# 4. Supply and Demand Developments

Economic activity recorded a moderate recovery in the second quarter of 2019 in line with the outlook presented in the July Inflation Report. The recovery in the first half of the year was driven by both domestic demand and net exports. The main drivers of domestic demand were accommodative public policies, tax incentives for durable consumer goods and consumer spending stimulated by the first quarter's credit growth and wage increases. Investment spending, on the other hand, remained weak due to the high risk premium and tight financial conditions.

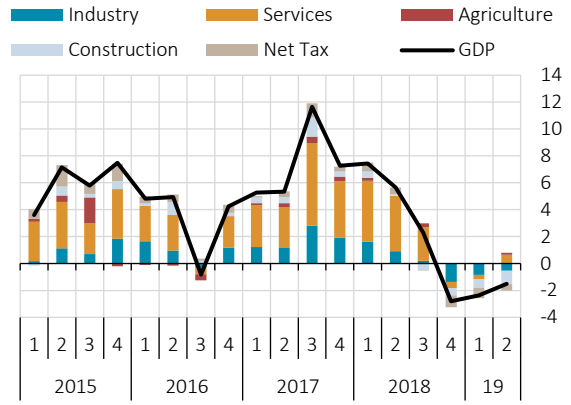
The moderate recovery in economic activity continued in the third quarter and spread more widely across all sectors. Reduced financial volatility and uncertainty as well as rising credit use fuel domestic demand whereas the gloomy labor market outlook and the expiry of tax cuts dampen private consumption. Meanwhile, the public sector remains accommodative on the back of non-tax revenues. Despite signs of a global economic downturn, exports of goods and services continued to grow due to the export orientation of domestic demand-sensitive sectors, firms' flexibility in market diversification, and the cumulative depreciation of the Turkish lira. In particular, the robust tourism activity supported the economy both directly and through related sectors such as nondurable goods and transport. In this regard, the contribution of net exports to growth and the outlook for the current account balance continue to improve.

In the upcoming period, domestic demand is expected to continue to recover gradually on account of continued disinflation, improved country risk premium and better financial conditions. Turkey's competitive advantage is likely to remain supportive of exports of goods and services. Accordingly, economic activity is expected to continue recovering while aggregate demand conditions will contribute to disinflation and the current account balance will maintain a moderate course. On the other hand, both geopolitical developments and the ongoing uncertainty over global economic activity pose a downside risk to growth through capital flows and external trade.

## 4.1 Supply Developments

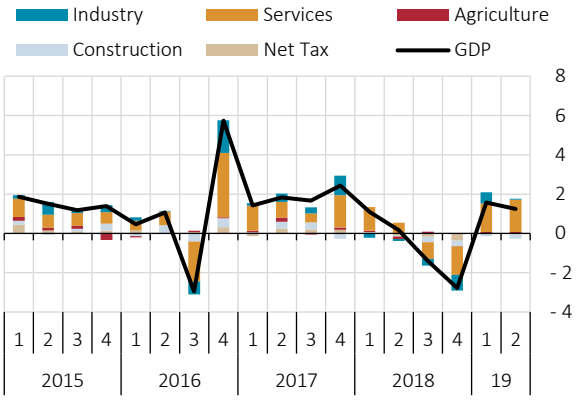
In the second quarter of 2019, GDP increased by 1.2% quarter-on-quarter in seasonally and calendar adjusted terms but contracted by 1.5% year-on-year. Quarterly growth was largely driven by the services sector, especially the value added from financial and insurance activities, as in the first quarter. In this period, the construction sector's value added continued to contract on a quarterly basis while the industrial sector made a limited contribution to growth. On a year-on-year basis, all sectors except services and agriculture contributed negatively to growth (Charts 4.1.1 and 4.1.2).

**Chart 4.1.1: Contributions to Annual GDP Growth from the Production Side** (% Points)




Sources: CBRT, TURKSTAT.

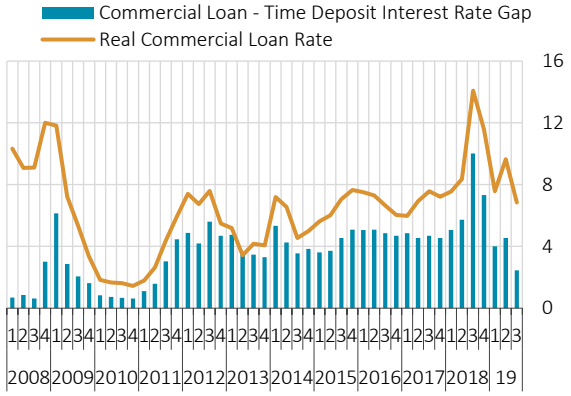
**Chart 4.1.2: Contributions to Quarterly GDP Growth from the Production Side** (Seasonally adjusted, % Points)




Sources: CBRT, TURKSTAT.

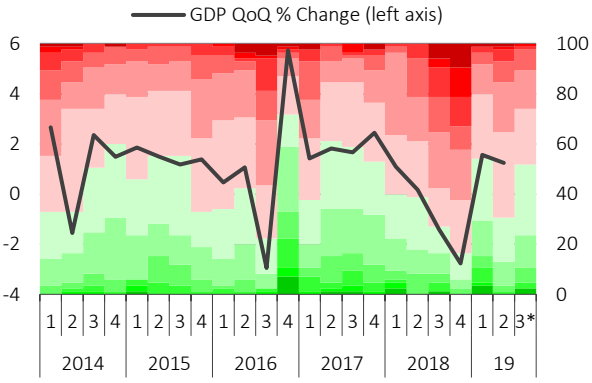
In the third quarter of 2019, real commercial loan rates and the lending-deposit interest rate spread were down from the second quarter while net credit utilization increased (Chart 4.1.3). Fairly improved financial conditions bolstered the rebound in domestic demand in the third quarter. In fact, the heat map generated from numerous monthly indicators indicates that economic activity continued to recover moderately in the third quarter (Chart 4.1.4).

**Chart 4.1.3: Commercial Loan-Deposit Rate Spread and Real Commercial Loan Rate*** (Annual, Simple, %)




Sources: CBRT, TURKSTAT.
* Deflated by 12-month ahead CPI expectations.

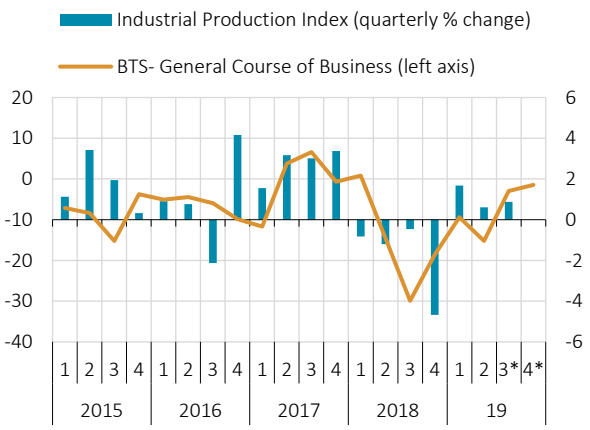
**Chart 4.1.4: Economic Activity Heat Map** and Quarterly GDP Growth**




Source: Details on the methodology and sources of data are given in Box 4.3 in the April 2019 Inflation Report.
* As of 30 October.
**Larger area in green denotes favorable course in a greater portion of the indicators of economic activity.

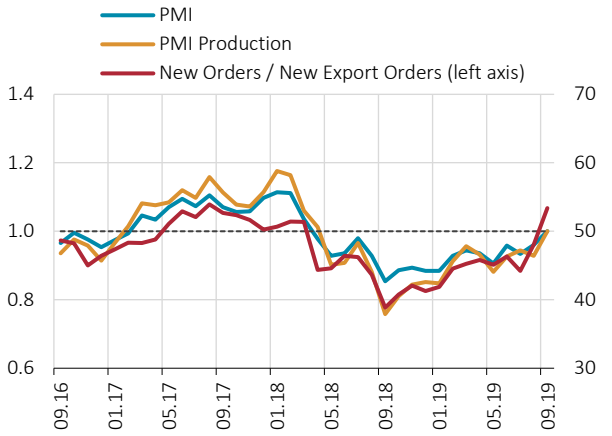
In the third quarter, industrial production fluctuated on a monthly basis due to additional working day losses (bridge day effect) after the Festival of Sacrifice, the generally volatile other transport vehicles sector and factory holiday closures in the automotive sector, but increased by 0.9% quarter-on-quarter. After adjusting for these effects, the underlying trend of industrial production seemed to be stronger in August and continued to recover moderately on a quarterly basis (Box 4.1). Survey indicators for the third quarter also confirm this outlook. The question about the overall economic sentiment in the Business Tendency Survey (BTS) pointed to a more optimistic view, while the PMI data displayed a positive outlook in September, hovering around the threshold level for the first time since March 2018 (Charts 4.1.5 and 4.1.6). Meanwhile, new export orders declined in September but total new orders increased, suggesting a significant improvement in domestic orders for this period. Thus, in light of the technical recovery led by the expiration of August's effects and the positive outlook in leading indicators, industrial production is expected to post another monthly increase in September.

**Chart 4.1.5: Industrial Production Index** (Seasonally adjusted, Quarterly % Change) **and BTS-Overall Sentiment** (Seasonally adjusted, More Optimistic-More Pessimistic)




Sources: CBRT, TURKSTAT
* Industrial production covers the July-August period while the BTS reports for October.

