

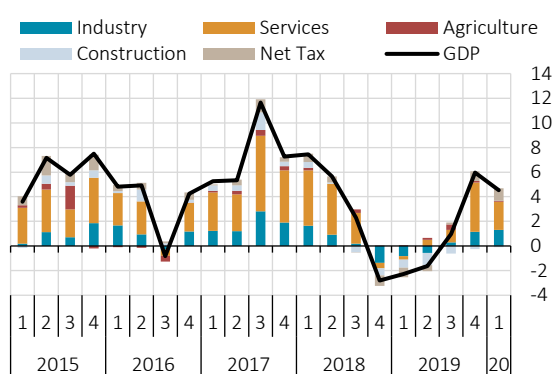
## 4. Supply and Demand Developments

In the first quarter of 2020, economic activity continued to grow on the back of the strong course in the January-February period. The slowdown in economic activity that was driven by the pandemic since mid-March became more pronounced and spread across sectors in April due to increased measures. Economic recovery, which started in May following the gradual steps towards normalization, is gaining pace. Recent monetary and fiscal measures contribute to financial stability and economic recovery by supporting the potential output of the economy. Accordingly, assuming that there will be no second wave of the pandemic, the economy will likely continue to recover in the second half of the year, but the pace of recovery will depend on the course of normalization both in Turkey and abroad.

### 4.1 Supply Developments

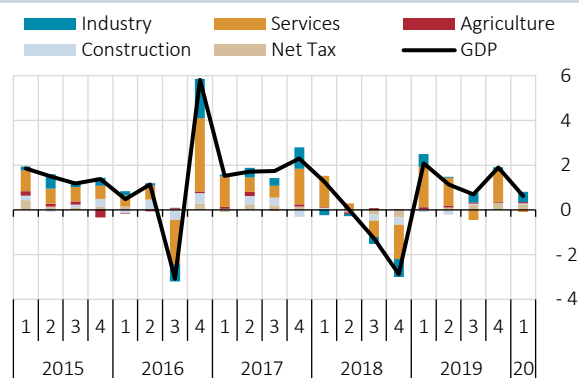
In the first quarter of 2020, GDP increased by 4.5% year-on-year and by 0.6% quarter-on-quarter. The impact of the pandemic on economic activity became more evident in March and curbed growth. Annual growth was supported by all main sectors except the construction sector (Chart 4.1.1). While the industrial sector was the main driver of quarterly growth, the value-added decreased in services sectors that were intensely affected by the pandemic, in particular wholesale-retail trade, transport-storage, and accommodation-catering services (Chart 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)**



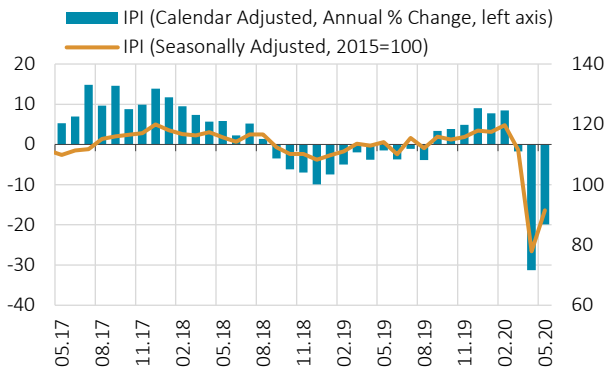
Sources: CBRT, TURKSTAT.

In the second quarter, the restraining effect of the pandemic on economic activity became more apparent starting from April (Box 4.2). As of early May, partial normalization steps triggered a recovery from the trough in the economy, and economic recovery further strengthened in June. Despite the recovery in the May-June period, economic activity is expected to decelerate significantly in the second quarter due to the weak course in April.

The economic slowdown spread across sectors in the second quarter. The Industrial Production Index (IPI) and sectoral turnover indices started to recover in May following the decline in April (Charts 4.1.3 and 4.1.4). However, the fact that the contraction in the March-April period was partially compensated for indicates that the activity remained weak in May. The outlook is comparatively weaker in main exporting sectors such as clothing, textiles, leather, motor vehicles and electrical equipment on the industry side due to weakened export opportunities across all regions, and in sectors on the services side whose activities were negatively affected by the pandemic (such as wholesale-retail trade, transport, accommodation-catering, travel, etc.).

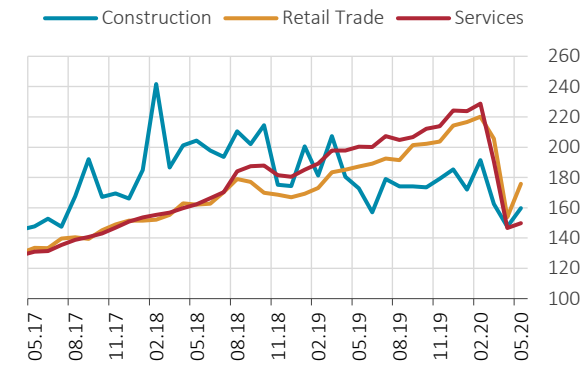
Survey indicators such as the PMI, BTS and sectoral confidence indices as well as high-frequency data suggest that the recovery in economic activity strengthened in June following the expansion of normalization steps (Box 4.1). In that period, survey indicators registered a more visible improvement compared to advanced and emerging economies. The improvement in high-frequency indicators continued in July, which indicates that the recovery was sustained into the third quarter.

Chart 4.1.3: Industrial Production Index



Source: TURKSTAT

Chart 4.1.4: Sectoral Turnover Indices (Seasonally Adjusted, 2015=100)

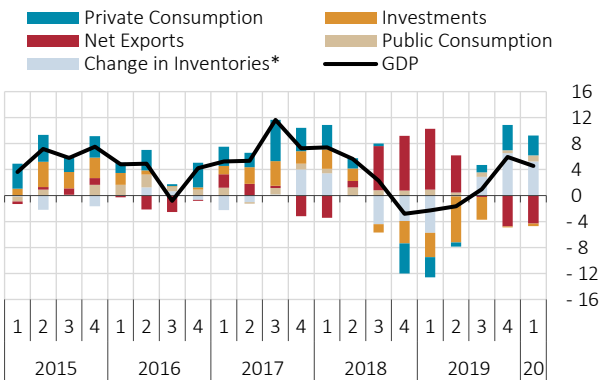


Source: TURKSTAT.

