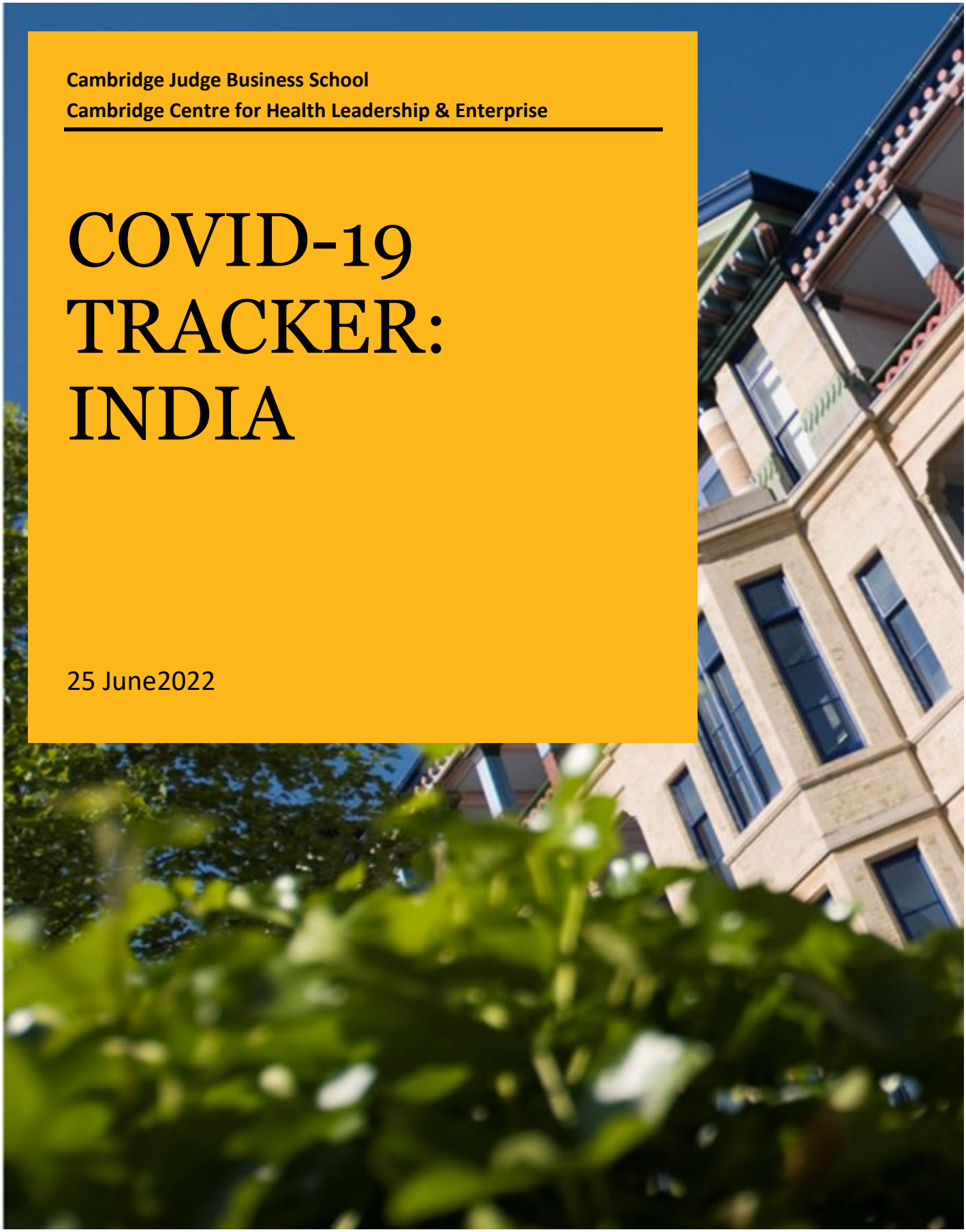
Cambridge Judge Business School
Cambridge Centre for Health Leadership & Enterprise