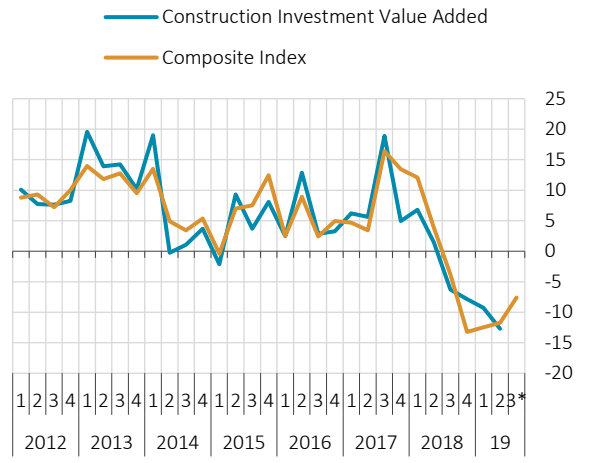
**Chart 4.1.6: PMI and PMI Production** (Seasonally adjusted, Level)




Source: IHS Markit.

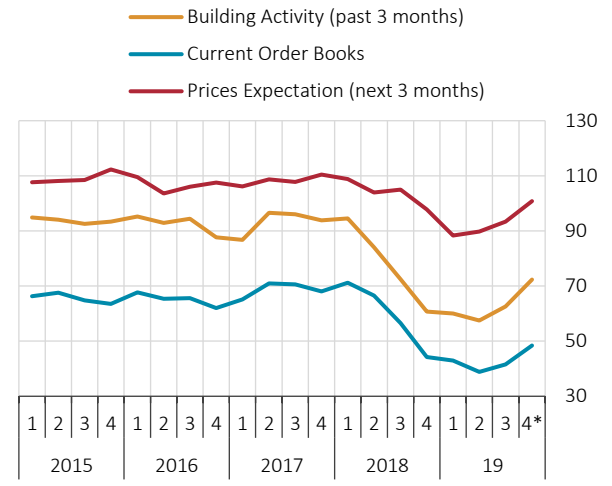
In the second quarter, the construction sector value added continued to contract on a quarterly basis and decreased by 12.7% annually. Along with the composite indicator of construction, developments in construction-related manufacturing sectors indicate that the ongoing quarterly fall in the sector's value added may have paused in the third quarter (Chart 4.1.7). Responses to survey questions of construction confidence index about construction activities and orders in the past three months signaled a turnaround albeit a slow one (Chart 4.1.8).

**Chart 4.1.7: Value Added and Composite Indicator of Construction**** (Annual % Change)




Sources: CBRT, TURKSTAT.
* As of August.
** The composite indicator of construction is measured by the annual percentage change in domestic real turnover in fabricated metals and other non-metallic minerals. Weights obtained from linear regression.

**Chart 4.1.8: Indicators for Construction Confidence Index**** (Seasonally adjusted, Level)

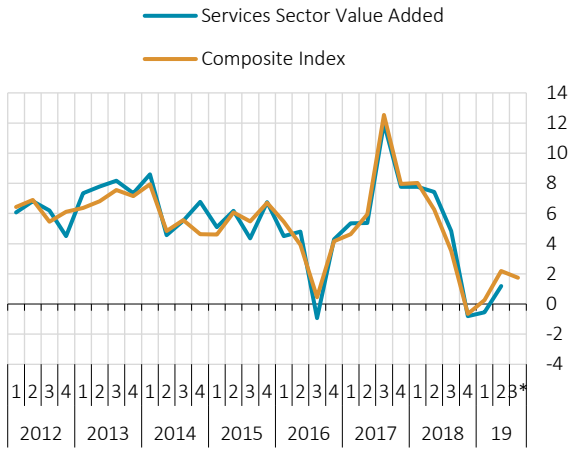



Source: TURKSTAT.
* As of October.
** An index value greater (smaller) than 100 denotes the sector is optimistic (pessimistic) about the current and future period.

The services sector value added increased in both annual and quarterly terms in the second quarter of 2019 (Chart 4.1.9). The quarterly increase in the services value added was mostly driven by financial and insurance activities as well as tourism-related trade, transport and storage, and accommodation and catering sectors. The upbeat tourism industry seems to have continued to prop up the services sector in the third quarter. In fact, the composite indicator for the services sector suggests that the annual increase will be maintained in the third quarter, which is also demonstrated by the services confidence index (Chart 4.1.10).

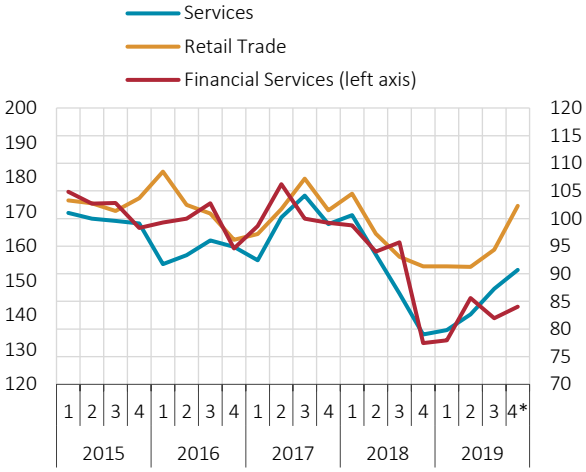
By all indicators, the moderate recovery continued into the third quarter and spread more widely across all sectors. Indicators suggest that the lackluster construction outlook is ongoing while industrial and services sectors show relatively more tangible signs of recovery.

**Chart 4.1.9: Value Added and Composite Indicator of Services**** (Annual % Change)




Sources: CBRT, TURKSTAT.
* As of August.
** The composite indicator of services is measured by the annual percentage change in industrial production, real services exports and non-food retail sales data. Weights obtained from linear regression.

**Chart 4.1.10: Confidence Indices by Sectors** (Seasonally adjusted)

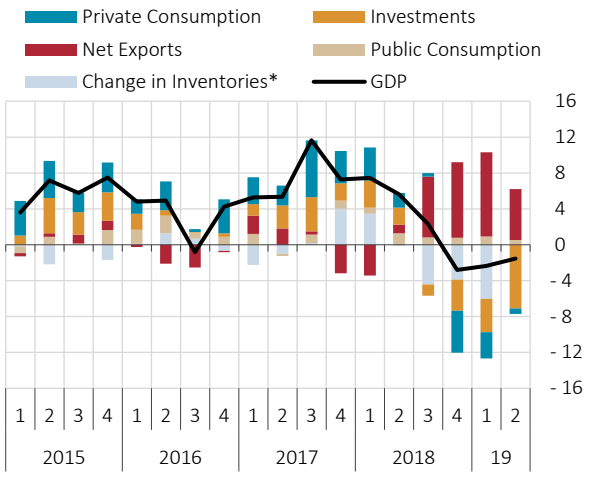



Sources: CBRT, TURKSTAT.
* As of October.

## 4.2 Demand Developments

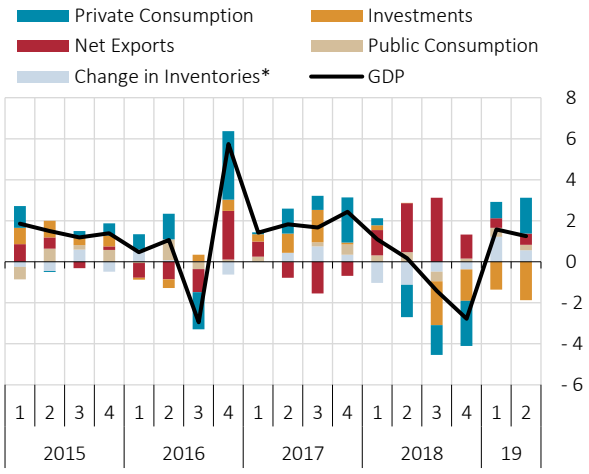
On the expenditures side, the GDP data indicate that there was a wide divergence in the contribution to growth from domestic demand components in the second quarter. Total investments continued to limit quarterly growth through both construction and machinery-equipment investments while private consumption made a substantial contribution to quarterly growth. Continued tax cuts stimulated the demand for durable goods while the ongoing rise in real wages in the second quarter despite high unemployment fueled the demand for nondurable goods. Public spending and net exports also contributed positively to quarterly growth. On a year-on-year basis, the contribution from net exports continued into the second quarter but shrinking investments hindered growth (Charts 4.2.1 and 4.2.2).

**Chart 4.2.1: Contributions to Annual Growth from the Expenditure Side** (% Points)




Sources: CBRT, TURKSTAT.
* Includes inventories and statistical discrepancy due to chain linking.

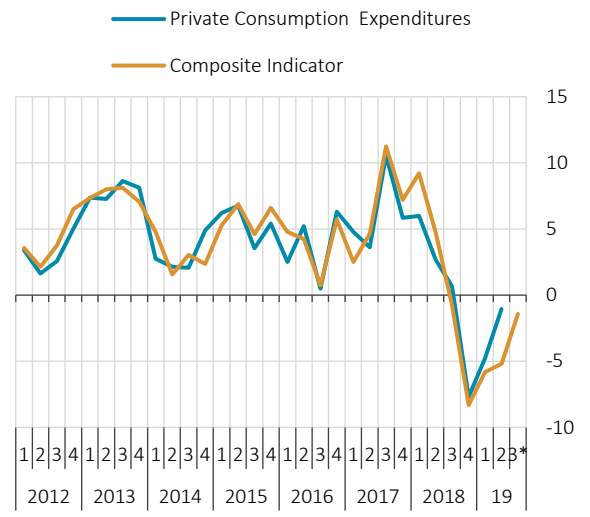
**Chart 4.2.2: Contributions to Quarterly GDP Growth from the Expenditure Side** (% Points)




Sources: CBRT, TURKSTAT.
* Includes inventories and statistical discrepancy due to chain linking.

