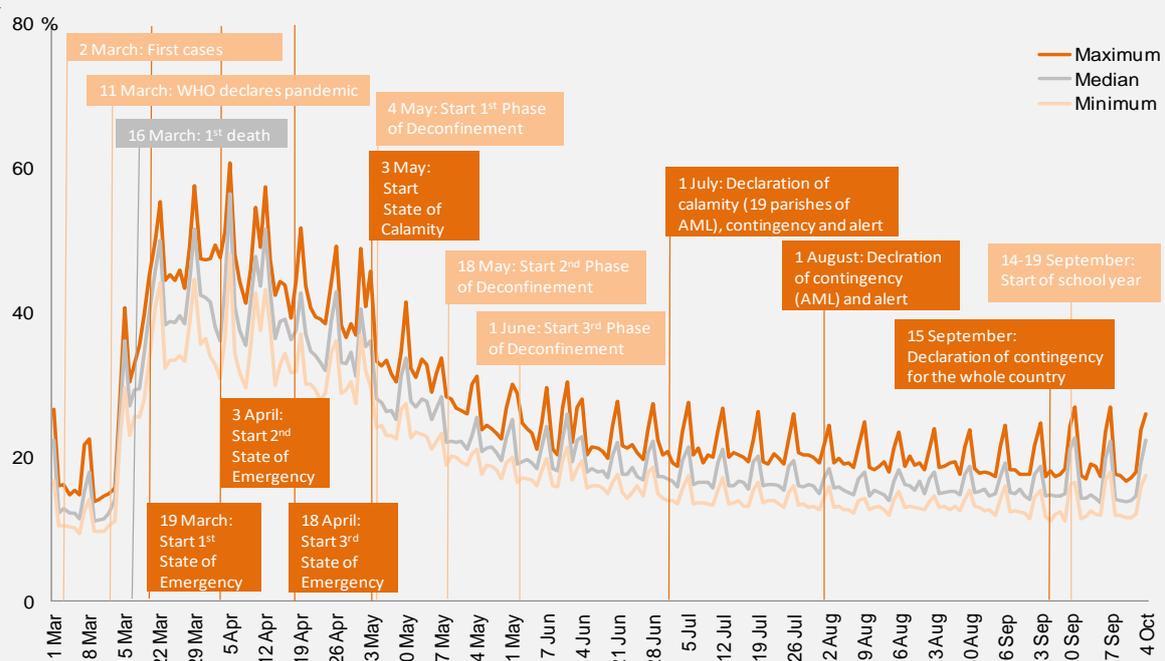


Population mobility indicators at regional level: an analysis based on information from Facebook's "Data for Good" Initiative

Taking advantage of Facebook's "[Data for Good](#)" initiative, the figure below shows the proportion of the population "staying put" between 1 March and 4 October, namely minimum, median and maximum values obtained from the 25 NUTS 3 sub-regions of the country. For a better contextualization of the information, the figure includes the main key moments associated with the COVID-19 pandemic in Portugal. Thus, it can be observed that the days corresponding to Sundays generally indicate less population mobility than the other days of the week. It should also be noted that after the first confirmed cases of COVID-19 and following the declaration of the first State of Emergency on 19 March, there is a reduction in the population's mobility levels, and that an increase of mobility can be observed following the implementation of the deconfinement measures, the first phase of which started on 4 May.

Figure 13 - Proportion of the population "staying put" between 1 March and 4 October – minimum, median and maximum values of NUTS 3



Source: Facebook's "Data for Good" Initiative. Data provided by Carnegie Mellon University. Note: The dates marked on the graph axis correspond to Sundays.

Technical Note

The mobility data from Facebook's "Data for Good" Initiative correspond to location updates collected from mobile devices of Facebook application users that have the "location history" option turned on. Only location accuracy (GPS) data of less than 200 meters is considered and if a user has multiple locations resulting from more than one associated mobile device, Facebook only considers the data with the highest location accuracy. Obtaining results for the NUTS 3 level implies a minimum of 300 unique users per sub-region. The proportion of the population "staying put" is measured by the number of Facebook users associated with a single 600mx600m reference grid during 8am and 8pm on day x, requiring at least three occurrences during that time period. The reference grid, as a "residence" proxy, is measured daily based on the largest number of locations observed between 8pm and midnight on day x-1 and between 0 am and 8 am on day x, requiring at least three occurrences during that time period. The information associated with the 600mx600m grids is allocated to the respective NUTS 3 sub-region. Since a grid can intercept more than one sub-region, 9 sample points are generated in each grid, assigning 1/9 of the grid population to each point in the sample.

Facebook's "Data for Good" initiative aims to provide data for research on humanitarian issues and has allowed results to be published in scientific articles particularly in the United States. Obviously, Statistics Portugal's use of this data source in the Statslab domain is not motivated by any publicity motive, but by the public interest of the information. Statistics Portugal thanks researcher Miguel Godinho Matos for his support in the analytical preparation of this information.

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