COVID-19 TRACKER: INDIA

25 June2022



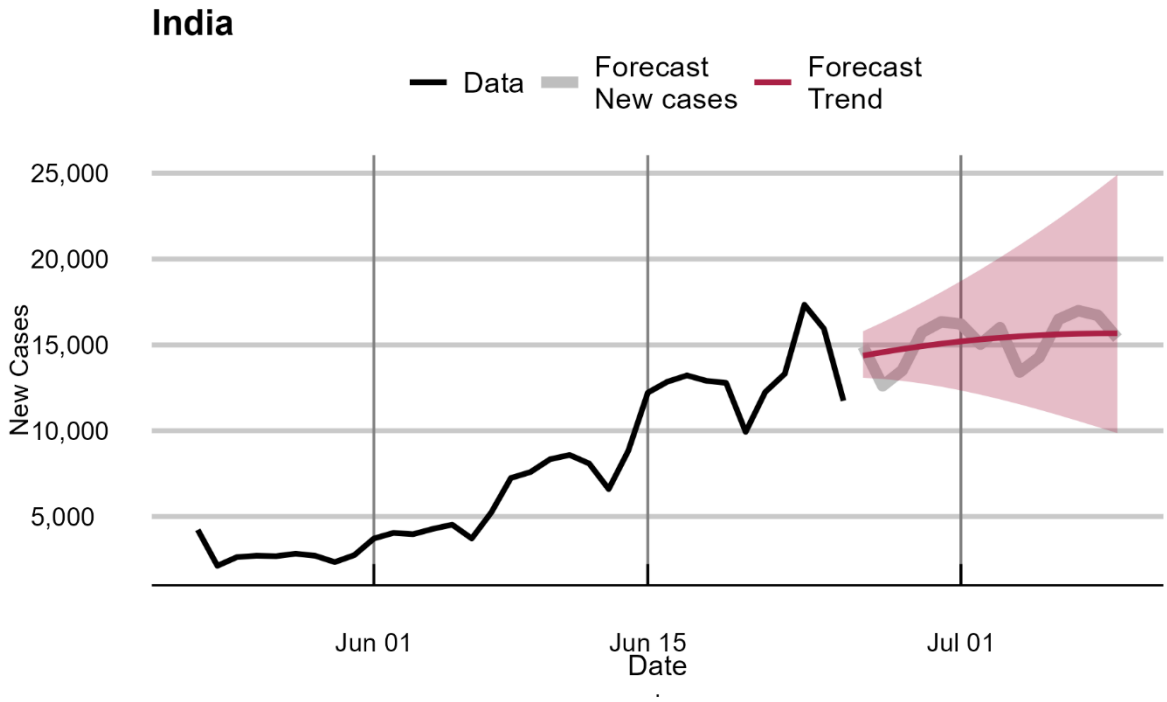
Centre for Health Leadership & Enterprise
UNIVERSITY OF CAMBRIDGE Judge Business School
HSTP Health Systems Transformation Platform
National Institute of Economic and Social Research

The filtered daily growth rate of new cases reported across India as a whole has declined over the past 9 days and stood at 1.6% as of 25 June 2022. The reproduction number on that date was 1.05 and declining. In trend terms, nationwide, daily cases are likely to peak, and the current surge settle, within the current week.