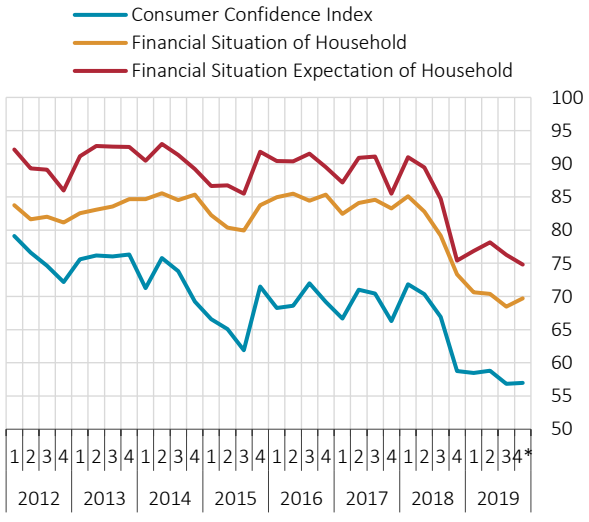
Private consumption expenditures decelerated in the third quarter. The weak labor market outlook and the expiry of tax cuts curb consumption expenditures, while real wage increases and the upturn in bank lending play a stimulating role. In fact, domestic real turnover indices suggest that durable goods sales posted a quarterly decline in the July-August period due to expired tax cuts whereas sales of nondurable goods surged. The composite indicator that provides a unified view of the data pertaining to consumption shows that private consumption expenditures will see a smaller year-on-year contraction in the third quarter (Chart 4.2.3). Nevertheless, the first-half weakening in the consumer confidence index and the perceived financial situation of households persisted in the third quarter, which reflects the dampening effect of the weak labor market on the propensity to consume (Chart 4.2.4).

**Chart 4.2.3: Private Consumption Expenditures and Composite Indicator**** (Annual % Change)




Sources: MTF, CBRT, TURKSTAT.
* As of August.
** The composite indicator is the weighted average of the annual percentage changes in the industrial domestic real turnover in nondurable goods, the import quantity index for consumption goods, tax revenues, and the volume index for non-food retail sales. Weights obtained from regression analyses.

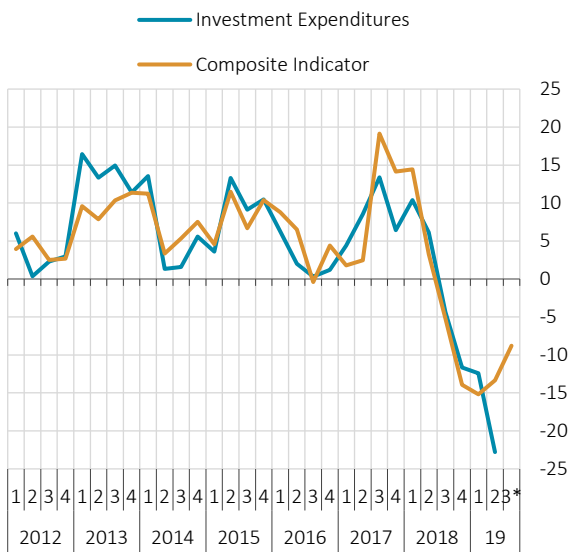
**Chart 4.2.4: Consumer Confidence Index** (Seasonally adjusted, Level)




Source: TURKSTAT.
* As of October.

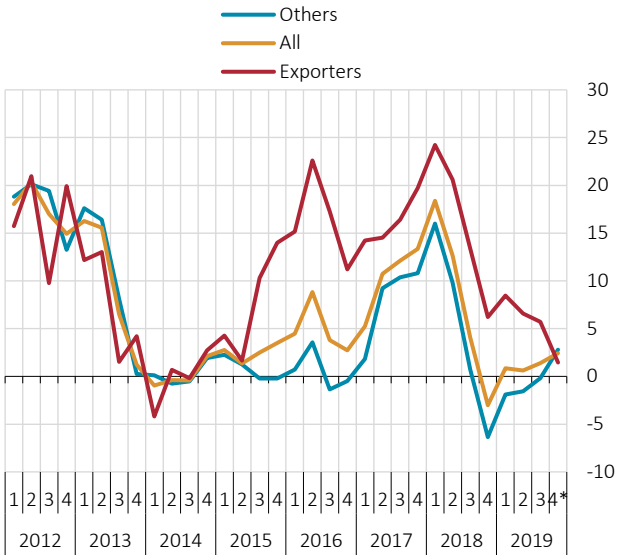
The partial recovery in financial volatility and uncertainties appear to have somewhat supported investment expenditures in the third quarter. In July and August, imports and production of investment goods increased from the second quarter. The sharp rise in public capital expenditures and transfers after the second-quarter fall is another driver of investments. The composite indicator suggests that the annual contraction in investment expenditures will decrease, which corresponds to an increase on a quarterly basis (Chart 4.2.5). In this period, the Business Tendency Survey data for fixed capital investment tendency revealed a limited improvement for non-exporting sectors. Exporting sectors, on the other hand, have a decreasing tendency to invest, albeit still at better levels compared to other sectors (Chart 4.2.6).

**Chart 4.2.5: Investment Expenditures and Composite Indicator**** (Annual % Change)




Sources: CBRT, TURKSTAT.
* As of August.
** The composite indicator is the weighted average of the annual percentage changes in the production of other non-metallic minerals and machinery-equipment, domestic real turnover in capital goods industry, and import quantity index for capital goods. Weights obtained from regression analyses.

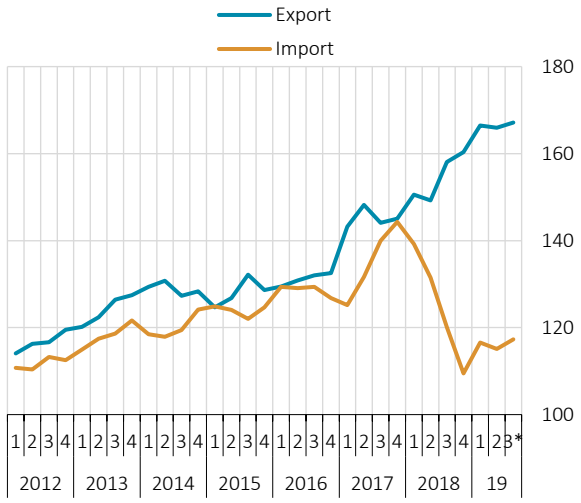
**Chart 4.2.6: Fixed Capital Investment Tendency by Sectors Based on BTS*** (Seasonally adjusted, Up-Down, %)




Source: CBRT.
* As of October.
* Exporting sectors include: apparel manufacturing, manufacturing of electronic and optical components of computers, electrical equipment manufacturing, manufacturing of machinery and equipment not elsewhere classified, and manufacturing of motor vehicles, trailers, semi-trailers and other transport vehicles.

Net exports continued to contribute to annual and quarterly growth in the third quarter, though more modestly than in the previous quarters (Chart 4.2.7). Despite the ongoing slowdown in global growth, particularly in the EU, and the increase in import demand, net exports continue to support growth on the back of competitiveness gains, exporters' market diversification flexibility and robust tourism. Revenues from tourism and other services remained high in this period (Chart 4.2.8). Data for visitors by nationality show that the overall improvement, including visitors from Europe, will help tourism provide further indirect boost to economic activity in the upcoming period through direct and linked subsectors (Box 4.3).

**Chart 4.2.7: Quantity Indices for Exports and Imports** (Non-gold, Seasonally adjusted, 2010=100)



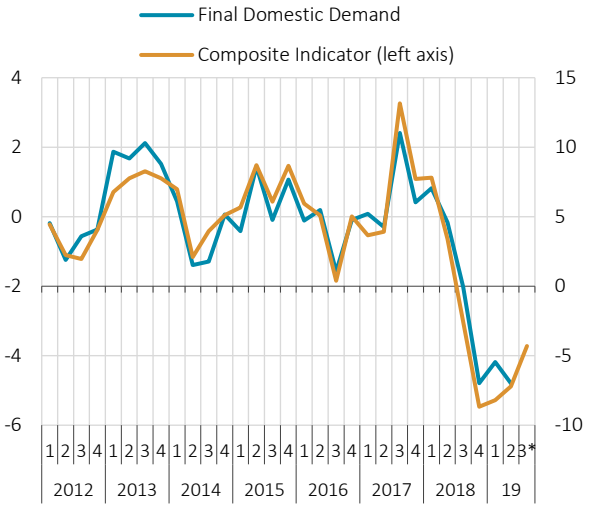

Sources: CBRT, TURKSTAT.
* Actual figures for July and August, forecast for September.

**Chart 4.2.8: Tourism and Services Revenues**** (Real, Seasonally adjusted, 2010=100)


Sources: CBRT, TURKSTAT.
* Actual figures for July and August, forecast for September.
** Deflated by the CPI.

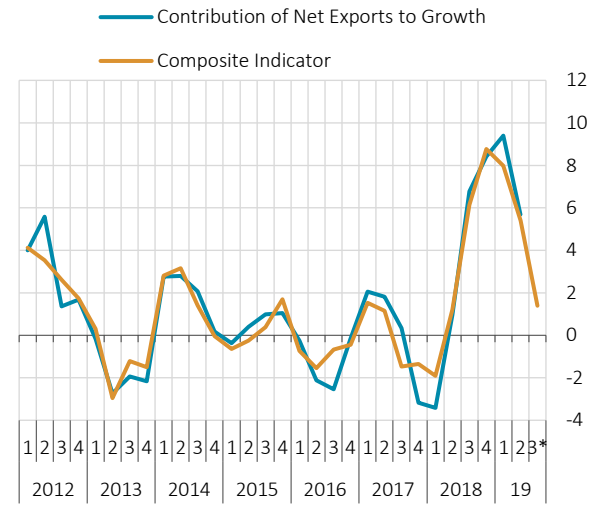
Given all developments in the third quarter, economic activity seems to maintain its moderate upward track. Composite indicators point to an ongoing year-on-year contraction and a quarter-on-quarter increase in final domestic demand (Chart 4.2.9). Net exports are expected to contribute further to annual and quarterly growth, albeit more modestly (Chart 4.2.10).

