

Box 2.2

A Detailed Look at Economic Activity after the February 6 Kahramanmaraş Earthquake

On February 6, 2023, earthquakes occurred in Kahramanmaraş that profoundly affected 11 provinces in the region, namely Kahramanmaraş as the epicenter of the earthquake, Hatay, Adıyaman, Diyarbakır, Şanlıurfa, Malatya, Kilis, Gaziantep, Osmaniye, Adana and Elazığ.

The population of these provinces was around 14 million as of 2022, corresponding to 16.4% of Türkiye's population. While 3.8 million people are employed in these provinces, the region's employment makes up 13.3% of the country's employment. The shares of the agricultural, industrial and services value added of the provinces in the earthquake region in Türkiye's total value added in the relevant sectors are 15.1%, 11.4% and 7.4%, respectively, while their total share in the GDP is 9.8%. The region makes a significant contribution to Türkiye's exports in the iron-steel and textile sectors. The provinces affected by the earthquake account for 8.6% of Türkiye's exports and 6.7% of its imports (PSB, 2023).

It is estimated that the loss of life and the destruction caused by the earthquake disaster will have direct effects on economic activity through production, employment and demand, as well as indirect effects through reconstruction activities and the implementation of supportive policies. The sectoral and regional implications of all these effects may differ, creating uncertainty regarding economic activity. While the earthquake is expected to affect economic activity in the near term, it is anticipated that it will not have a permanent impact on the performance of the Turkish economy in the medium term.

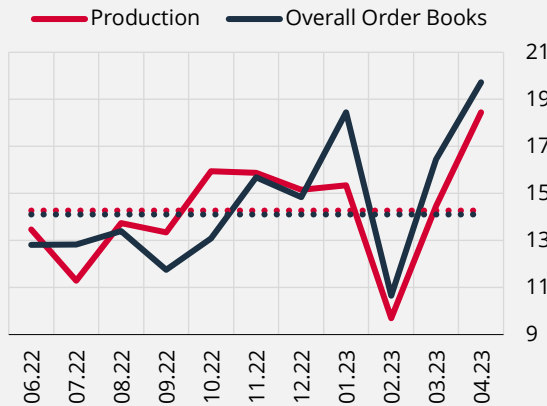
In this box, the developments regarding the post-earthquake economic activity outlook are evaluated by means of data and high-frequency indicators on production, consumption, labor market and foreign trade released concerning the earthquake and its aftermath.

Production

High-frequency data released after the devastating earthquakes on February 6 indicated that the short-term effects of the earthquake were partially reflected in the future production and orders expectations of manufacturing industry companies in February, and that the recovery started in March. The production volume expectation for the next three months included in the BTS, which registered a considerable decrease of 5.7 points in February compared to January, increased by 4.8 points in March and converged to its pre-earthquake level. Continuing its increase into April, the index rose by 4 points and exceeded its pre-earthquake levels (Chart 1). Among the demand indicators, the current overall order books continued to increase in March as well. Due to the negative impact of the earthquake on the activity, the order expectations for the next three months decreased in February. However, the adverse effect of the earthquake on the strong domestic demand was relatively short-lived, and according to the March and April BTS data, demand expectations for the next three months increased. When the BTS results are analyzed on a provincial basis, production and demand expectations also increased in centers of the disaster region with high economic weight.

When the production sub-index of the PMI is analyzed to include sectoral details, all sub-sectors (except basic metal) and the main index were below the threshold value of 50 in February. In March, the PMI production index increased by 2.9 points compared to the previous month and reached 50.9, pointing to an improvement in manufacturing industry conditions and ending the 15 months of slowdown during which, the index was below the threshold value. The PMI production index maintained its upward movement and increased by 1.1 points to 51.9 in April. In terms of sub-sectors, six out of ten sectors, particularly the vehicles, basic metal, and textile sectors, increased their production by taking a value above the 50 threshold (Chart 2).

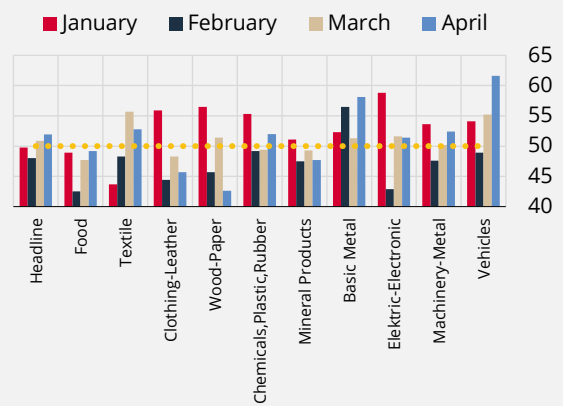
Chart 1: BTS Expectations for the Next Three Months* (Seasonally Adjusted, Level)



Source: CBRT.