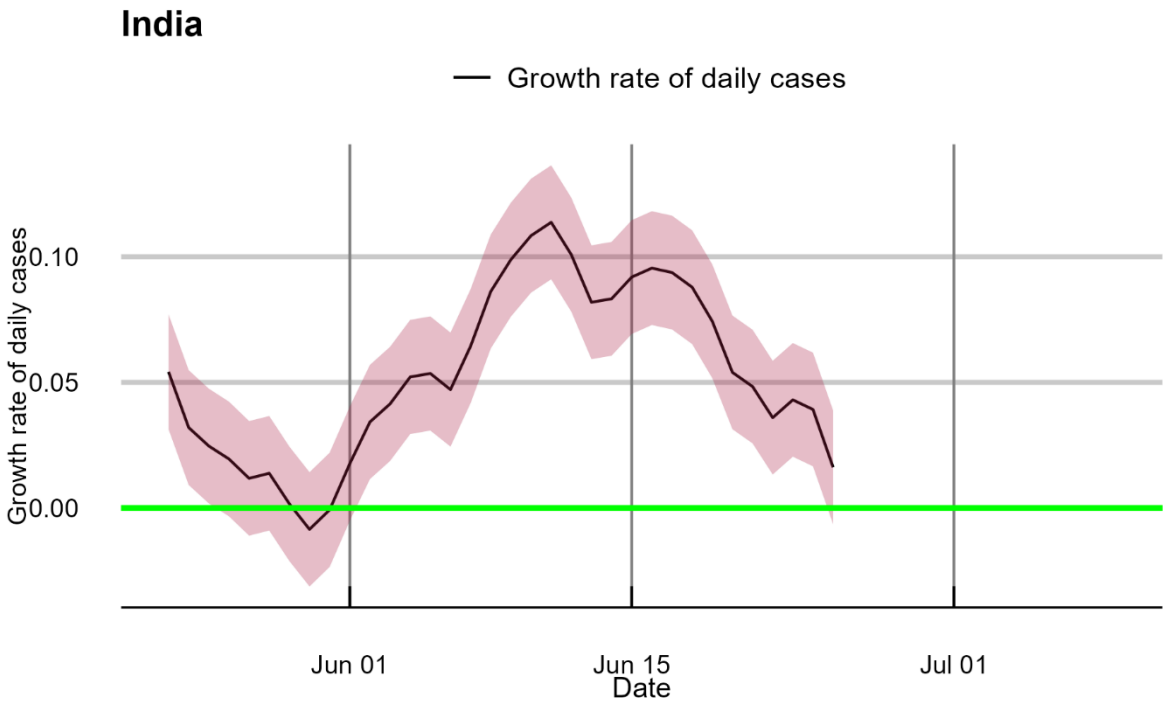
However this optimistic prognosis is conditional on the way infection progresses in a few states. The most concerning are Andhra Pradesh, Bihar, Chhattisgarh, Jammu & Kashmir, Jharkhand, Puducherry and Tamil Nadu where the growth rates of infection have stubbornly exceeded 10% per day, and also have sizeable incidences of infection currently.

Informed general epidemiological opinion is that as COVID-19 turns endemic, there will continue to be recurrent phases of low transmission alternating with phases when infections surge. Thus there is continued potential for viral mutations that circumvent immunity (from vaccination as well as post-infection immunity). It is also known that a non-negligible proportion of those infected by the virus experience long COVID symptoms after infection. These facts highlight the importance of intelligent mitigation efforts, calibrated to not overly disrupt everyday lives. This is all the more important as the reported number of cases are almost certainly gross underestimates of infection in the country.

Forecast of daily Covid-19 cases in India:



Filtered daily growth rate of COVID-19 cases in India

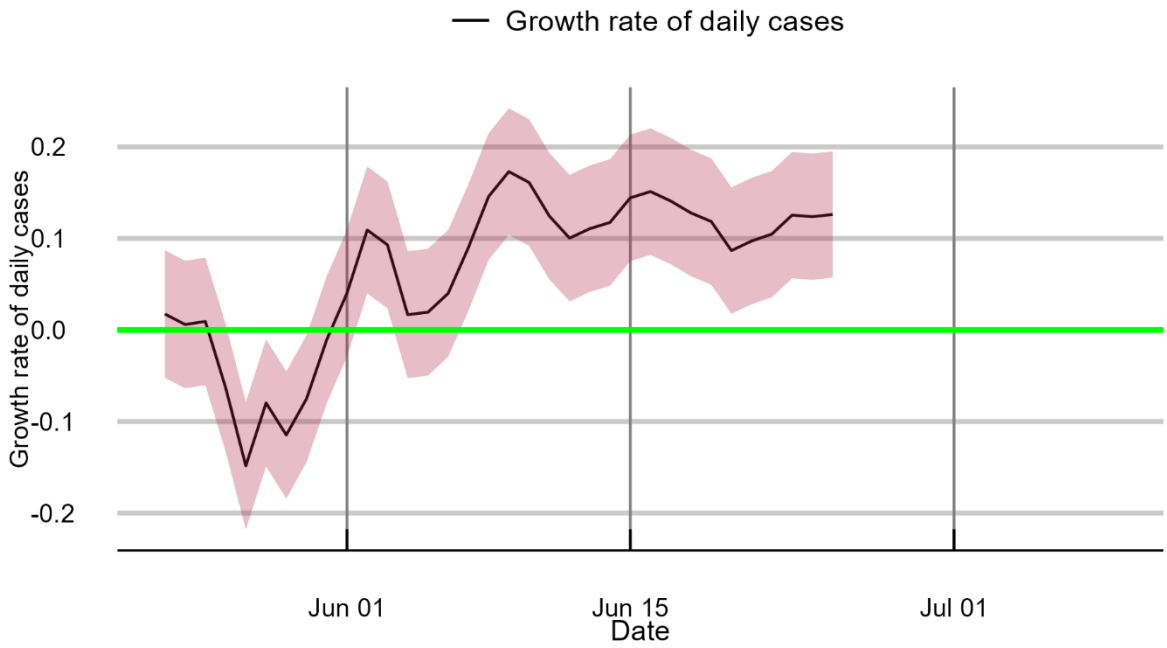


CJBS COVID-19 Tracker for India can be accessed at: www.jbs.cam.ac.uk/covid-india.

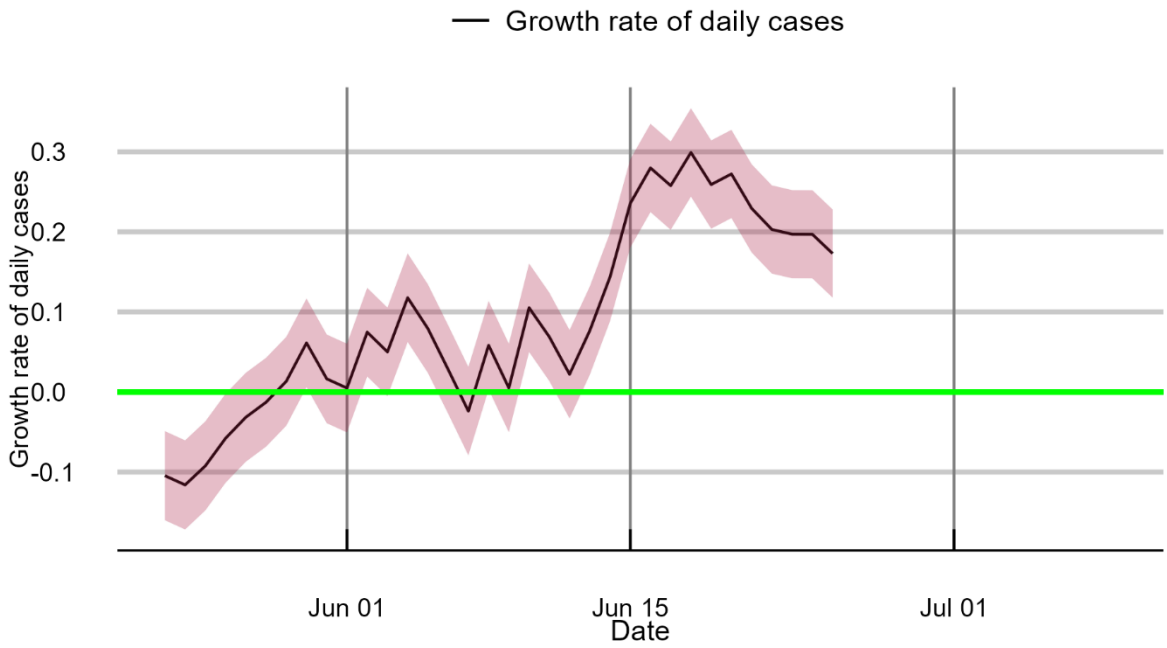
Email: Paul Kattuman

Filtered daily growth rates of cases of COVID-19: States and Union territories in India