## 4.2 Demand Developments

On the expenditures side, the quarterly GDP growth was mainly driven by final domestic demand in the first quarter of 2020, underpinned by the improvement in financial conditions and the acceleration in credits. In this period, private consumption continued to increase while public consumption bolstered growth. Despite the fall in construction investments, the rise in machinery-equipment investments helped boost total investment in quarterly terms though they remained weak in terms of level. While exports of goods and services declined due to the pandemic-led contraction in external demand and deceleration in tourism activity, imports were relatively strong on the back of domestic demand. Accordingly, net exports negatively contributed to annual growth (Charts 4.2.1 and 4.2.2).

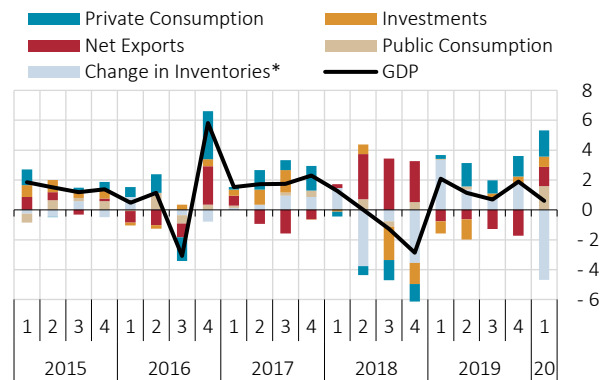
Chart 4.2.1: Contributions to Annual Growth from the Expenditure Side (% Points)



Sources: CBRT, TURKSTAT.

\* Includes inventories and statistical discrepancy due to chain linking.

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



Sources: CBRT, TURKSTAT.

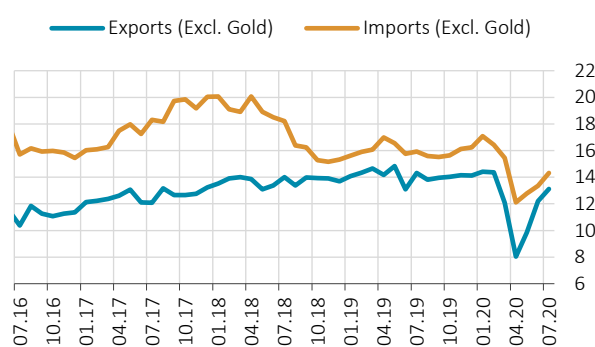
\* Includes inventories and statistical discrepancy due to chain linking.

Business closures and movement restrictions driven by the pandemic measures as well as heightened uncertainties significantly weakened domestic demand in the second quarter. However, the lifting of movement restrictions and the ongoing strong acceleration in credits led by state banks have facilitated recovery in domestic demand. In fact, there has been a quite rapid recovery in credit card spending on items other than tourism and affiliated groups such as airlines, travel/transport, and accommodation. Accordingly, spending on items with pent-up demand that are highly sensitive to financing conditions (items linked to construction such as furniture, construction materials and contracting services, and electronics, maintenance/repair, etc.) have considerably strengthened. Besides, the public sector continues to support growth.

In April when the pandemic had the most drastic negative effects, exports sharply declined due to the contraction in external demand and the closure of borders while the deceleration in imports was milder. Accordingly, the foreign trade deficit increased. May figures and provisional foreign trade data for June indicate that the foreign trade volume, most visibly exports, posted a recovery and the foreign trade deficit started to decline following the gradual easing of measures in Turkey and abroad (Chart 4.2.3). Meanwhile, travel restrictions brought activity in tourism and affiliated sectors almost to a halt in the second quarter.

Due to the sharp fall in export and tourism revenues, the annualized current account balance continued to deteriorate and posted a deficit of USD 8.2 billion as of May. However, seasonally adjusted data for May suggest an improvement in the monthly current account balance led by the recovery in exports (Chart 4.2.4). The recovery in exports of goods following the normalization and low levels of commodity prices are projected to support the current account balance in the upcoming period.

Chart 4.2.3: Exports and Imports\* (Billion USD)

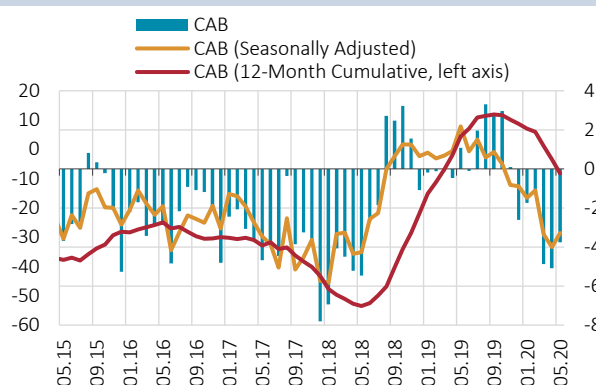


Sources: CBRT, TURKSTAT.

Last Observation: 25 July 2020

\* Forecasts based on MT provisional data for June, and daily data for July.

Chart 4.2.4: Current Account Balance (CAB) (Billion USD)



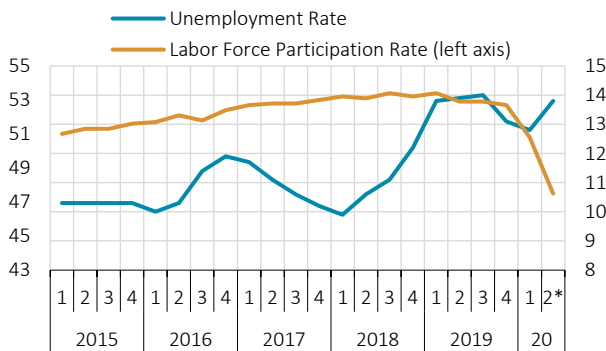
Source: CBRT.

To sum up, while the slowdown in economic activity became more evident in April, the recovery has gained pace since May following the gradual steps towards normalization. Recent monetary and fiscal measures contribute to financial stability and economic recovery by supporting the potential output of the economy. Against this background, economic activity is expected to register a substantial improvement in the third quarter despite the significant weakening across the second quarter. The pace of recovery in the upcoming period will depend on the course of normalization both in Turkey and abroad. Assuming that there will be no second wave of the pandemic that would call for measures again, the economy will likely continue to recover in the second half of 2020.