* The dashed lines represent the averages for the period of June 2022-January 2023.

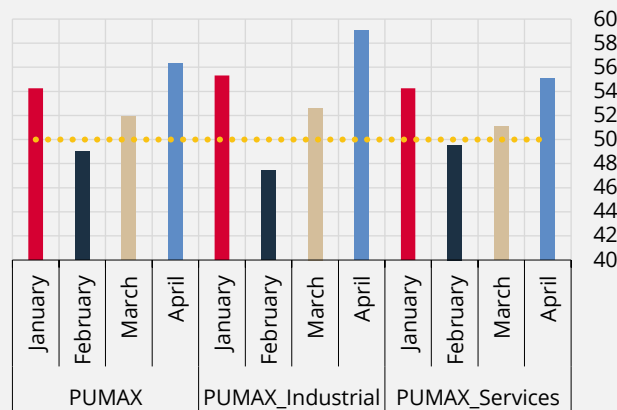
Chart 2: PMI Production Index (Seasonally Adjusted, Level)



Source: S&P Global, Istanbul Chamber of Industry.

The Purchasing Managers Index (PUMAX)-composite index decreased by 5.3 points to 49 in February. The decrease in the PUMAX services sector index by 4.7 points to 49.5, and the decrease in the PUMAX industrial sector index by 7.9 points to 47.4 were effective in this decline. In March, the PUMAX composite index increased by 2.9 points to 51.9, indicating a positive outlook. In this month, both the services and industrial indices increased, while the increase in the industrial index was stronger. In March, services and industrial indices rose to 51.1 and 52.6, respectively, reaching a level above the threshold again (Chart 3). PUMAX industrial and services sector indices continued to increase in April and remained above the threshold level. In this month, the services and industrial sector indices were 55.1 and 59, respectively, while the PUMAX composite index rose to 56.3, confirming the recovery in activity.

Chart 3: PUMAX (Seasonally Adjusted, Level)



Source: Independent Industrialists and Businessmen's Association.

Consumption

In Table 1, card spending on a provincial basis are shown by normalizing the average expenditure for the last four weeks before the earthquake to 100. In Kahramanmaraş, Hatay, Malatya and Adiyaman, card expenditures fell to around 20-40 percent of pre-earthquake levels, and then, with a slow recovery, they rose to 60-70 percent of the pre-earthquake levels as of mid-April. In Elazığ, on the other hand, the recovery was observed in the week after the earthquake, and the card expenditures exceeded the pre-earthquake level. Similarly, card expenditures in Kilis and Osmaniye provinces also reached pre-earthquake levels as of end-February and the beginning of March. In Gaziantep, Adana, Diyarbakır and Şanlıurfa provinces, the recovery was observed as of end-March, and pre-earthquake

levels were achieved. When we look at the earthquake region in general, card expenditures, which fell to around 60 percent, reached their pre-earthquake levels at the end of March and exceeded these levels by mid-April. Throughout the country, the impact of the earthquake was around 10 percent in the first week, whereas spending was 25 percent above the pre-earthquake level by mid-April.

When the course of card expenditures in the provinces affected by the earthquake is analyzed in sectoral detail, the largest recovery was in the construction contracting services, car rental-sales, service, spare parts, electronics, building materials and jewelry sectors. In these provinces, the slowest recovery was observed in sectors such as tax payments, education-stationery, accommodation, and airlines.