**Chart 4.2.9: Final Domestic Demand and Composite Indicator**** (Annual % Change)




Sources: MTF, CBRT, TURKSTAT.
* Indicators for output and turnover are as of August and those for taxes and loans are as of September.
** The composite indicator is the principal component of annual percentage changes of 10 different indicators selected among domestic turnover, industrial production, tax revenues and loans.

**Chart 4.2.10: Contribution of Net Exports and Composite Indicator**** (% Points)



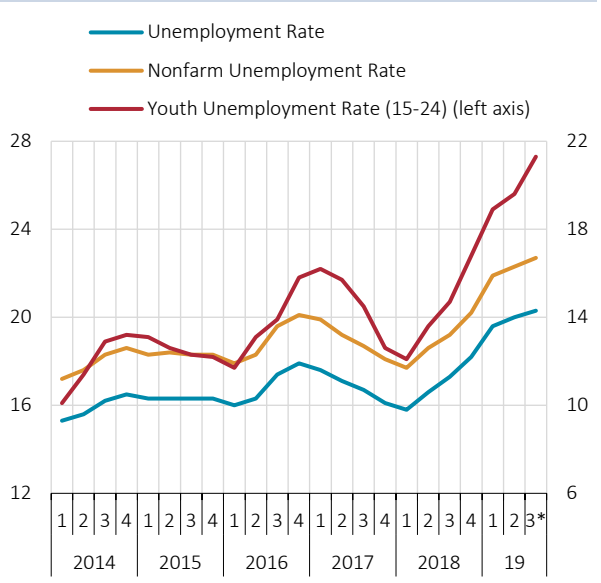

Sources: CBRT, TURKSTAT.
* Actual figures for July and August, forecast for September.
** The composite indicator is generated from data on exports and imports of goods and the number of international passengers. Weights obtained from linear regression.

The moderate economic recovery is likely to continue into the upcoming period. Against this background, disinflationary contribution of aggregate demand conditions are expected to continue. Having improved significantly in recent past due to the growth composition, the current account balance is expected to maintain a moderate course (Box 4.2). On the other hand, due to geopolitical developments and uncertainties over global economic activity, downside risks still loom over growth through capital flows and foreign trade.

## 4.3 Labor Market

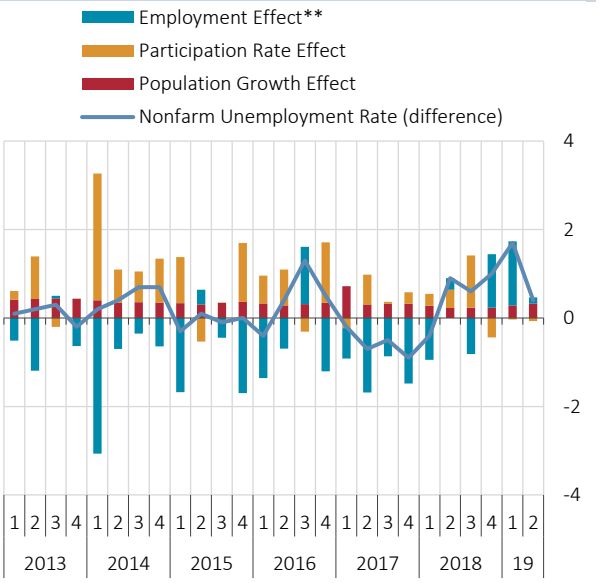
Unemployment continued to rise quarter-on-quarter in the second quarter of 2019 (Chart 4.3.1). While job losses across construction and services sectors were the main driver of this increase, industrial employment was up in this quarter. The weak employment outlook caused unemployment rates to rise further in the July period covering June, July and August (Charts 4.3.1 and 4.3.2). Seasonally adjusted total and nonfarm unemployment rates were up 0.3 and 0.4 points quarter-on-quarter to 14.3% and 16.7%, respectively.

**Chart 4.3.1: Unemployment Rates** (Seasonally adjusted, %)




Source: TURKSTAT.
* As of the July period.

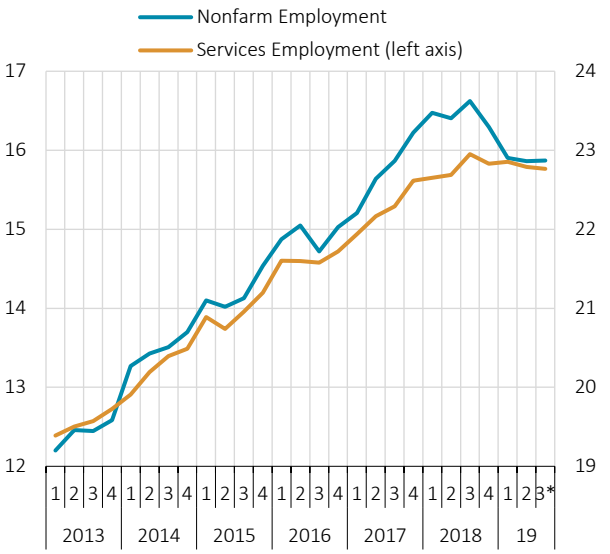
**Chart 4.3.2: Contributions to Quarterly Changes in Nonfarm Unemployment Rate** (Seasonally adjusted, % Points)




Sources: CBRT, TURKSTAT.
*As of the July period.
**Employment growth pulls nonfarm unemployment down.

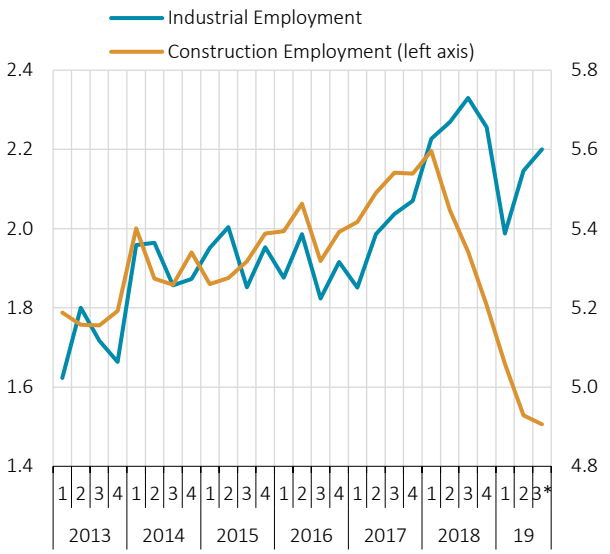
In the second quarter of 2019, seasonally adjusted nonfarm employment was slightly lower than in the previous quarter (Chart 4.3.3). In this period, construction employment remained on a downtrend, services employment posted a small fall, and industrial employment increased (Chart 4.3.4). Despite the high contribution from tourism-related sector of accommodation and catering, services employment was pulled down by domestic demand-sensitive sectors (Chart 4.3.5). Meanwhile, the public sector continued to make a contribution to employment. The stimulus package announced at the end of February may have had a positive effect on the labor market in the second quarter by helping employers to bring forward recruitment decisions for seasonal hires in sectors such as tourism-related ones.

**Chart 4.3.3: Nonfarm and Services Employment**
(Seasonally adjusted, Million people)




Source: TURKSTAT.
* As of the July period.

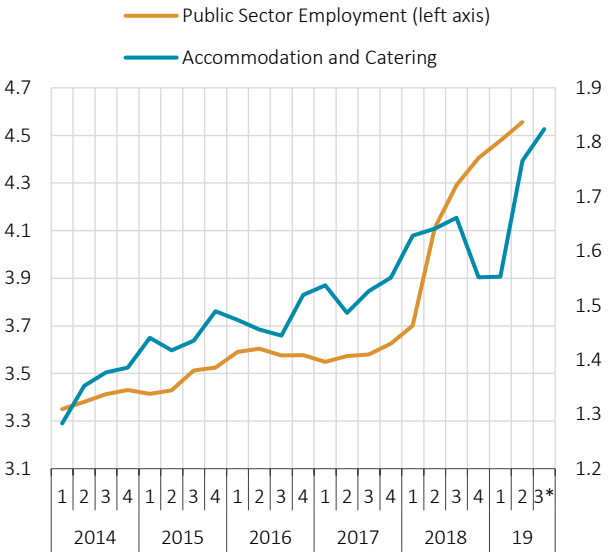
**Chart 4.3.4: Industrial and Construction Employment**
(Seasonally adjusted, Million people)




Source: TURKSTAT.
* As of the July period.

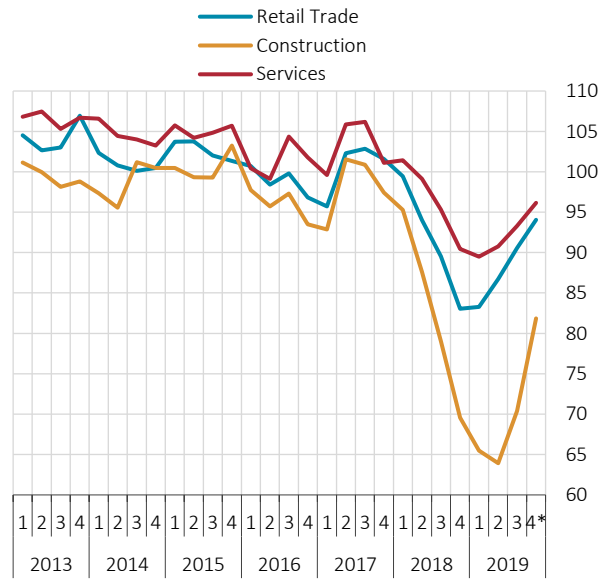
As of the July period, the labor market outlook remains broadly unchanged in the third quarter. Employment continued to increase in the industrial sector but declined in construction and services sectors (Charts 4.3.3 and 4.3.4). Thanks to the strong tourism industry, employment remained on the rise in the accommodation and catering sector (Chart 4.3.5). Meanwhile, employment went down in public sector-related services subsectors but went up in trade-related subsectors.