## 4.3 Labor Market

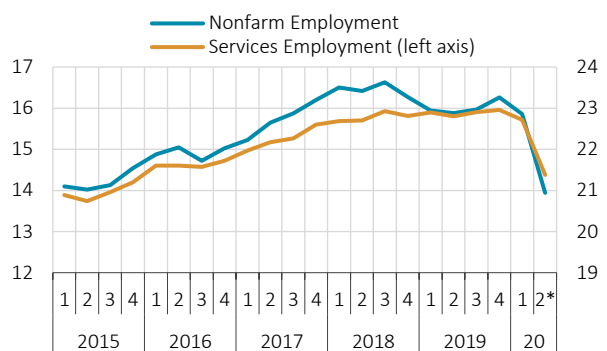
Since the February period, effects of the pandemic-driven business closures, capacity constraints and the slowing economic activity on the labor market have become more pronounced. In the period following January, the seasonally-adjusted nonfarm (total) employment loss reached approximately 2.2 (2.5) million people. However, as the persisting fall in the labor force participation rate became evident, the impact of employment losses on unemployment rates remained limited. Seasonally-adjusted total and nonfarm unemployment rates stood at 12.8% and 14.7%, respectively, in the first quarter, whereas they rose to 13.8% and 16.1% in the April period (Chart 4.3.1). The rise was more pronounced in broad unemployment rates that are calculated taking into account underemployment, seasonal workers, and people who do not actively seek job.

**Chart 4.3.1: Unemployment and Labor Force Participation Rates (Seasonally Adjusted, %)**



Sources: HLFS, TURKSTAT.  
\* As of April period.

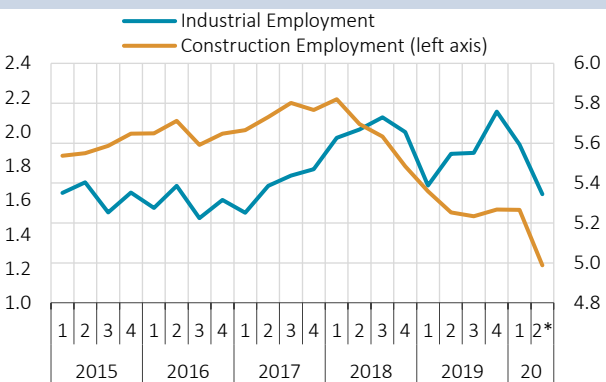
**Chart 4.3.2: Nonfarm and Services Employment (Seasonally Adjusted, Million People)**



Sources: CBRT, TURKSTAT.  
\* As of April period.

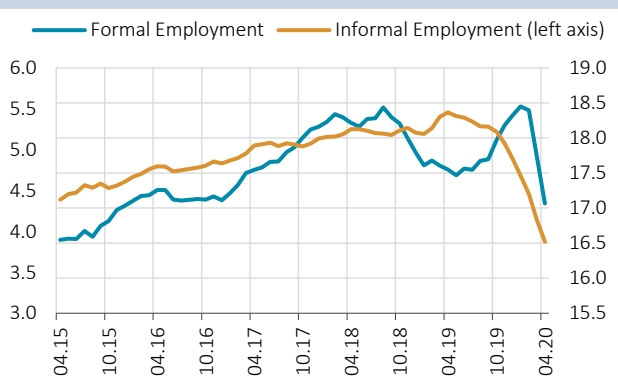
An analysis of nonfarm employment developments by sectors reveals that employment losses extended across all main sectors, most visibly in services (Charts 4.3.2 and 4.3.3). Losses were noticeable particularly in wholesale-retail trade and accommodation services whose activities were negatively affected by the halt in tourism and the pandemic measures. Broken down by formal and informal employment, nearly half of employment losses were registered across those working informally (Chart 4.3.4). Measures to maintain employment contained the formal employment losses to a large extent while employment losses in informal sectors were observed across all groups, more apparently in wholesale-retail trade and accommodation services.

**Chart 4.3.3: Industrial and Construction Employment (Seasonally Adjusted, Million People)**



Sources: TURKSTAT.  
\* As of April period.

**Chart 4.3.4: Nonfarm Employment in Formal vs. Informal Breakdown (Seasonally Adjusted, Million People)**



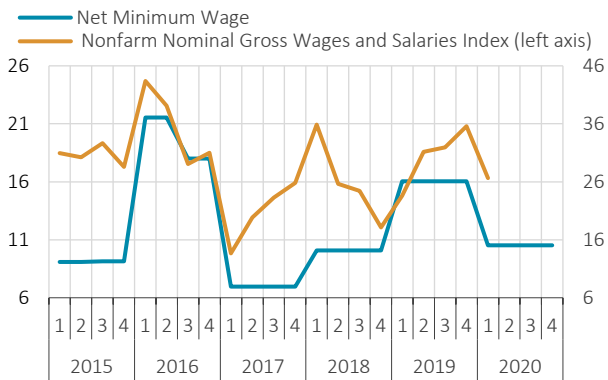
Sources: TURKSTAT.

Leading indicators and high-frequency data suggest that the labor market remains weak despite the positive impact of the measures and the recent recovery. In this respect, it is projected that the rise in unemployment rates will continue in the second quarter but the fall in labor force participation rates will somewhat limit this rise.

## 4.4 Wages and Productivity

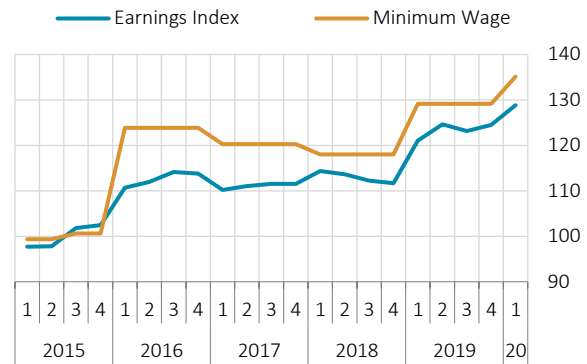
The minimum wage was raised by 15% in 2020 to net TRY 2,325. Accordingly, the annual non-farm nominal wage growth reached 16.3% in the first quarter of 2020 (Chart 4.4.1). As the quarterly rate of increase stood above inflation, real wages rose on a quarterly basis in the first quarter (Chart 4.4.2).