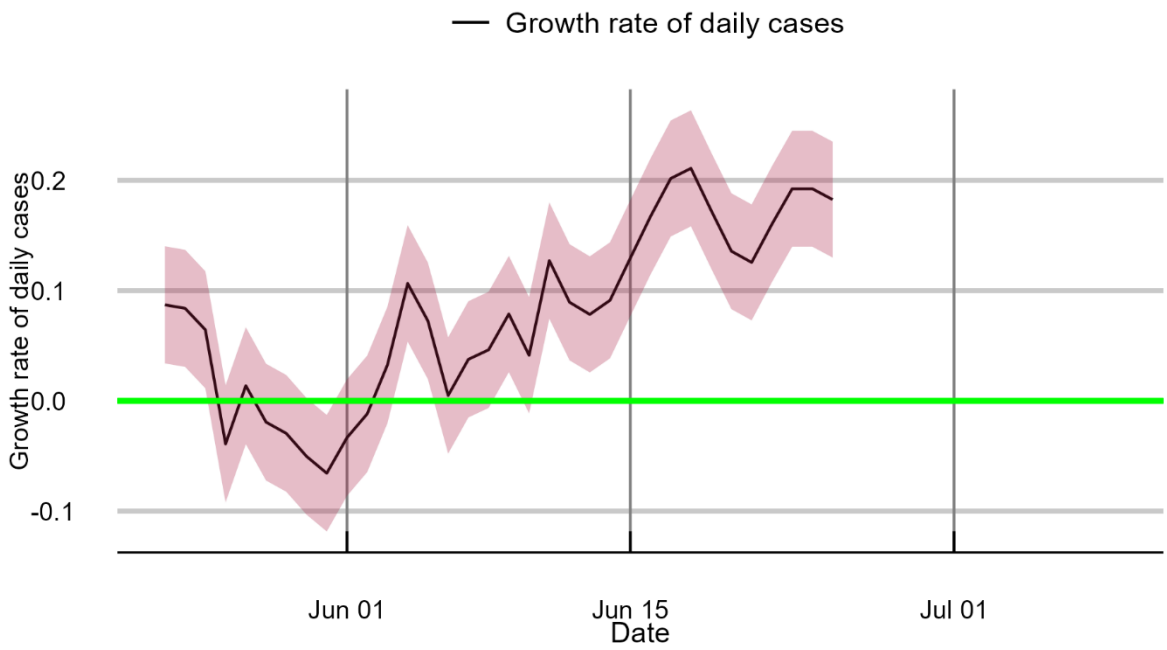
Andhra Pradesh



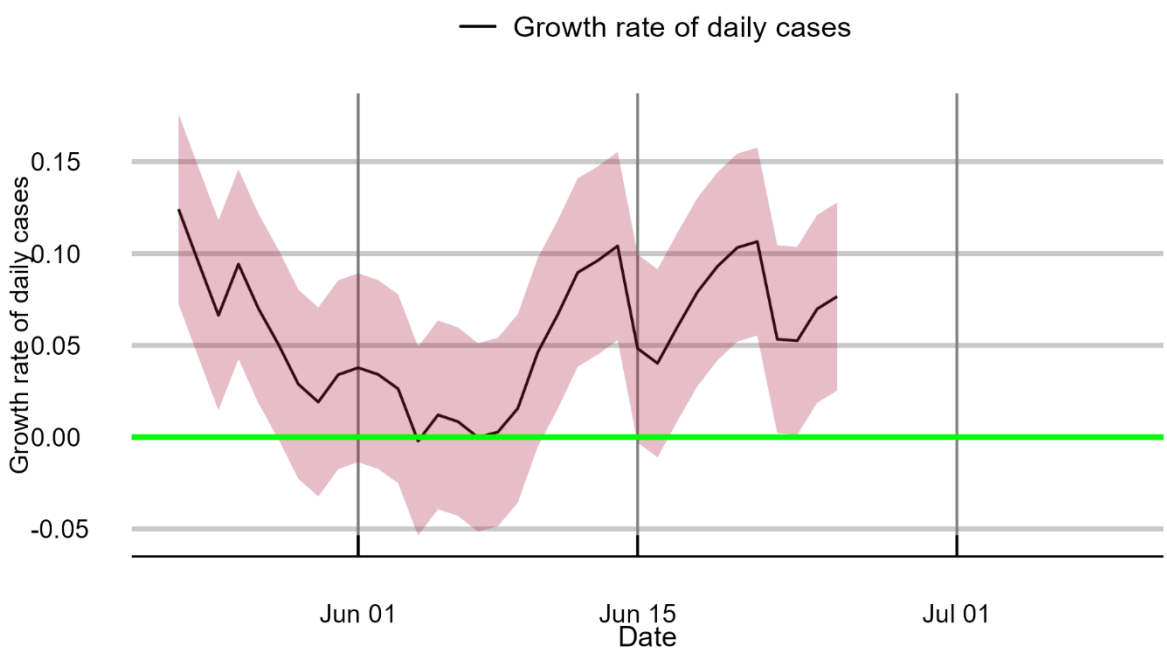