**Chart 4.3.5: Employment in Selected Services Subsectors ** (Seasonally adjusted, Million people)**




Sources: Presidential Office of Strategy and Budget, TURKSTAT.
*As of the July period.
** Public employment data from the Presidential Office of Strategy and Budget, accommodation and catering employment data from the Household Labor Force Survey..

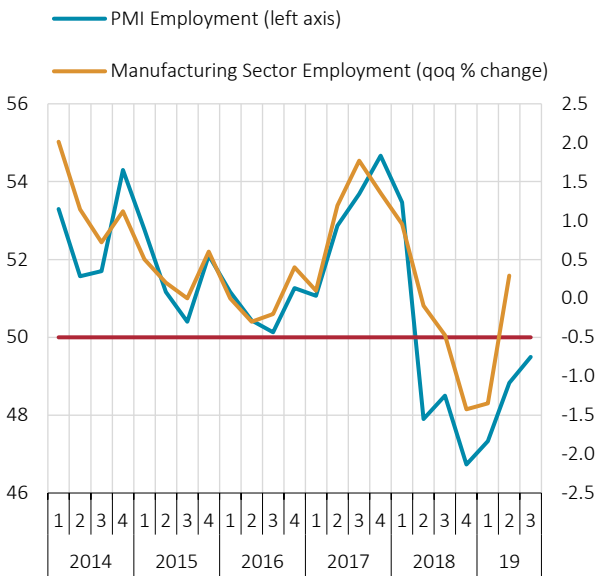
**Chart 4.3.6: Three-Month Ahead Employment Expectation by Sectors** (Seasonally adjusted, Level)




Source: TURKSTAT.
* As of October.

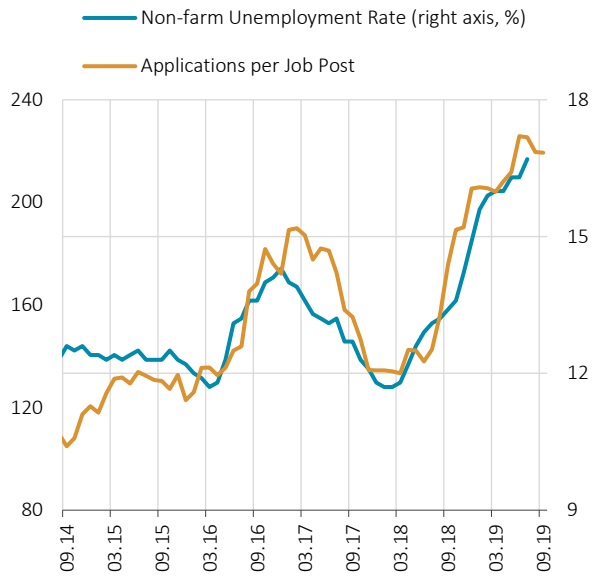
According to leading indicators, employment expectations were slightly more upbeat in the third quarter, including construction employment (Chart 4.3.6). PMI indicators point to another increase for industrial employment in the third quarter (Chart 4.3.7). The third-quarter growth in industrial production also supports industrial employment. However, the rising number of applications per job posting on Kariyer.net, which is on par with the nonfarm unemployment rate, suggests that unemployment will remain high for some time (Chart 4.3.8).

**Chart 4.3.7: PMI-Employment and Manufacturing Industry Employment** (Seasonally adjusted)




Sources: IHS Markit, CBRT, TURKSTAT Industrial Labor Input Indices.

**Chart 4.3.8: Applications per Job Posting and Nonfarm Unemployment*** (Seasonally adjusted)



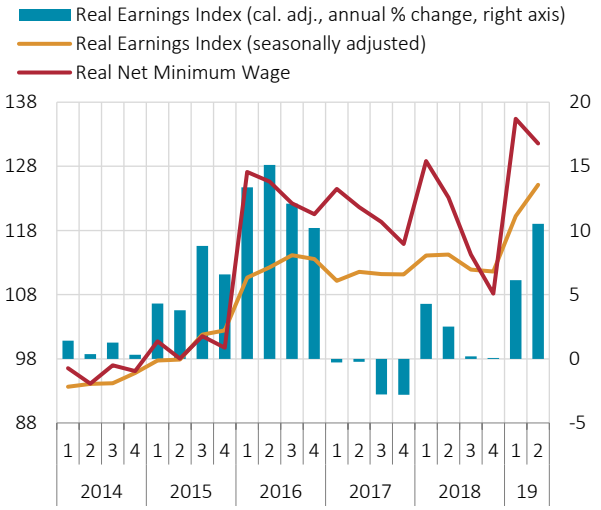

Sources: Kariyer.net, CBRT, TURKSTAT.
* Kariyer.net data as of September and unemployment as of the July period.

## 4.4 Wages and Productivity

Average hourly wages faced significant upward pressure in the first quarter from the minimum wage raise of 26% in 2019, and remained on the rise in real terms in the second quarter (Chart 4.4.1). During periods of high labor mobility, such as the current period, significant changes occur in sector and employment compositions, which is reflected in average wages. Therefore, wage increases in this period of high unemployment and weak domestic demand seem more likely to have been caused by the lagged effects of the minimum wage increase, indexation to past inflation and composition changes rather than demand pressure.

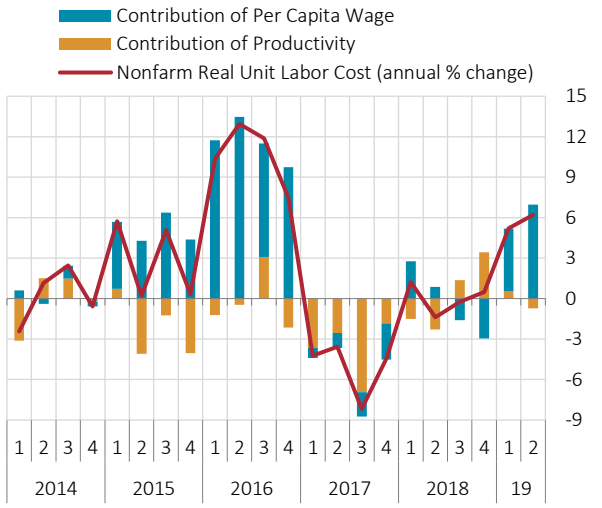
Having fallen below its trend with the slowdown in economic activity, labor productivity is still lower than its trend value for many sectors, but rose back to its year ago level for the overall nonfarm sector due, in part, to production and employment adjustments. While labor productivity is limiting the increase in unit wages, the increase in average wages pushes unit wages upwards, pointing to labor cost pressures on firm profitability and prices (Chart 4.4.2).

**Chart 4.4.1: Nonfarm Hourly Earnings Index and Minimum Wage** (Seasonally adjusted, 2015=100)*




Sources: MLSS, CBRT, TURKSTAT.
* Deflated by the CPI.

**Chart 4.4.2: Contribution to Changes in Nonfarm Real Unit Labor Cost** (Real, Annual % Change)*



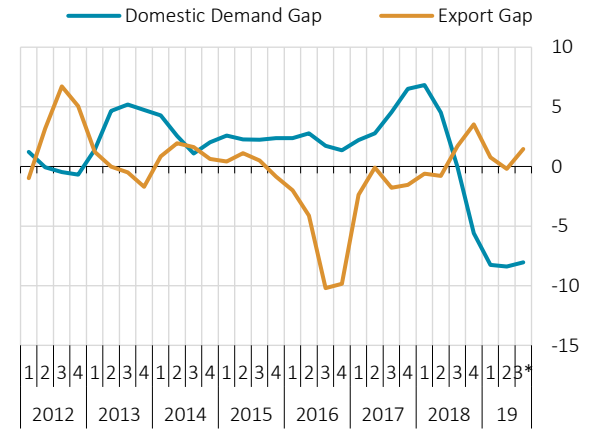

Sources: CBRT, TURKSTAT.
* Labor productivity is value added per worker. Wage is per capita wage. Deflated by the CPI.

## 4.5 Output Gap

Monitored to assess the cycles in economic activity and the demand-driven pressures on inflation, the output gap is a measure of the percentage deviation of output from its potential level (with no inflation pressure). In terms of internal balance, potential output refers to an output level that does not create additional pressure on inflation with the efficient use of factors of production. In terms of external balance, it is the output level that help sustain the current account balance, external financing and financial stability. Thus, it is important to analyze the output gap by separating demand components.

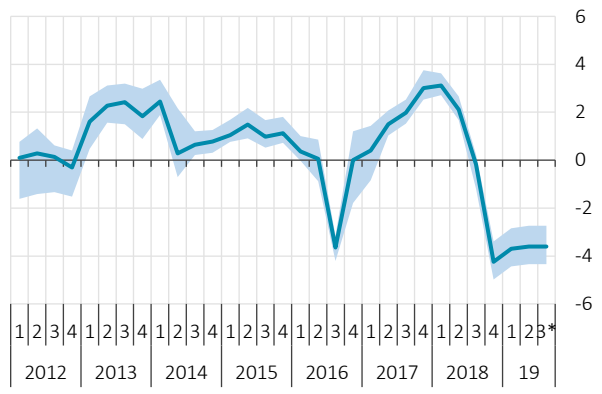
Based on the breakdown of the output gap by demand components, it is estimated that exports remained above their long-term trend in the third quarter of 2019. On the other hand, domestic demand is still recovering at a moderate pace and is significantly below its trend value (Chart 4.5.1). The output gap band generated from various indicators indicates that aggregate demand conditions continue to contribute to disinflation (Chart 4.5.2).