**Chart 4.4.1: Nonfarm Gross Wage Salary Index and Net Minimum Wage (Nominal, 2015=100, Annual % Change)**



Sources: MLSS, CBRT, TURKSTAT

**Chart 4.4.2: Nonfarm Hourly Earnings Index and Minimum Wage\* (Real, Seasonally Adjusted, 2015=100)**



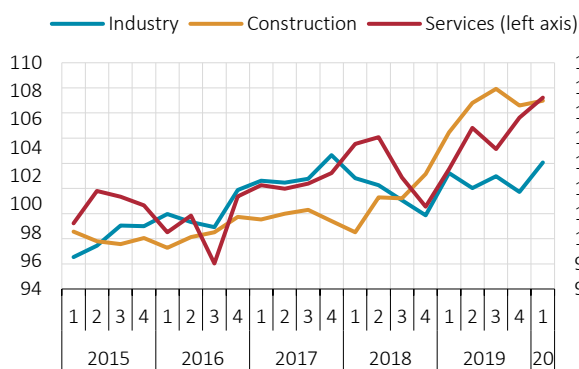
Sources: CBRT, TURKSTAT.

\* Deflated by the CPI.

Nonfarm partial labor productivity posted a strong increase in the first quarter of 2020 that spread across all sectors (Chart 4.4.3). Since per capita real wages rose to a limited extent despite this increase, real unit wages (per capita real wage/productivity) decreased (Chart 4.4.4).

In addition to minimum wage developments, the course of economic activity, unemployment rates, and inflation developments are also the main factors affecting wages. With the stronger impact of the pandemic on economic activity in the second quarter of the year, production and sales decreased sharply, leading to a significant hike in real unit wages. Accordingly, capacity constraints due to gradual opening in particular are causing unit wages to rise in some sectors (transport, restaurants, hotels, personal care services, etc.) (Box 3.1). While the short-time work allowance is alleviating the labor cost burden on employers, the exclusion of informally working employees from its coverage is curbing this effect or increasing employment losses. It is projected that the negative effects on employment will be largely temporary and unit labor cost-driven effects on inflation will get milder following the recovery expected in the second half of the year once the pandemic loses pace in Turkey.

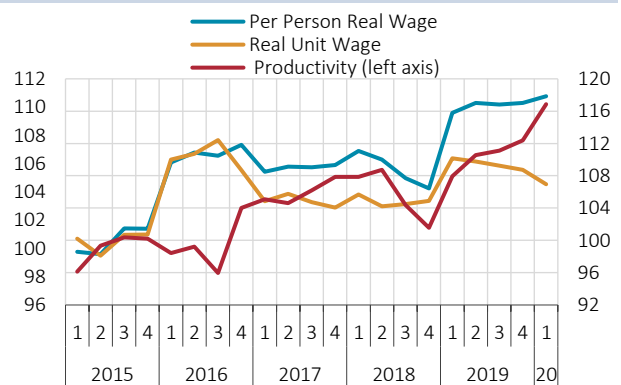
**Chart 4.4.3: Sectoral Partial Labor Productivity\* (Seasonally Adjusted, 2015=100)**



Sources: CBRT, TURKSTAT.

\* Value added/ Employment (HLFS).

**Chart 4.4.4: Nonfarm Partial Labor Productivity\*, Per Capita Real Wage and Real Unit Wage\*\* (Over Value Added, Seasonally Adjusted, 2015=100)**



Sources: CBRT, TURKSTAT.

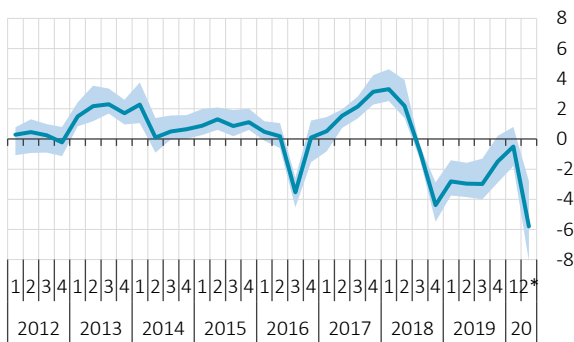
\* Nonfarm value added/nonfarm employment (HLFS).

\*\* Per capita real wage x employment/value added. Deflated by CPI.

## 4.5 Output Gap

The weakening economic activity hampered the economic recovery process in the second quarter of the year. Although it is estimated that aggregate demand conditions had a stronger disinflationary effect in this period compared to the first quarter, this effect remained relatively limited since a significant part of the slowdown registered in the second quarter was driven by supply factors and certain sectors were subject to capacity constraints in the gradual normalization phase (Box 7.1). As the normalization continues, supply-side factors, which have prevailed recently due to pandemic-related restrictions, will phase out and demand-driven disinflationary effects will become more prevalent in the second half of the year.

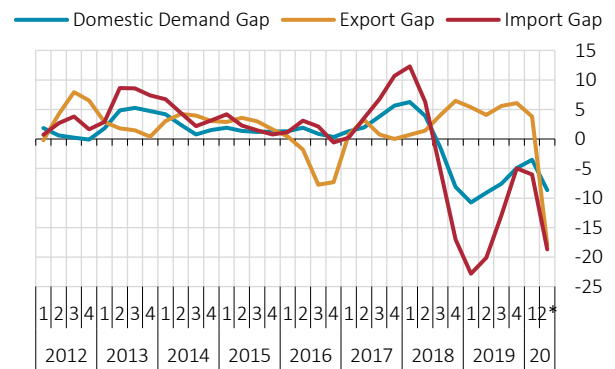
**Chart 4.5.1: Output Gap Indicators (Average and Minimum-Maximum Band)**



Source: CBRT calculations.

\* Based on second quarter forecasts.

**Chart 4.5.2: Breakdown of Output Gap by Demand Components\*\***



Source: CBRT calculations.

\* Based on second quarter forecasts.