Assam



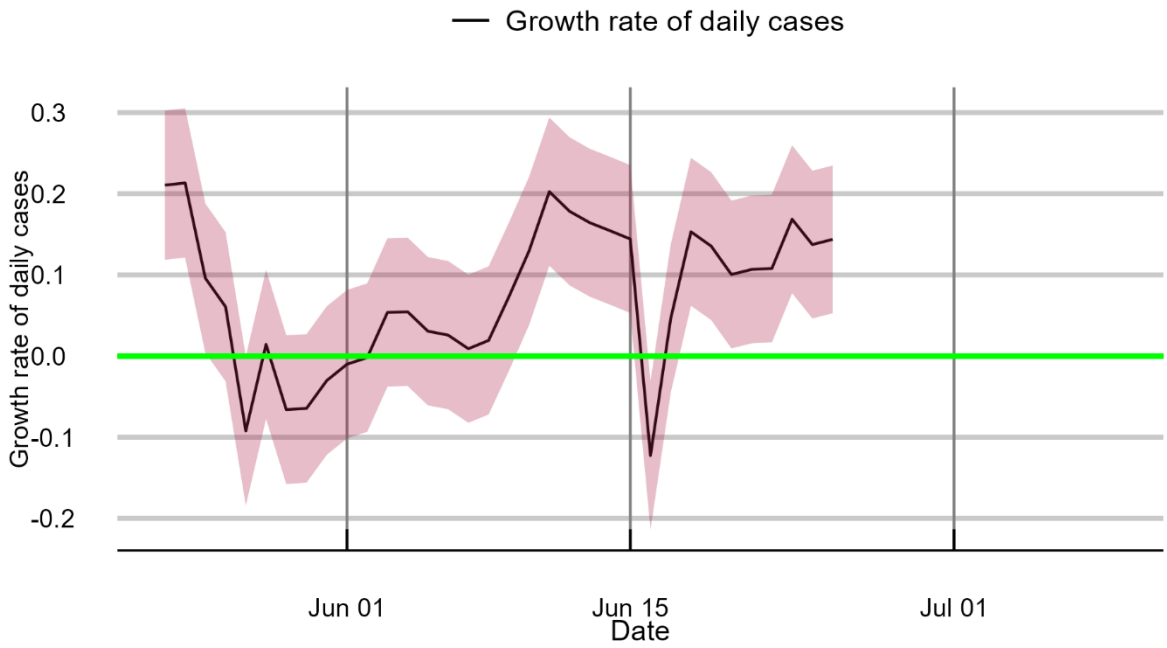
Bihar



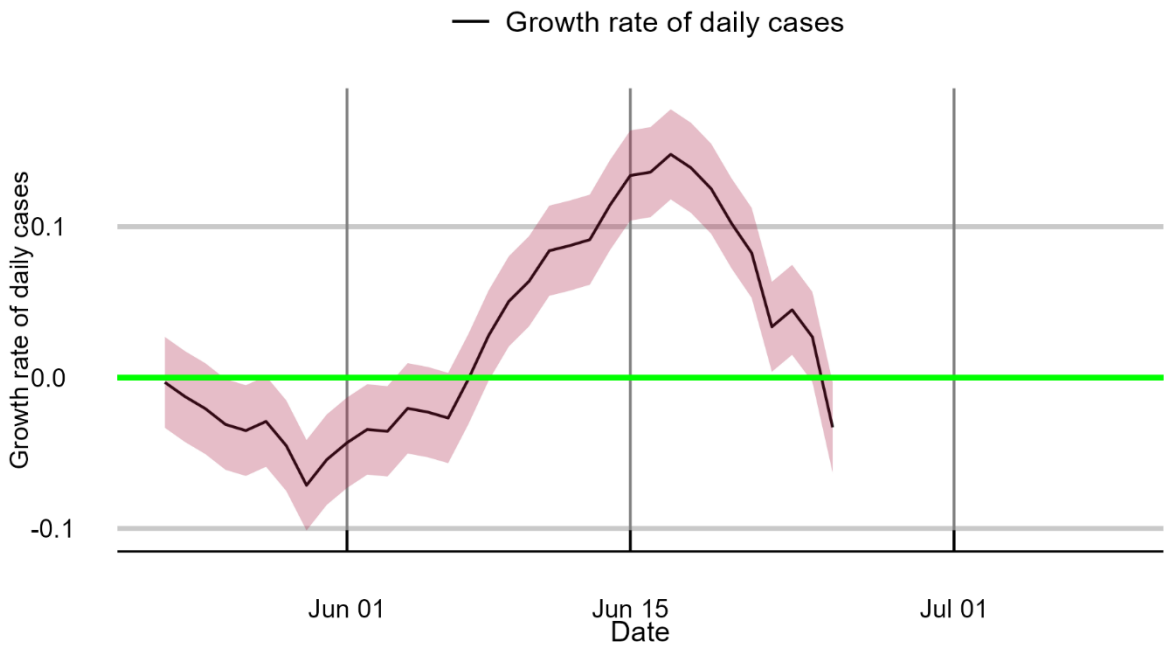