**Chart 4.5.1: Breakdown of Output Gap by Demand Components****




Source: CBRT calculations.
* Constructed with third-quarter forecasts.
**Output gap series constructed from demand components (See Inflation Report 2018-III Box 4.1).

**Chart 4.5.2: Output Gap Indicators** (Average and Min/Max Band)




Source: CBRT calculations.
* Constructed with third-quarter forecasts.

# Box 4.1

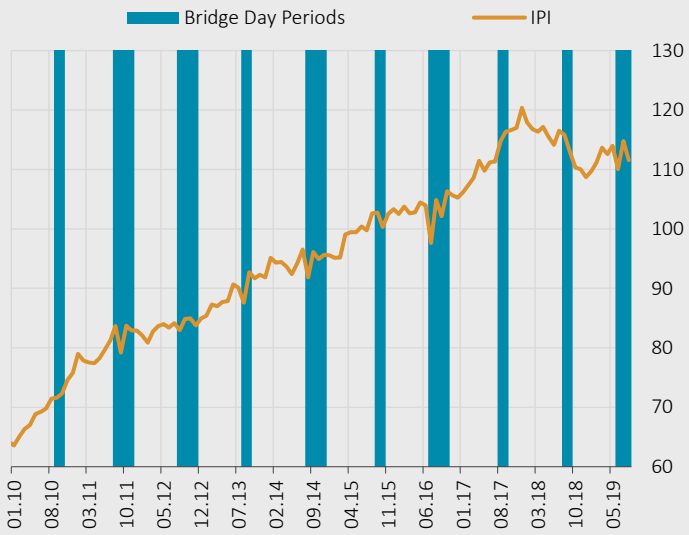
## Effect of Bridge Days on Economic Activity

This box analyses the effects of additional working day losses stemming from extending official holidays that fall within a week to weekend, which is called bridge days, on the economic activity for GDP and industrial production data for the June-August 2019 period.

Yüncüler (2015) and Yüncüler (2017) found that bridge days have statistically significant effects on industrial production and GDP in Turkey, with stronger effects if the bridge days are in summer. Because bridge days are not regarded as calendar effects by standard seasonal and calendar adjustment methods, the seasonally and calendar adjusted series display a volatile course in the months (quarters) with bridge days and the following month (quarter). Therefore, when assessing the underlying trend in economic activity, technical fluctuations due to bridge day effects should also be excluded.

In June-August 2019, seasonally and calendar-adjusted industrial production followed a volatile course on a monthly basis. While production decreased by 3.5% and 2.8% in June and August, increased by 4.3% in July month-on-month. This volatility is estimated to have stemmed largely from the bridge day effect resulting from extending the holiday to the weekend in June and August. In fact, historical data show that industrial production may follow a volatile course during periods with bridge days related to religious holidays (Chart 1). In June 2019, the Ramadan Holiday was extended to 9 days with a Presidential decision, while the Sacrifice Holiday in August ended on Wednesday, August 14. In this regard, the 2.5 working days during the extended Ramadan Holiday and 3 working days after the Sacrifice Holiday can be considered as bridge days in June and August.[1]

**Chart 1. Industrial Production Index** (Seasonally and Calendar Adjusted, 2015=100) **and Bridge Day Periods**



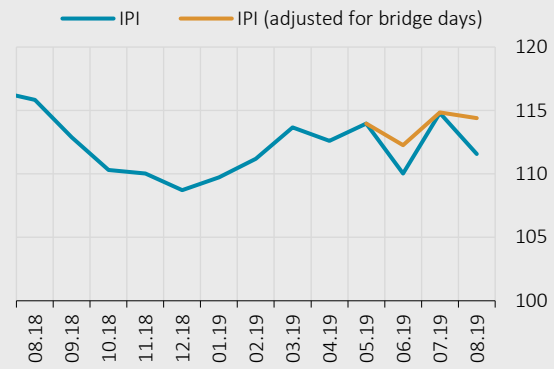

* The shaded areas show bridge day periods related to Ramadan and Sacrifice Holidays.

[1] National days, religious festivals and Sundays are not qualified as working days in Turkey. For more detailed information on the calculation of calendar variables in Turkey, see Atabek et al. (2007).

Econometric analysis[2] conducted to quantify the effects of working days and bridge days on industrial production reveals that one working day affects industrial production at around 2.8%. Moreover, on the bridge days during summer holiday season, it is estimated that production is approximately 30% lower than a normal working day. Thus, it is estimated that one bridge day reduces industrial production by 0.8 points. It should be noted that these coefficients are historically average values and that the actual effect may have been lower or higher than the assumed effect.

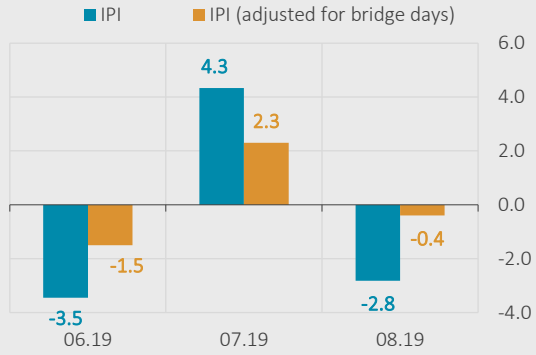
According to estimated coefficients, the decreasing effect of bridge days on the monthly changes in industrial production in June and August are estimated to have been approximately 2.0 points and 2.4 points, respectively. Therefore, the seasonally and calendar-adjusted industrial production excluding bridge day effect is less volatile and the underlying trend is more moderate than the published values (Charts 2 and 4). As a matter of fact, quarterly changes of the series excluding bridge day effect in the second quarter and in the third quarter as of August are higher than the quarterly changes of the published series (Charts 3 and 5). It should be noted that the partial volatility observed in industrial production after excluding the bridge day effect was largely due to the volatile course of the manufacture of other transport equipment

**Chart 2: Industrial Production Index** (Seasonally and Calendar Adjusted, 2015=100)



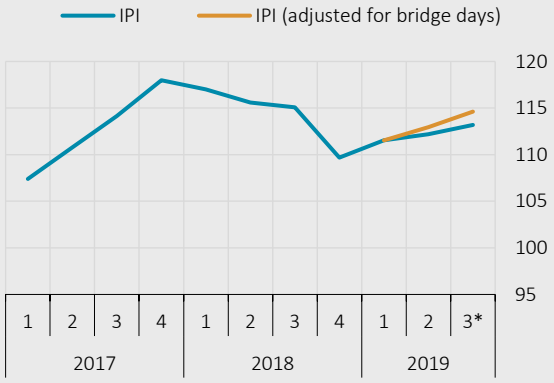

Source: CBRT, TURKSTAT.

**Chart 3: Industrial Production Index** (Seasonally and Calendar Adjusted, Monthly % Change)




Source: CBRT, TURKSTAT.

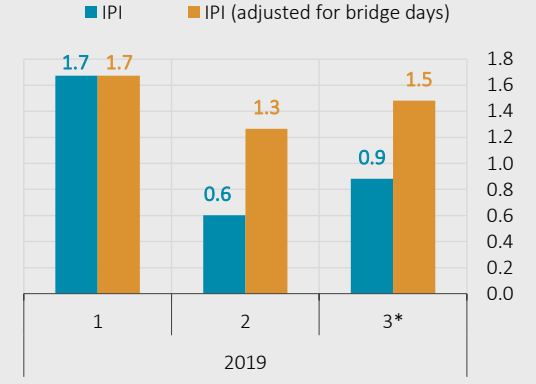
**Chart 4: Industrial Production Index** (Seasonally and Calendar Adjusted)




Source: CBRT, TURKSTAT.

* As of August.

**Chart 5: Industrial Production Index** (Seasonally and Calendar Adjusted, Quarterly % Change)




Source: CBRT, TURKSTAT.

* As of August.

Bridge days also affect the GDP. According to Yüncüler (2017), one additional working day

[2] The econometric analysis is based on the methodology of Yüncüler (2015). The regressions are estimated for the period January 1997-December 2018.

affects GDP by 0.4 points. Assuming that the loss of value added on bridge days is similar to that of industrial production compared to a normal working day, the impact of one bridge day on GDP is calculated as approximately 0.13 points. Therefore, the bridge day effect is estimated approximately 0.3 points in the second quarter and 0.4 points in the third quarter. Accordingly, adjusted for the bridge day effect, the quarterly change of GDP is stronger than the published rate, around 1.5 %, which is almost at the same level as the first quarter.

In light of these bridge day effects, in September, industrial production may post a strong increase due to the base effect of bridge days. On the GDP side, the bridge day effect is expected to restrain economic activity in the third quarter and create a positive base effect on seasonally and calendar-adjusted GDP in the fourth quarter. Against this background, it is important to consider bridge day-adjusted values while evaluating the underlying trend in industrial production in September and GDP in the second half.

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Yüncüler, Ç. (2015), Estimating the Bridging Day Effect on Turkish Industrial Production, CBRT Research Notes in Economics, No: 15/15.