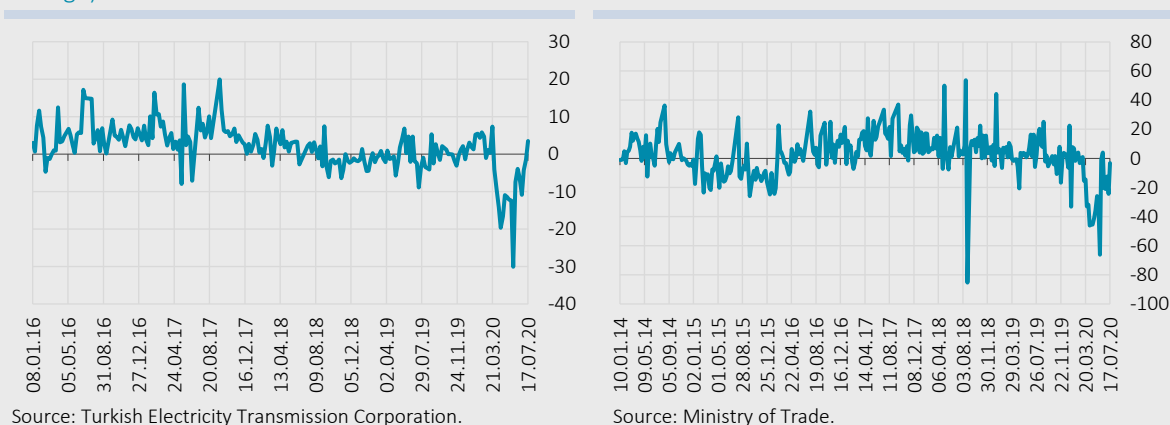
\*\*Output gap series by demand components (see Inflation Report 2018-III Box 4.1).

## Box 4.1

### Weekly Economic Conditions Index (WECI)

Since main indicators (national income, industrial production, etc.) that provide information on economic activity are released with a delay, high frequency indicators are needed to obtain timely information about the course of economic activity. In this context, in addition to using surveys and financial indicators, early signals about the pace of economic activity can be obtained through certain high frequency data such as electricity consumption and foreign trade statistics, which can be monitored on a daily basis (Charts 1 and 2). In fact, the high frequency data monitored by the CBRT indicate that the effects of the pandemic became evident in mid-April and that the recovery started in May. Meanwhile, industrial production and turnover indices, which are announced with a delay in mid-July, confirmed these signals received in May.

**Chart 1: Electricity Consumption (Weekly, Annual % Change)**      **Chart 2: Exports (Nominal, Weekly, Annual % Change)**



Obtaining reliable early signals by aggregating information from different indicators in the most appropriate way became even more important during the pandemic. Accordingly, many central banks have started to construct weekly indicators and share them with the public (Lewis et al. (2020) for the US economy and Eraslan and Götz (2020) for the German economy). In this box, a Weekly Economic Conditions Index (WECI) is introduced aiming at tracking developments in the Turkish economic activity in a timely manner (Çelgin and Günay, 2020).

#### Data and Methodology

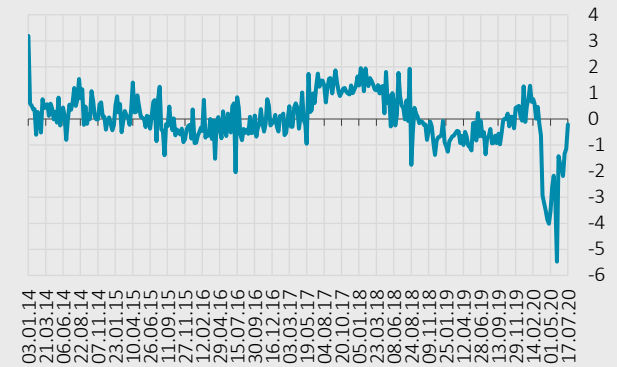
The WECI uses high frequency real and financial data with the potential to provide information on the course of economic activity. In this context, total credit growth and total expenditures by domestic and foreign cards are tracked on a weekly basis; while total job postings on the Kariyer.net website, electricity consumption, exports and imports are tracked on a daily frequency. After converting daily flow variables into weekly frequency by aggregating the daily values of the relevant week, the weekly annual percentage changes of all variables are calculated. Additionally, in the periods that correspond to religious and national holidays, annual changes are smoothed by the trends of the weeks before and after the relevant week so that the calendar effects would not disturb the main trend. This procedure does not affect recent values of the index much, but facilitates the interpretation of the index by correcting the high volatilities observed in the past. The WECI is calculated from 2014 due to data constraints.

While constructing the index, the Weekly Economic Index (WEI) method developed by the Fed to monitor the effects of the pandemic on the US economy is adopted (Lewis et al., 2020). The WEI is constructed by taking the principal component of the weekly annual percentage change of ten variables. These variables are informative about consumption, production and the labor market. Similar to Lewis et al., the WEI is constructed using the first principal component of the annual percentage change of the weekly indicators. After calculating the WEI, it is associated with GDP growth by taking the quarterly average.

