# Box 2.1

Measures during the Pandemic, Public Health and Economic Activity

With COVID-19 becoming a pandemic, countries have implemented measures to limit social mobility. In order to monitor how strict such measures are, a "stringency index", which is a composite indicator based on nine categories including school and workplace closures, domestic and international travel restrictions, and diagnostic testing policies, has been created by Oxford University. Such measures became more common and more stringent worldwide as the outbreak affected more countries (Chart 1). Due to these measures, social mobility decreased significantly (Chart 2). The "mobility index", constructed by using the average of mobility trends in shopping malls, places of entertainment, grocery stores-pharmacies and workplaces, shows that social mobility decreased until the middle of April across the world and then began a gradual recovery.

Several measures were put in place to limit the impact of the pandemic after the first case was reported in mid-March in Turkey. With the effect of curfews imposed due to holidays in May, Turkey is one of the countries where mobility saw the sharpest decline with respect to the beginning of the year, compared to more than 130 countries for which data are available. The measures taken against the epidemic are effective in controlling the number of cases and mortality rates. Gradual easing of the measures supports the recovery in economic activity.

Chart 1: Pandemic Control Measures Stringency Index* (7-Day Moving Average)
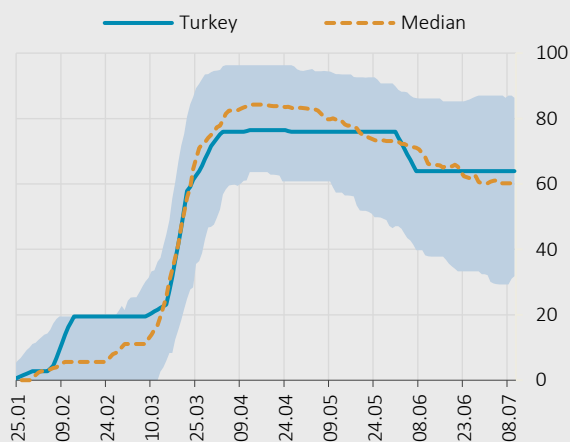
Source: Oxford COVID-19 Government Response Tracker (Hale et al., 2020).

* The Stringency Index is a composite indicator based on nine categories including school and workplace closures, domestic and international travel restrictions, and diagnostic tests policy that are scaled to a value from 0 to 100. The index can only be used for comparison purposes and does not interpret the appropriateness or effectiveness of a country's policy. The blue zone shows the range of 10th percentile to 90th percentile. Based on data for 121 countries.

Chart 2: Google Mobility Trends Index* (7-Day Moving Average, Change from Reference Period)
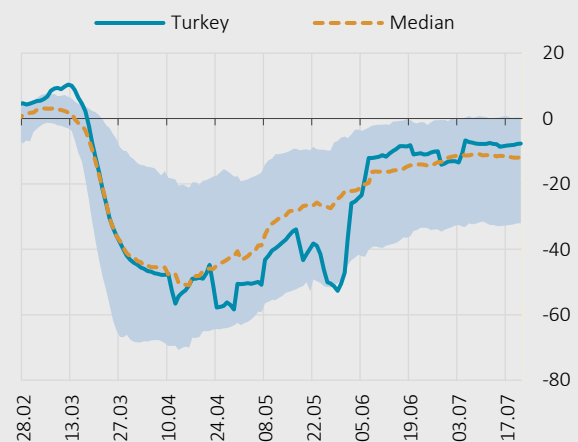

Source: Google Mobility Trends.

* The mobility index data published by Google shows the change in mobility compared to the period of 3 January-6 February 2020. The blue zone represents the range of 10th percentile to 90th percentile. Based on data for 132 countries. The mobility index is created by using the average of published data on mobility trends in shopping malls, places of entertainment, grocery stores-pharmacies and workplaces.

Analyzing the data for the first quarter of 2020, it is seen that growth shows an inverse relationship with the increase in stringency, as expected. Countries such as China and Italy, which were more severely affected by the outbreak relatively early, experienced stricter measures and a larger decline in national income (Chart 3). Since the first case in Turkey was detected in mid-March, the effect of the pandemic on the first quarter's national income

was limited. PMI data are analyzed to evaluate economic activity for the second quarter. Firstly, PMI data in April when the pandemic's impact on economic activity across countries was most evident and PMI data in January, which represents the pre-pandemic period, were evaluated. Accordingly, with the spread of restrictions on social mobility across countries, PMI indicators fell to historically low levels in many countries (Chart 4). A similar trend is observed for Turkey.