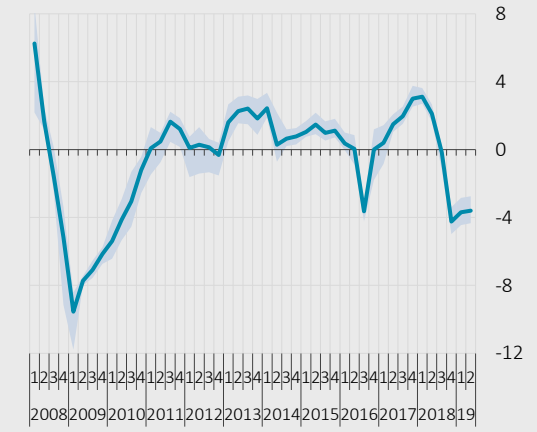
Yüncüler, Ç. (2017), To What Extent Do Working Days Affect Growth? CBRT Blog, http://tcmbblog.org/wps/wcm/connect/blog/en/main+menu/analyses/to_what_extent_do_working_days_affect_growth

# Box 4.2

## Cyclically Adjusted Current Account Balance

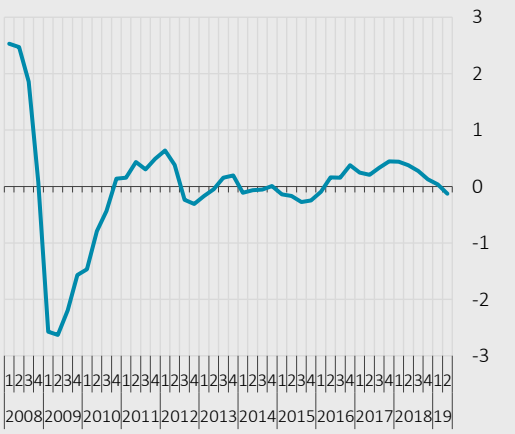
Current account balance has shown a rapid improvement with the rebalancing process that started in the second half of 2018 and posted a yearly surplus in June 2019 for the first time in many years.[1] On the other hand, the mild recovery in economic activity which started in the first half of 2019 and the expectations that the recovery would continue gradually backed by increased support from domestic demand have caused debates regarding the course of the current account balance. In this framework, this box aims to calculate the current account balance adjusted for both domestic and foreign cycles for the 2003-2019 and to suggest a framework that will contribute to evaluating the components and sustainability of the improvement in the external balance.

Chart 1: Domestic Output Gap (%)




Source: CBRT.

Chart 2: Export-Weighted Global Demand Gap (%)




Sources: CBRT, authors' calculations.

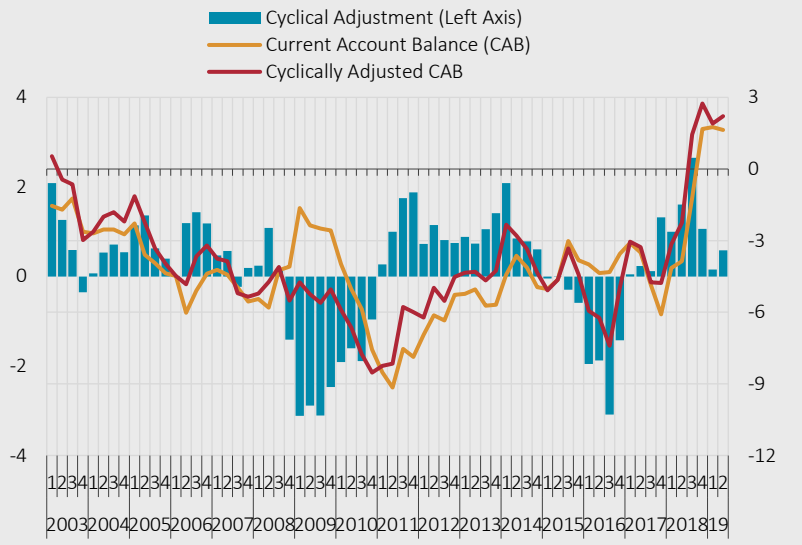
The cyclically adjusted current account balance provides information about where the current account level would have been under a hypothetical situation in which the economic activity maintains its long-term trend. Therefore, the cyclical repercussions of domestic or global expansion/recession periods on the current account balance can be assessed quantitatively. Cyclical adjustment is done separately for the two major components of the current account balance, namely goods and services trade. For the adjustment procedure, the long-term stationary behavioral relationships between the import quantity and the domestic income, and the export quantity and the foreign (Turkey's export markets) income are used.[2] While estimating the long term relationships and adjusting the cyclical effects, unprocessed gold trade is ruled out due to its volatile feature. While an output gap series (Chart 1), which is derived from various indicators that are followed by the CBRT, is used in order to determine the domestic business cycles, the global output gap is obtained from the export-weighted global demand index by using the Fully Modified Hodrick-Prescott (FMHP) filter (Chart 2).[3] According to these charts, the domestic GDP is positioned well below its long run trend in the second half of 2018 and in 2019. While the export-weighted global growth index moved above its trend in 2018, it converged to its trend in the first half of 2019.

[1] The current account balance posted an approximately USD 0.5 billion surplus annually for the last time in November 2002, and followed a path below the zero level until June 2019 when it posted a surplus of approximately USD 1.1 billion.

[2] For technical details regarding the methodology, see Eren and Tüzün (2019) paper.

[3] Export-weighted global demand index covers 110 countries and has an export coverage ratio above 90% (Eren and Yavuz, 2019). The FMHP filter is introduced by Hanif et. al. (2014) and it is another version of the frequently referred to as Hodrick-Prescott (HP) filter for long term trend calculations such that at the FMHP filter the smoothing parameter is calculated endogenously and the end-point bias is resolved to a large extent.

Chart 3: Price and Business Cycles Adjusted Current Account Balance
(Excluding Gold, % GDP)



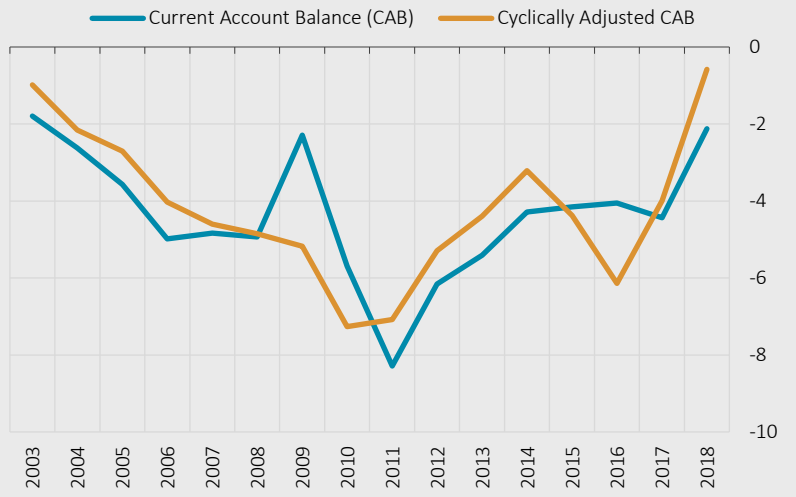

Sources: CBRT, TURKSTAT, authors' calculations.

In addition to business cycles, the long-term trends of the price series of the goods and services trade are also calculated and adjusted nominal figures are obtained by using these series[4]. Cyclically adjusted current account balance series[5] (as a ratio to GDP) is demonstrated at Chart 3. According to the chart, the overall cyclical adjustment that takes into account both price and business cycles has a considerable impact on the Turkish current account balance. During the analysis period, the magnitude of the cyclical adjustment varies between -3.1 and 2.7 with positive values indicating cyclical deteriorations in the current account balance and negative values being associated with cyclical improvements. There are only three periods when the current account balance (excluding gold) posted a surplus: the last quarter of 2018 and the first two quarters of 2019. The current account balance excluding gold has improved by around 5.5 points as a ratio to GDP since mid-2018. Adjusted for cyclical factors, this improvement becomes 4.5 points. This shows that although the cyclical effects have a significant role on the observed improvement in the current account balance, the bulk of the improvement comes from noncyclical developments with the real exchange rate adjustment being in the first place.

[4] Besides the (global and domestic) business cycles impact on export and import prices, the real exchange rate also exerts an influence, especially on the export prices. During the adjustment process of foreign trade prices, both impacts are taken into account.

[5] Both business and price cycles adjusted current account balance is found by summing the cyclically adjusted foreign trade (excluding gold) plus services trade balance and unadjusted current transfers.

Chart 4: Price and Business Cycles Adjusted Current Account Balance
(Excluding Gold, % GDP)




Source: CBRT, TURKSTAT, authors' calculations.

In order to depict the cyclical effects at a lower frequency, both the headline and the cyclically adjusted current account balances are drawn annually in Chart 4. It is evident from the figure that the cyclical adjustment reached its highest level in 2009 when the impact of the global financial crisis was experienced most severely. The cyclical improvement due to the prices being positioned below their long-term trend during the 2014-2017 period when the oil prices faced a downward trend, can be seen from the chart. Since business cycles affected the current account balance negatively in the first half and positively in the second half, the business cycle-driven adjustment remained limited in 2018, while the price cycle adjustment was significant and positive.

In conclusion, the fact that the current account balance, even adjusted for cyclical factors, has positioned above its historical average indicates that the recent improvement results from noncyclical developments, the adjustment in the real exchange rate in particular. Moreover, since the real exchange rate is expected to move in favor of the rebalancing in the upcoming period, it is anticipated that the expected recovery in domestic demand will not cause a rapid deterioration in the current account balance despite its partial stimulating impact on imports.

