1.13 , 1.24)	1.19*** (1.14 , 1.24)
March 2021	Turkey	0.15 (-0.75 , 0.7)	0.26 (-0.14 , 0.78)	0.26 (-0.20 , 0.78)	0.06 (-1.33 , 2.03)	0.17 (-1.28 , 1.67)
	Blue	-0.55 (-1.98 , 0.7)	-0.58 (-1.58 , 0.36)	-0.31 (-0.85 , 0.46)	-0.83 (-3.73 , 2.78)	-0.48 (-1.66 , 1.15)
	Yellow	0.26* (-0.80 , 0.93)	0.24 (-0.20 , 0.75)	0.13 (-0.41 , 0.55)	0.04 (-1.47 , 2.12)	0.03 (-1.91 , 1.63)
	Orange	0.20** (-0.60 , 0.65)	0.37* (-0.08 , 1.05)	0.41** (0.02 , 0.94)	0.16 (-2.05 , 2.39)	0.30 (-1.85 , 1.65)
	Red	-0.35 (-1.61 , 0.43)	-0.26 (-0.71 , 0.19)	-0.24 (-1.07 , 0.81)	-0.40** (-0.60 , -0.24)	-0.27 (-3.05 , 1.94)
June 2021		**1.34**** (0.7 , 2.56)	-	-	-	-

Source: Authors' calculations.

(1) The observation level used in the model is the product and price compilation period. There are two price observations per month for each product.

(2) The observation level used in the model is at the product and month level. Accordingly, each observation shows the monthly average price of the relevant product. ***, ** and * show the statistical significance at 1%, 5% and 10% levels, respectively. When confidence intervals presented in the parenthesis are calculated, standard errors are clustered by date of observation and the wild bootstrap (Cameron, Gelbach, & Miller, 2008) method was applied.

(3) The window size defines the time period covered by the sample included in the analysis. The first day of the normalization period is in the middle of the window. For example, if the window size is 4 months, the analysis period covers the period two months before and two months after the start of the normalization period.

In sum, online restaurant prices are utilized in this study and the impact of normalization periods on prices are evaluated within a microeconometric framework. Findings point to an upward opening effect on prices for June 2020 and June 2021, while no significant impact is found on prices (average price of Turkey nationwide) for the March 2021 period. More clearly, recovery in sectoral demand conditions following the normalization steps are estimated to have an upward impact of approximately 1.1 and 1.3 percentage points on food services inflation for the June 2020 and June 2021 periods, respectively. On the other hand, in this study, since only the prices of the restaurants that operated uninterruptedly are examined, it shuld be noted that the size of opening effects on the prices of the companies that suspended their activities may be be different. Therefore, it is considered that the overall opening effect on official food services inflation may be slightly higher than the above-mentioned estimates.

References

Angrist, J. D., & Pischke, J. S. (2008). *Mostly harmless econometrics*. Princeton university press.

Aysoy, C., Kirli, D. H., & Tumen, S. (2015). How does a shorter supply chain affect pricing of fresh food? Evidence from a natural experiment. *Food Policy*, 57, 104-113.

Cameron, A. C., Gelbach, J. B., & Miller, D. L. (2008). Bootstrap-based improvements for inference with clustered errors. *The Review of Economics and Statistics, 90* (3), 414-427.

Davis, L. W. (2008). The effect of driving restrictions on air quality in Mexico City. *Journal of Political Economy, 116*(1), 38-81.

Eldemir, C., & Yürek, S. (2021). Easing the restrictions on restaurant inflation: The impact of normalization process in Turkey during Covid-19. CBRT, ongoing study.

Gelman, A., & Imbens, G. (2019). Why high-order polynomials should not be used in regression discontinuity designs. *Journal of Business & Economic Statistics, 37(3),* 447-456.

Hausman, C., & Rapson, D. S. (2018). Regression discontinuity in time: Considerations for empirical applications. *Annual Review of Resource Economics, 10*, 533-552.

Imbens, G. W., & Lemieux, T. (2008). Regression discontinuity designs: A guide to practice. *Journal of econometrics, 142*(2), 615-635.

Lee, D. S., & Lemieux, T. (2010). Regression discontinuity designs in economics. *Journal of economic literature, 48*(2), 281-355.