Table 1: Card Spending in the Earthquake Region*

	4-10 Feb	11-17 Feb	18-24 Feb	25 Feb- 3 Mar	4-10 Mar	11-17 Mar	18-24 Mar	25-31 Mar	1-7 Apr	8-14 Apr
Kahramanmaraş	42.3	21.4	29.6	41.4	48.0	53.1	57.8	63.8	63.2	66.6
Hatay	47.4	40.1	46.4	50.2	48.1	51.9	51.0	50.9	62.9	70.2
Gaziantep	53.7	59.3	81.2	89.6	98.6	104.9	103.9	107.7	125.7	131.0
Malatya	53.0	30.8	38.2	49.0	55.0	52.9	58.9	53.9	63.9	70.6
Adana	76.4	83.9	93.4	100.7	97.8	106.9	112.2	131.3	122.1	121.5
Kilis	99.6	92.2	96.5	102.8	107.0	115.7	115.1	103.1	114.7	129.5
Diyarbakır	68.1	82.4	93.3	94.0	98.8	107.6	112.4	97.1	108.6	121.5
Şanlıurfa	71.5	82.3	93.5	96.6	99.1	96.6	103.8	96.8	112.6	123.9
Osmaniye	65.4	69.5	87.7	91.2	102.0	104.1	101.5	89.9	106.5	108.2
Adıyaman	41.2	28.0	32.6	44.3	47.3	46.2	52.6	52.8	57.3	60.8
Elazığ	98.6	106.3	107.5	121.7	122.2	121.5	124.5	117.4	130.3	130.9
<i>Earthquake Region</i>	<i>63.2</i>	<i>65.1</i>	<i>76.5</i>	<i>83.4</i>	<i>86.1</i>	<i>91.2</i>	<i>94.3</i>	<i>97.5</i>	<i>104.2</i>	<i>109.0</i>
<i>Other Provinces</i>	<i>92.1</i>	<i>96.4</i>	<i>101.1</i>	<i>116.4</i>	<i>112.6</i>	<i>115.9</i>	<i>118.2</i>	<i>124.9</i>	<i>121.8</i>	<i>126.5</i>
<i>All Provinces</i>	<i>89.8</i>	<i>94.0</i>	<i>99.2</i>	<i>113.9</i>	<i>110.6</i>	<i>114.0</i>	<i>116.4</i>	<i>122.8</i>	<i>120.4</i>	<i>125.2</i>

Source: Interbank Card Center, CBRT.

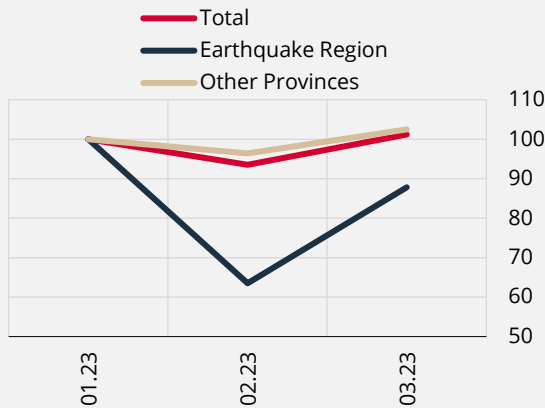
* The average level of the four weeks before the earthquake is indexed to be 100.

Foreign Trade

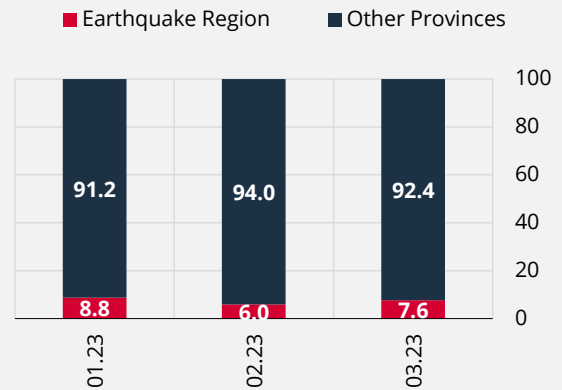
According to the foreign trade statistics announced by the Turkish Statistical Institute (TURKSTAT) and the Ministry of Trade, exports in February decreased by 6.5% annually to USD 18.6 billion. The Ministry of Trade announced that the earthquake had a downward effect of USD 1.5 billion on exports in February. According to the foreign trade data for March, exports increased by 4.4% on an annual basis and reached USD 23.6 billion.

The daily province-based export data compiled by the Türkiye Exporters Assembly (TIM) indicate that the earthquake-affected regions have diverged from other regions since February 6, when the earthquake struck. Seasonally adjusted exports in the earthquake region fell approximately 40% below the January level in February, while they recovered in March and approached the January level. Meanwhile, exports in provinces outside the earthquake region recorded a limited decline in February but recovered to the January level in March (Chart 4). The disaster region has a share of less than 10% of total exports. Its share was around 9% before the earthquake, decreased to 6% in February and then increased to 7.6% in March (Chart 5).