### Estimation Results

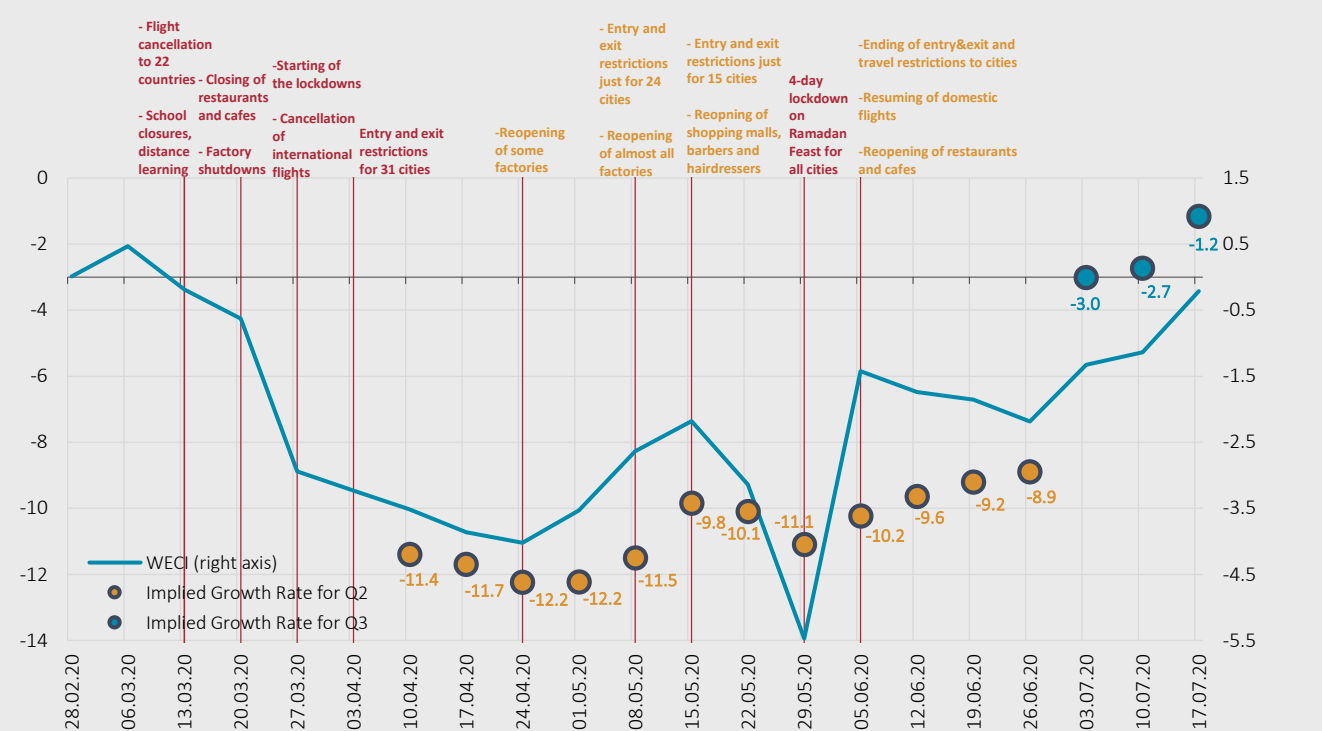
Calculated values of the WEI are presented in Chart 3. The index is standardized so that its mean is zero and standard deviation is one. Thus, the values of the index indicate how many standard deviations away the index is from its average in the sample. The final value of the index indicates that economic conditions are 0.2 standard deviations lower than the average. Having dropped below zero since mid-March after the report of the first coronavirus case and enforcement of subsequent preventive measures, the index records its lowest level at the week ending on the 29<sup>th</sup> of May due to the effect of the 4-day lockdown enforced across the country during the Ramadan Feast. The second lowest level is observed at the week ending on the 24<sup>th</sup> of April, and after this week, the index improves, indicating that economy starts to recover from the consequences of the pandemic.

Chart 3: Weekly Economic Conditions Index (WEI)



Source: Authors' own calculations. Last Observation: July 17, 2020

Chart 4: Weekly Economic Conditions Index and Event Timeline



Source: Authors' own calculations. Last Observation: July 17, 2020

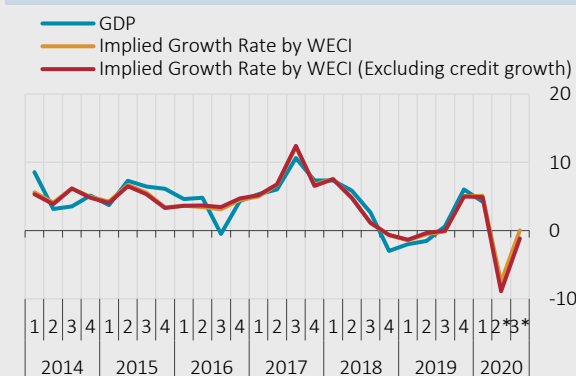


In Chart 4, the WECI is plotted with some key weekly events since the beginning of March to examine recent developments. It is observed that with the introduction of restrictions on mobility and travel, interruption of production in factories and temporary suspension of the activities of the workplaces, the index posts a noticeable decline on the second half of March to the end of April. As the measures are eased and the partial normalization steps are implemented with the decline in the number of cases, signals of recovery in economic activity have appeared as of the first week of May. The index, which declines due to the temporary measures in the second half of May, starts to increase with the widening of the scope of normalization steps in June.

For a better interpretation of the signals of the WECI on developments in economic activity, a regression is run between calendar-day-adjusted annual GDP growth and the quarterly average of the WECI. Model estimates imply that there may be a significant annual contraction in the national income data in the second quarter, but there may be a significant recovery in the third quarter (Chart 5). Finally, the index, here presented with data up to the week ending on the 17<sup>th</sup> of July, may increase further with the data flow in the following period.

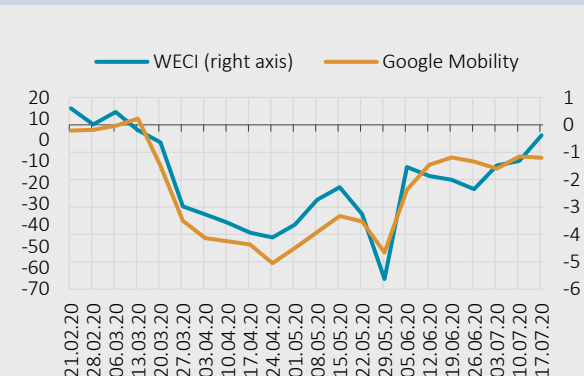
However, it should be noted that indicators included in the index may not fully reflect the developments in the services sector. Also, because of the increased electricity consumption of households especially in the second quarter, electricity consumption of workplaces may be weaker. So, there may be downward risks to these model estimates. Additionally, considering that the credit-growth relationship may differ at the current juncture, mostly in the second quarter, the index is reconstructed excluding credit growth. The WECI, estimated by excluding credit data, implies that the contraction in the second-quarter GDP may have been somewhat deeper, and the above-mentioned downward risks remain for this indicator as well (Chart 5).

**Chart 5: GDP (Adjusted for Calendar Effects, Annual % Change) and Implied Growth Rate for GDP**



Source: Authors' own calculations, TURKSTAT. \* Forecast.

**Chart 6: WECI and Google Mobility Index**



Source: Authors' own calculations, Google. Last Observation: July 17, 2020

Measures to reduce social mobility and subsequent easing of these measures shape the course of activity. As a matter of fact, a relatively high correlation is seen between the Google mobility index, obtained from mobile devices to monitor the effects of the pandemic disease on a global scale, and the WECI (Chart 6).<sup>1</sup> As of June, the restrictions have been lifted to a large extent and mobility has increased, which points to an improvement in economic conditions. In this respect, it is projected that effects of the steps towards normalization will be more visible in the third quarter and the recovery in economic activity will continue.

<sup>1</sup> Mobility data show percentage changes in six categories, shopping-entertainment, market-pharmacy, workplaces, parks, transportation points and residences, compared to the period of January 3-February 6, 2020. The mobility index is calculated by aggregating data for the first three categories.

## References

Çelgin, A., & Günay, M. (2020). Weekly Economic Conditions Index for Turkey, CBRT, ongoing study.

