

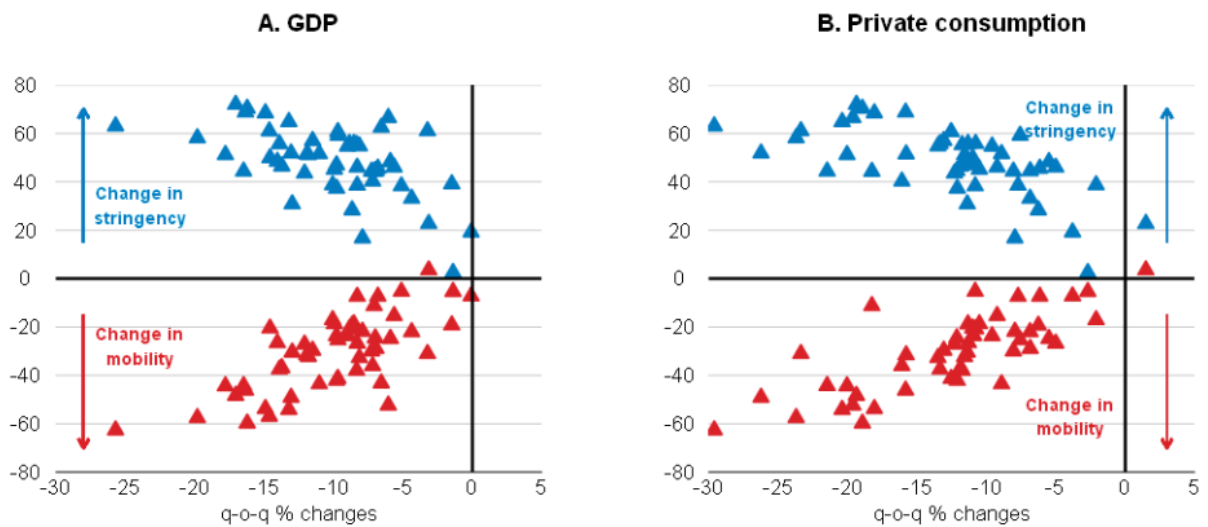
Explaining cross-country differences in growth performance in the second quarter of 2020

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In the second quarter of 2020, as the pandemic spread and many countries implemented strict containment measures, output and consumer spending declined sharply in most economies. However, the extent of the contraction differed significantly across countries, with GDP and private consumption falling by over 15% in some countries, and by 5% or less in others. This blog, based on the latest *OECD Economic Outlook*, highlights the strong cross-country association between activity, the strictness of containment measures and changes in mobility, complementing the detailed analysis of the relationship between mobility and containment policy measures in OECD (2020).

Containment measures are captured using the aggregate stringency index produced by the Oxford Blavatnik School of Government (Hale et al., 2020), and mobility by the Google location-based indicator of retail and recreational mobility, a measure of visits to places such as shopping centres, restaurants, theme parks, museums and cinemas. Changes in containment measures are associated with changes in mobility, but mobility measures may also pick up other factors, such as voluntary physical distancing, or a reluctance to leave the home when concerns about the pandemic are high. Both mobility and the stringency of containment measures are strongly correlated across countries with GDP growth and private consumption growth in the second quarter of 2020 (see figure).

Figure. Growth outcomes in the second quarter of 2020 are associated with differences in national containment measures and mobility



Note: The panels show OECD countries and selected non-OECD advanced and emerging-market economies from Asia, Latin America and Africa for which data are available (China is excluded, as mobility data are not available). The country coverage differs between the two panels. The vertical axes show changes in the quarterly averages of the Oxford stringency index and the Google mobility index for the retail and recreation sector.

Source: OECD Economic Outlook 108 database; Google LLC, *Google COVID-19 Community Mobility Reports*, <https://www.google.com/covid19/mobility>; Oxford Coronavirus government response tracker; and OECD calculations.

Empirical investigation

The relative importance of mobility and the stringency of containment measures can also be assessed by estimating cross-country equations for quarterly changes in real GDP and private consumption in the second quarter of 2020. Two separate equations are estimated, one for GDP growth and the other for private consumption growth, to assess whether there are differences in the extent to which mobility and stringency affect different activity indicators. For instance, cross-country variation in GDP growth stems in part from factors that may be less directly affected by domestic containment

measures, such as government consumption and exports. Both explanatory variables are expressed as the change in quarterly average values.

The equations are estimated for a group of advanced and emerging-market economies for which data are available, and exclude large outliers, leaving a sample of 43 economies for private consumption and 49 for GDP. Excluding the outliers sharpens the results without changing the estimated coefficients substantially. The sample for private consumption is smaller given fewer emerging-market economies with quarterly data for private consumption. In both equations, the two indicators are strongly statistically significant. This finding is robust to exclusion of the country outliers.

- Both mobility and stringency are found to have been significantly associated with cross-country differences in growth outcomes in the second quarter of 2020.
- An increase (tightening) of the Oxford stringency index by 10 points is estimated to be associated with a reduction of around 1 percentage point in quarterly GDP growth, for a given level of mobility. A decline of 10 points in the Google community mobility indicator is estimated to be associated with a reduction of around 1.7 percentage points in quarterly GDP growth, for a given level of stringency. For real private consumption growth, the respective numbers are 0.6 and 2.8 percentage points. The larger impact of the mobility indicator on consumption growth than on GDP growth may reflect the fact that retail and recreational mobility is more relevant for household consumption than for other economic activities.
- The estimated equations account for roughly 60% of the cross-country variation in GDP growth and around 75% of the cross-country variation in private consumption growth.
- For both GDP and private consumption equations, the

residuals tend to be on average positive in Asia, where containment measures have been relatively mild in some countries, but negative in Europe, where more-restrictive measures were applied. This may point to some potential non-linearities in the aggregate relationships between growth, mobility and containment measures, or it may indicate that some particular types of containment measures, such as full shutdowns, have stronger effects than others.

It is too early to know whether the cross-sectional relationships found for the second quarter of 2020 can be used to help track output growth throughout the pandemic. However, initial estimates for GDP growth in the third quarter of 2020 are correlated with quarter-on-quarter changes in mobility across countries. The estimated relationships for the second quarter of 2020 also provide a guide for potential developments in the fourth quarter of 2020, suggesting that growth may again turn negative in countries that are tightening confinement measures substantially and experiencing marked declines in mobility indicators. However, the relation may be slightly weaker as some potentially hard-hit sectors have not reopened, or their activity remains subdued after the first round of containment measures. There may also have been a growing shift to on-line sales of goods and services, which might reduce the strength of the association between mobility and private consumption growth.

References

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