When the TIM data is analyzed in sectoral detail in the provinces affected by the earthquake, the most prominent products of the sectors that have a high share in the exports from the region are carpet, textiles, cereals-pulses-oil seeds, fresh fruits and vegetables, furniture, paper, steel, mining, chemical products, iron and non-ferrous metals, and ready-made clothing and apparel. The decrease in the exports of the region after the earthquake spread across the sectors, but it was relatively higher in the steel, carpet, iron and non-ferrous metals, and textile sectors. As of April, there was a recovery in the grains-pulses-oil seeds, fresh fruits and vegetables, furniture, and paper sectors.

Chart 4: Exports (Seasonally Adjusted, January 2023=100)

Source: CBRT, TIM.

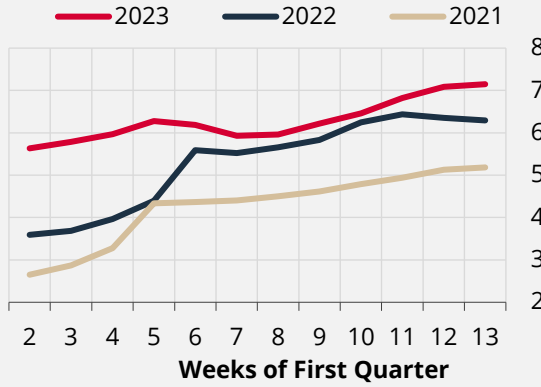
Chart 5: Export Shares (Seasonally Adjusted)

Source: CBRT, TIM.

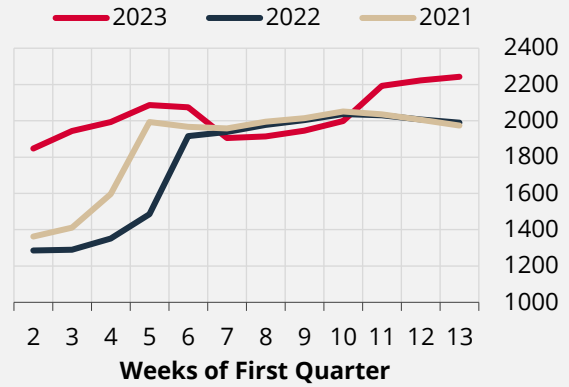
Labor Market

After the earthquake, there were employment losses due to loss of life, damage to workplaces, and migration from the region. According to the earthquake report prepared by the Presidency of Strategy and Budget (PSB), the number of people who notified authorities about their migration is around two million. Although this is a factor that may increase employment in provinces outside the earthquake region, the high number of fatalities and injured citizens in the population over the age of 15 in the region may adversely affect employment and labor force participation overall. In order to safeguard the labor market after the earthquake, a layoff ban has been imposed in the region during the state of emergency, and unemployment and half-time work allowances have been provided to employees. However, according to the PSB earthquake report, the high level of unregistered employment at 39 percent may limit the effectiveness of the measures taken. The coming data flow will enable a clearer evaluation of the impact of the earthquake on the regional labor market in the following months.

Looking at the electronic platform data, which provides high-frequency information on labor market developments across the country, new job postings and total job applications decreased to a very limited extent after the earthquake in the sixth week of the year, and recovered as of March as a result of the strong production activity (Charts 6 and 7). In addition, it is noteworthy that the new job postings in 2023 and the total job applications after the earthquake exceeded the previous year's levels (Chart 7).

Chart 6: New Job Postings (4-Week Moving Average, Thousand)

Source: Kariyer.net.

Chart 7: Total Job Applications (4-Week Moving Average, Thousand)

Source: Kariyer.net.

In summary, high-frequency indicators related to production, consumption, foreign trade and the labor market indicate that the negative effects of the disaster on economic activity have been gradually disappearing in the weeks following the earthquake. Considering the magnitude and the impact area of the earthquake, the recovery confirms the agile and resilient structure of the economy, and points to the effectiveness of the decisions to support the region as well as the social assistance response. The fact that the impact is relatively mild in the regions with high population and economic weight has a positive effect on the speed of recovery of economic activity. Despite the slowdown in the economic activity in the region affected by the earthquake, it is anticipated that the increase in the value added of the provinces outside the earthquake region in order to heal the wounds of the region and the additional value added that will be triggered by the reconstruction and restoration activities in the earthquake region will compensate for the negative impact of the earthquake on national income, and the earthquake will not have a permanent effect on the performance of the Turkish economy in the medium term.

References

PSB, 2023 Kahramanmaraş and Hatay Earthquakes Report. <https://www.sbb.gov.tr/wp-content/uploads/2023/03/2023-Kahramanmaras-and-Hatay-Earthquakes-Report.pdf>