Eraslan, S., & Götz, T. (2020). Weekly activity index for the German economy, Deutsche Bundesbank. <https://www.bundesbank.de/en/statistics/economic-activity-and-prices/weekly-activity-index>.

Lewis, D., Mertens, K., & Stock, J. H. (2020). US economic activity during the early weeks of the SARS-Cov-2 outbreak (No. w26954). National Bureau of Economic Research. <https://www.newyorkfed.org/research/policy/weekly-economic-index>.

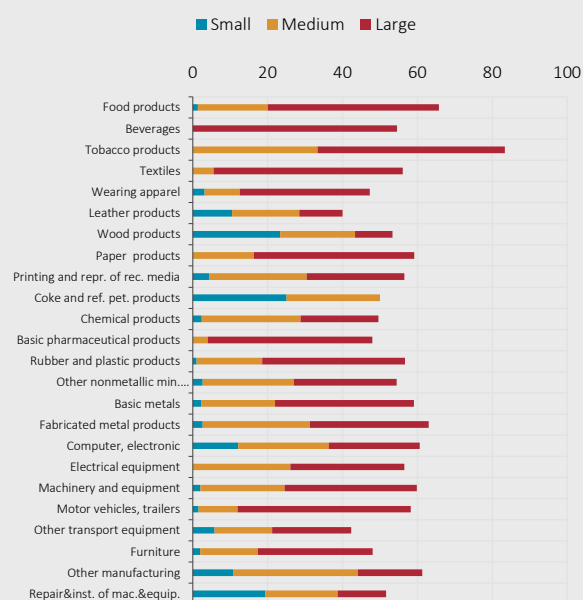
## Box 4.2

### Survey of the Effects of the Pandemic on the Real Sector

To learn how senior managers view the effects of the pandemic on production, level of employment, costs and selling prices as well as the policy measures that can be taken in response to the problems the pandemic created for manufacturing industry, the Central Bank of the Republic of Turkey conducted the “Survey of the Effects of the Pandemic on the Real Sector” with firms in the Business Tendency Survey (BTS) between 31 March and 7 April.

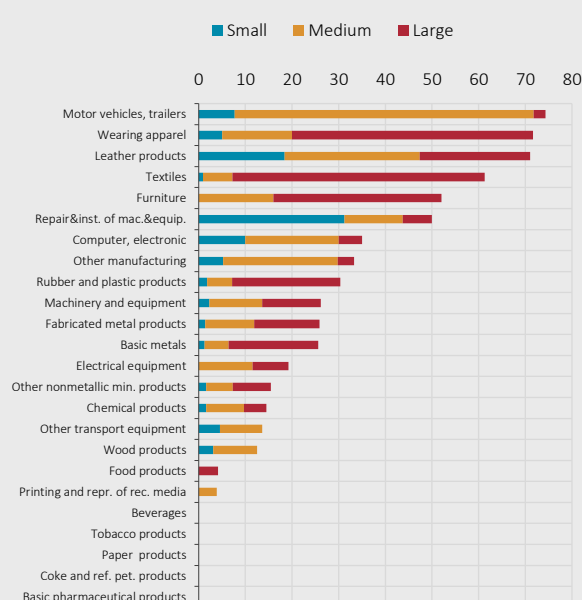
A total of 1,249 firms responded to the survey, and the response rate was 56.3%. Chart 1 presents the response rates by sector and scale. Among the surveyed firms, 6.6% are small-sized (with less than 50 employees), 35.2% are medium-sized (with more than 50, less than 250 employees), and 58.2% are large-sized (with more than 250 employees) enterprises.

**Chart 1: Response Rate to the Survey by Sector and Scale (%)**



Source: CBRT.

**Chart 2: Percentage of Firms That Suspended Their Operation by Sector and Scale (%)**



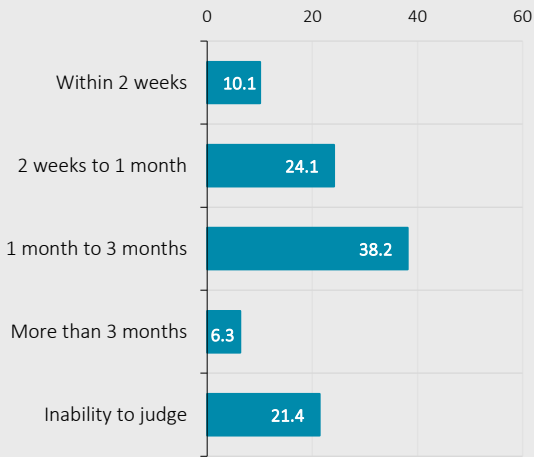
Source: CBRT.

The survey results show that 71.2% of firms continued their operation while 28.8% suspended their operation during the pandemic. The operation status by sectors shows that more than 50% of firms in the textile, clothing, leather, vehicle and furniture sectors stopped operations, which is high compared to other sectors (Chart 2). When we look at the operation status by scale, we see that the firms that stopped operations constitute 36.4%, 25.1% and 30.5% of small, medium and large-sized firms, respectively.

As for business recovery, nearly 21.4% of the firms could not foresee a certain period of time for recovery while the expected time for the remaining firms concentrated on one month to three months (Chart 3).

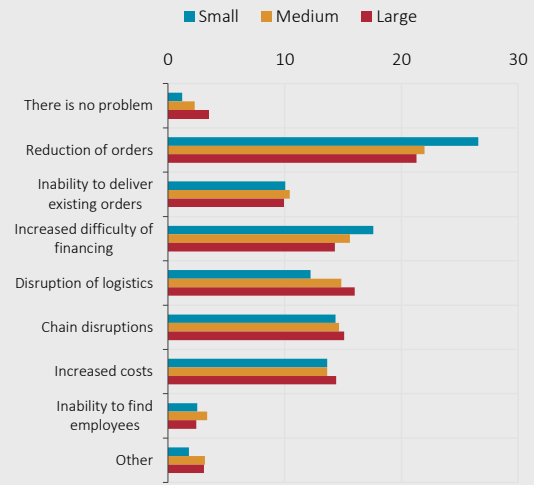
The reduction in orders has been reported as the most important problem caused by the pandemic (Chart 4). Increased difficulty of financing, logistics disruptions, supply chain disruptions, and increased costs are among other problems driven by the pandemic. When the problems faced by firms are compared by scale, it is observed that the reduction in orders and increased difficulty of financing are more evident problems for small-sized firms. The percentage of firms that indicate the disruption of logistics as a business problem are higher in large-sized firms.