## References

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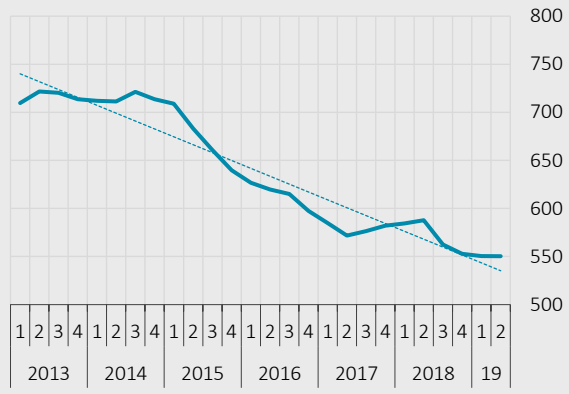
# Box 4.3

## Average Travel Expenditures per Visitor: Developments in Nominal and Real Terms

Average travel expenditures of foreign visitors and Turkish citizens residing abroad per visitor are analyzed in this box relying on the data on travel incomes published under the CBRT's Balance of Payments Statistics. The data cover the 2013-2019 period at a quarterly frequency. Average travel expenditures per visitor are obtained by dividing total travel expenditures by total number of visitors.[1]

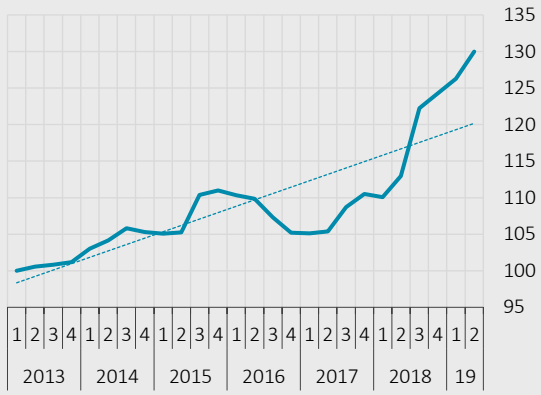
The decline in average travel expenditures since the start of 2015 raises the question of the reasons for this outcome. In order to be able to answer this question to a certain extent, an index is created by using the CPI and the USD/TL exchange rate, which shows the development of real travel expenditures per visitor over time (Eren and Oral Çevirmez, 2019).

**Chart 1: Nominal Average Expenditures per Visitor**
(US Dollars, Annualized)*




Source: CBRT, TURKSTAT.
* Covers foreign visitors and Turkish citizens residing abroad.

**Chart 2: Real Average Expenditures per Visitor**
(Index, Annualized, 2013Q1=100)*



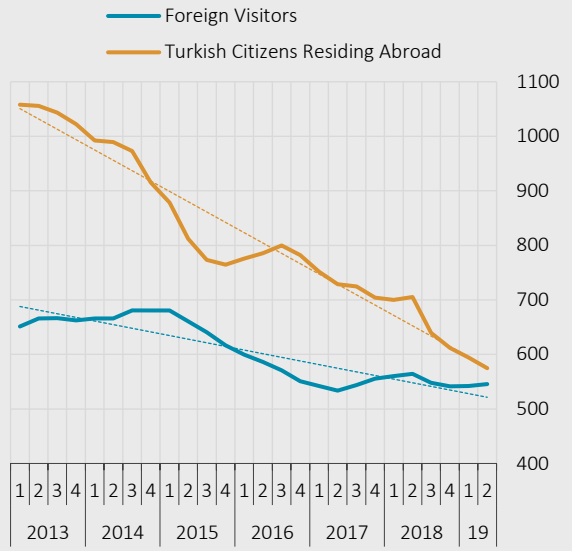

Source: CBRT, TURKSTAT.
* Covers foreign visitors and Turkish citizens residing abroad.

Annual nominal average travel expenditures per visitor decreased by around 24% from USD 720 to USD 550 in the analysis period (Chart 1). On the other hand, real average travel expenditures increased by 30% in the same period (Chart 2). This indicates that the decrease in nominal expenditures per visitor is mainly due to the real exchange rate adjustment in the relevant period. As a matter of fact, the Turkish lira depreciated against the US dollar by 230%, consumer prices increased by 89.4%, and the CPI-based real exchange rate decreased by 36.6% in the sample period. Due to the depreciation of the Turkish lira, foreign visitors were able to purchase goods and services in higher quantity with a lower nominal expenditure per visitor.

An analysis of nominal average expenditures per visitor is also made in terms of the Turkish citizens residing abroad and foreign visitors. The decline in the expenditures of both groups is noteworthy, while the decrease in the first group is sharper (Chart 3). The most noteworthy decrease in average expenditures per foreign visitor was between the first quarter of 2015 and the second quarter of 2017. Notwithstanding a partial recovery in the succeeding periods, the trend remained downward.

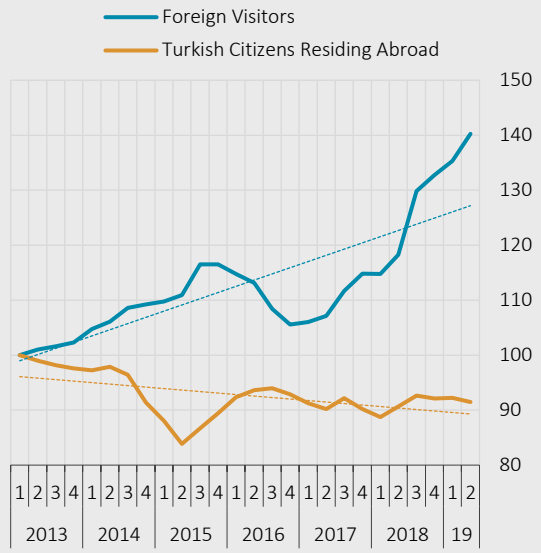
[1] Similarly, Erkılıç and Şenoğlu (2019) have calculated and presented average travel expenditures per visitor in nominal figures.

Chart 3: Nominal Average Expenditures per Visitor
(US Dollars, Annualized)




Source: CBRT, TURKSTAT.

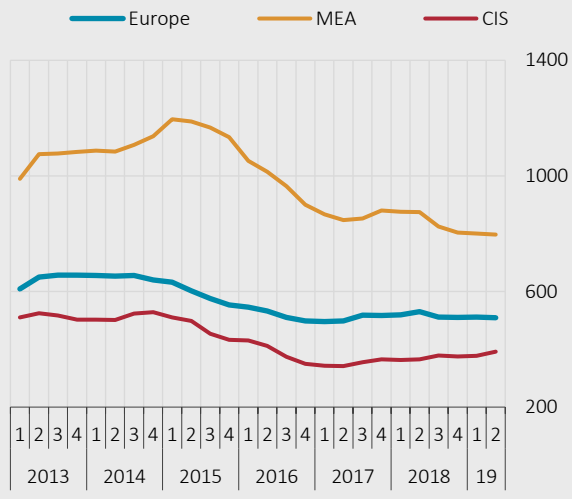
Chart 4: Real Average Expenditures per Visitor
(Index, Annualized, 2013Q1=100)




Source: CBRT, TURKSTAT.

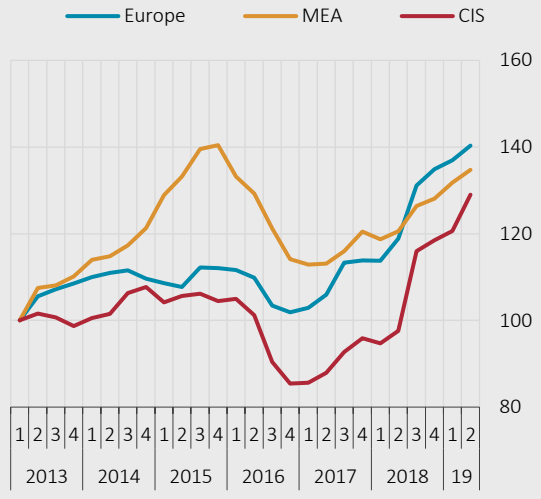
On the other hand, despite a slight fall in 2016, real average expenditures per foreign visitor posted an overall uptick, while the real expenditures per non-resident Turkish citizens decreased slightly (Chart 4). Unlike foreign visitors, one of the reasons for the decrease in the real average expenditures per non-resident Turkish citizens is that –not all but a considerable number of these visitors– may be more affected by price changes in the Turkish lira when deciding on their spending. However, it should be noted that the share of foreign visitors in total travel expenditures is around 80% in the analysis period.

Chart 5: Nominal Average Expenditures per Visitor
(US Dollars, Annualized)




Source: CBRT, TURKSTAT.

Chart 6: Real Average Expenditures per Visitor
(Index, Annualized, 2013Q1=100)




Source: CBRT, TURKSTAT.

Foreigners come to visiting Turkey mostly from Europe, the Commonwealth of Independent States (CIS) and the Middle East and Africa (MEA). A regional breakdown of the average nominal and real expenditures of foreign visitors per visitor is presented in Charts 5 & 6. Among the foreign visitors, those from the MEA, Europe and CIS countries have the highest nominal average

expenditures, respectively (Chart 5). In the second quarter of 2019, the nominal average expenditures per foreign visitor from Europe, MEA, and CIS countries decreased by 16%, 19% and 23% compared to the start of the sample period, in that order. On the other hand, real average expenditures of all these three country groups decreased significantly in 2016 and then they assumed an upward trend in the following periods (Chart 6).

To sum up, the decline in USD-denominated prices led by the depreciation in the Turkish lira raised the foreign visitors' real average expenditures. However, the increase in real average expenditures remained behind the decline in prices, resulting in a decline in nominal average expenditures per visitor. The upsurge in the number of foreign visitors and the rise in real expenditures per visitor have recently kept the positive contribution of tourism to economic activity strong through direct and related sectors of tourism. Furthermore, if the number of foreign visitors from Europe and MEA, which accounts for a significant portion of tourists visiting Turkey, grows faster than others, total expenditures will increase in the forthcoming period not only in real but also in nominal terms.

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