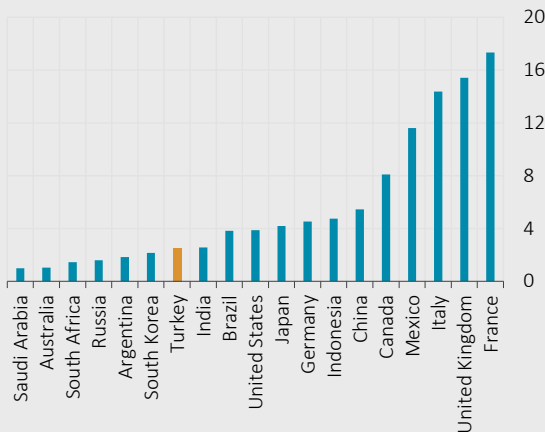**Chart 3: Stringency Index and Real GDP Growth** (First Quarter of 2020)

$$y = -0.1207x + 32789$$
$$R^2 = 0.2098$$
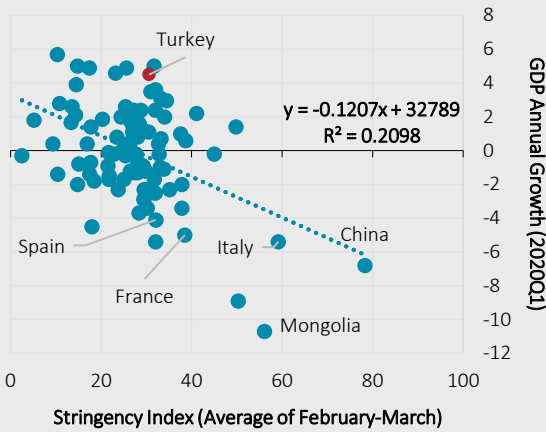
Source: Bloomberg, Oxford COVID-19 Government Response Tracker.

Chart 4: Manufacturing PMI and Stringency Index (Change from January to April)
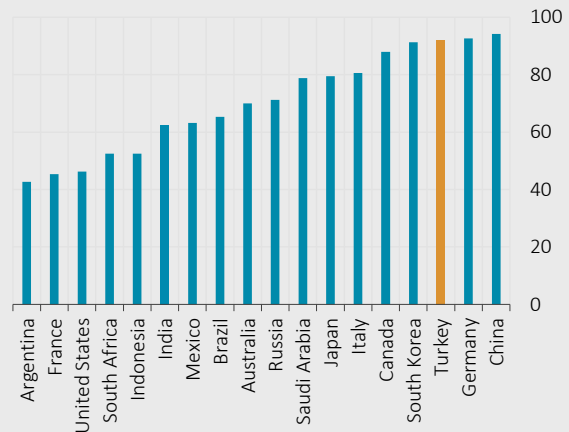

$$y = -0.2751x + 5.9477$$
$$R^2 = 0.33$$
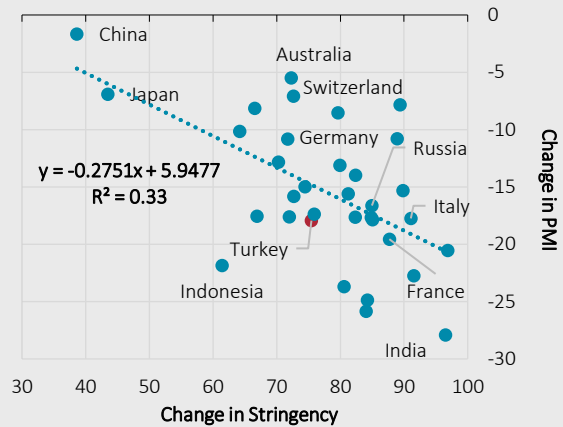
Source: IHS Market, Oxford COVID-19 Government Response Tracker.

Grafik 5: Case Fatality Rates of G-20 Countries (%)

Source: Our World in Data.

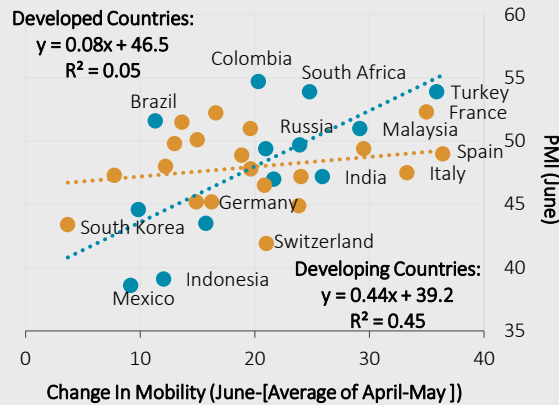**Grafik 6: The Ratio of Total Recovered Patients to Total Cases of G-20 Countries** (%)

Source: Worldometers.