Chart 3: Expected Time for Business Recovery (%)



Source: CBRT.

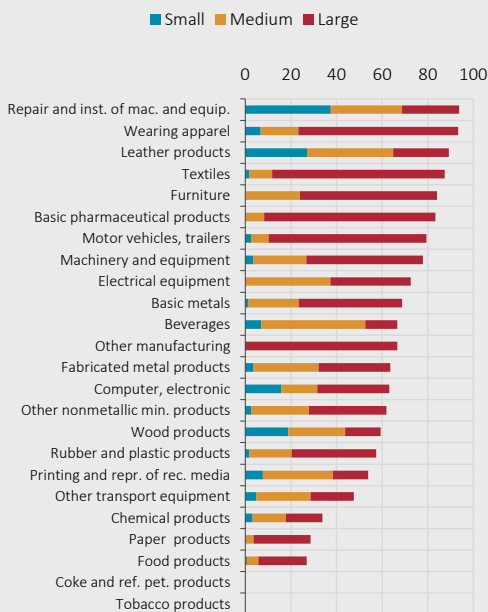
Chart 4: Business Problems Due to the Pandemic (%)



Source: CBRT.

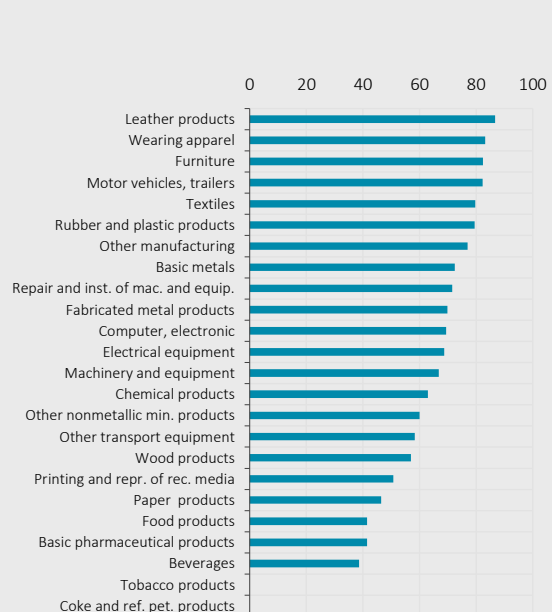
As of early April, the effects of the slowdown in production activities on the employment trend were relatively limited. The rate of layoffs was limited to 1.5%, while the average percentage of those planning layoffs was 9.1%. It is seen that 63.4% of the firms considered using the short-time working allowance, and these firms stated that they would use this facility for 70.5% of their employees on average (Charts 5 and 6).

Chart 5: Percentage of Firms That Consider Using Short-time Working Allowance by Sector and Scale (%)



Source: CBRT.

Chart 6: Percentage of Employees That the Firms Plan to Use Short-time Working Allowance for by Sector (%)

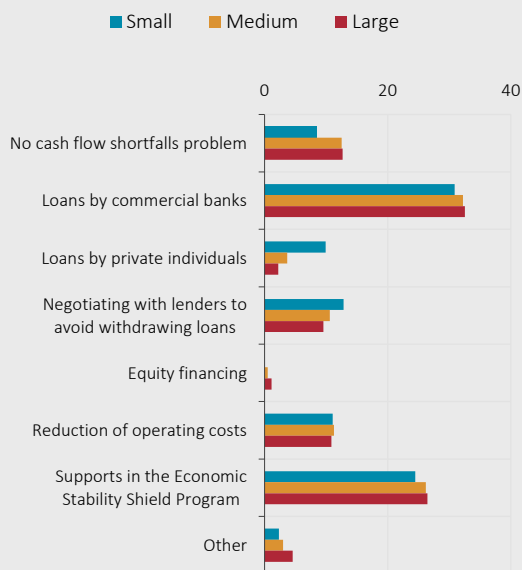


Source: CBRT.

It is noted that large-sized firms plan to use the short-term working allowance at a higher rate than others. The tendency to use the short-time working allowance in the food, paper products, and chemical products sectors, whose activities were relatively less affected, remained low compared to others.

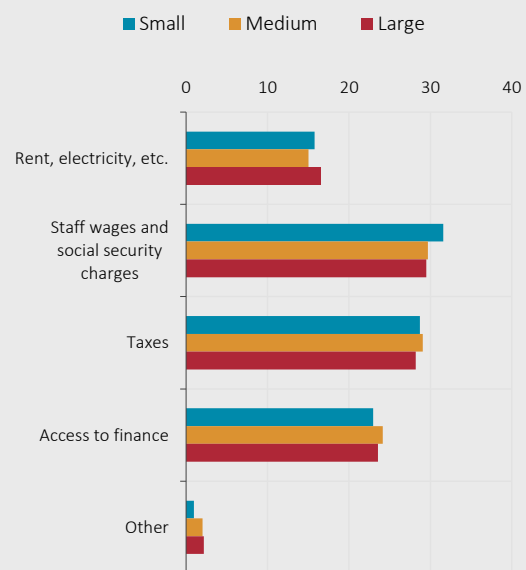
Firms specified commercial bank credits as the most important tool to deal with cash flow shortages (Chart 7). Benefiting from the support announced under the Economic Stability Shield program stands as the second important tool. On the other hand, it has been observed that small firms made more use of the options of obtaining loans from individuals and negotiating with lenders to avoid withdrawing loans, compared to others. When asked about their opinion on which policies would prove more effective to maintain the pre-pandemic employment level, the respondents mentioned “personnel expenses”, “taxes” and “access to finance” as the most important (Chart 8).

**Chart 7: Main Tools Used to Cope with Cash Flow Shortages (%)**



Source: CBRT.

**Chart 8: Which Policies would be More Effective to Maintain the Pre-pandemic Employment Level (%)**



Source: CBRT.

To conclude, the thematic survey applied to the firms in the manufacturing industry in early April provided significant information by sector and scale to identify the effects of the pandemic on the real sector in a timely manner and to design appropriate policies. Accordingly, the survey has formed a basis for the comprehensive measures taken to secure interrupted flow of credits to the real sector and broadly support firms with a view to limiting the adverse effects of the pandemic on the Turkish economy.