Although stricter measures against the pandemic led to much weaker economic activity in the short term, they contributed to a positive outlook for healthcare. Indeed, large investments in public health and measures taken in Turkey helped drive mortality rates well below the world average (Chart 5).[1] Turkey is also one of the countries where the ratio of recovered patients to total cases is high (Chart 6).

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[1] Capacity of Intensive care unit (ICU) beds can play a crucial role in tackling the pandemic. Turkey, that is one of the leading countries in terms of ICU beds capacity per population with Germany, has significantly higher rates compared to the following developed and developing countries (Number of ICU beds per 100000 population is 48 in Germany, 41 in Turkey. However, average number of ICU beds per 100000 population of following four countries and rest of the countries are 24 and 7, respectively.). This gains importance in terms of the rapidness and efficiency of the response to the critical cases, contributing to the fight against the epidemic more effectively and much lower number of casualties. For more information, please visit website https://ourworldindata.org/grapher/intensive-care-beds-per-100000.

Chart 7: Manufacturing PMI and Change in Mobility*

Developed Countries:
y = 0.08x + 46.5
$R^2 = 0.05$

Developing Countries:
y = 0.44x + 39.2
$R^2 = 0.45$

Colombia, South Africa, Turkey, France, Brazil, Russia, Malaysia, Spain, India, Italy, Germany, South Korea, Switzerland, Indonesia, Mexico

PMI (June)

Change In Mobility (June-[Average of April-May])

Source: Google Mobility Trends, IHS Markit.
* Developing countries represented with blue dots are South Africa, Malaysia, Thailand, Turkey, Egypt, Hungary, Philippines, Brazil, Mexico, Colombia, Poland, Russia, India and Indonesia; developed countries represented with orange dots are Switzerland, South Korea, Czech Republic, Netherlands, Germany, Australia, Sweden, Italy, Canada, Singapore, Norway, Greece, Spain, USA, England, Ireland, Austria, Denmark and France.

Chart 8: Manufacturing PMI (Seasonally Adjusted, Level)

Turkey
Average of Other Selected Developing Countries*
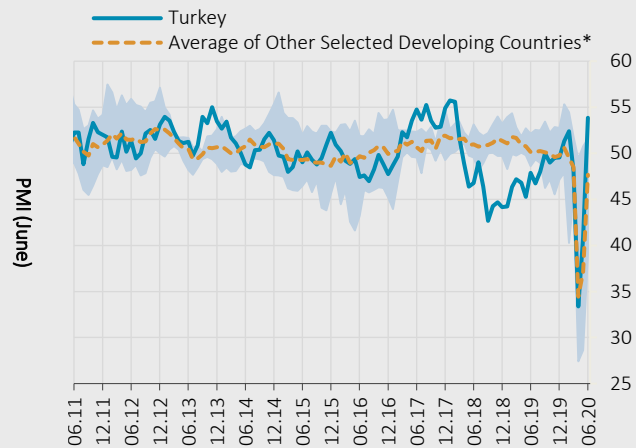
Source: IHS Markit.

* Other selected developing countries are Brazil, China, India, Indonesia, Mexico and Russian Federation.

Success in healthcare supports the normalization steps and lays the ground for a relatively stronger recovery in economic activity. As a matter of fact, there is a strong relationship between increased mobility and PMI, especially in developing countries, and a relatively weak one for developed countries (Chart 7). Survey indicators such as confidence in industry and PMI for June indicate that Turkey exhibits a more pronounced economic recovery compared to European and other developing countries (Chart 8).

In sum, global economic activity is affected by the measures taken against the pandemic and the easing of these measures. The measures were tightened from the time the first case was reported in Turkey until the end of May, and the number of cases and mortality rates were brought under control. This helped accelerate normalization in June. Recent data such as June PMI and the mobility index indicate that Turkey has diverged positively from other countries. Services are recovering more slowly compared to manufacturing industry due to the containment measures and changes in consumer preferences. However, together with the contribution of positive developments in the healthcare field, economic activity in Turkey is expected to continue to maintain a positive outlook.

References

Hale, Thomas, Sam Webster, Anna Petherick, Toby Phillips, and Beatriz Kira (2020). Oxford COVID-19 Government Response Tracker.