Chandigarh



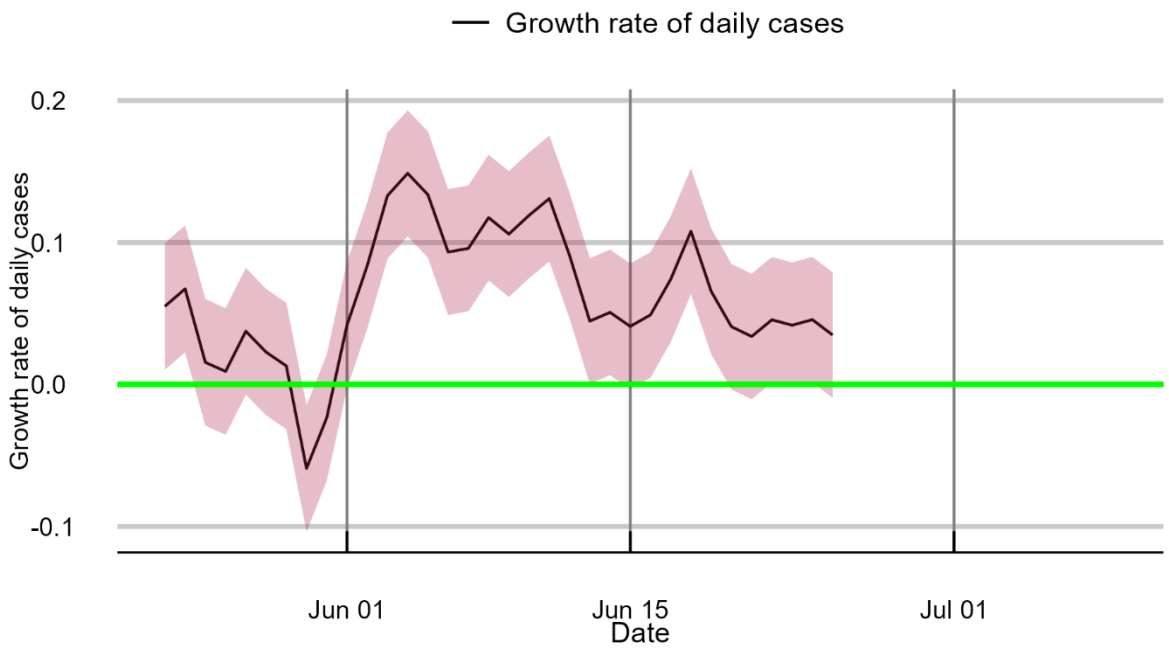
Chhattisgarh



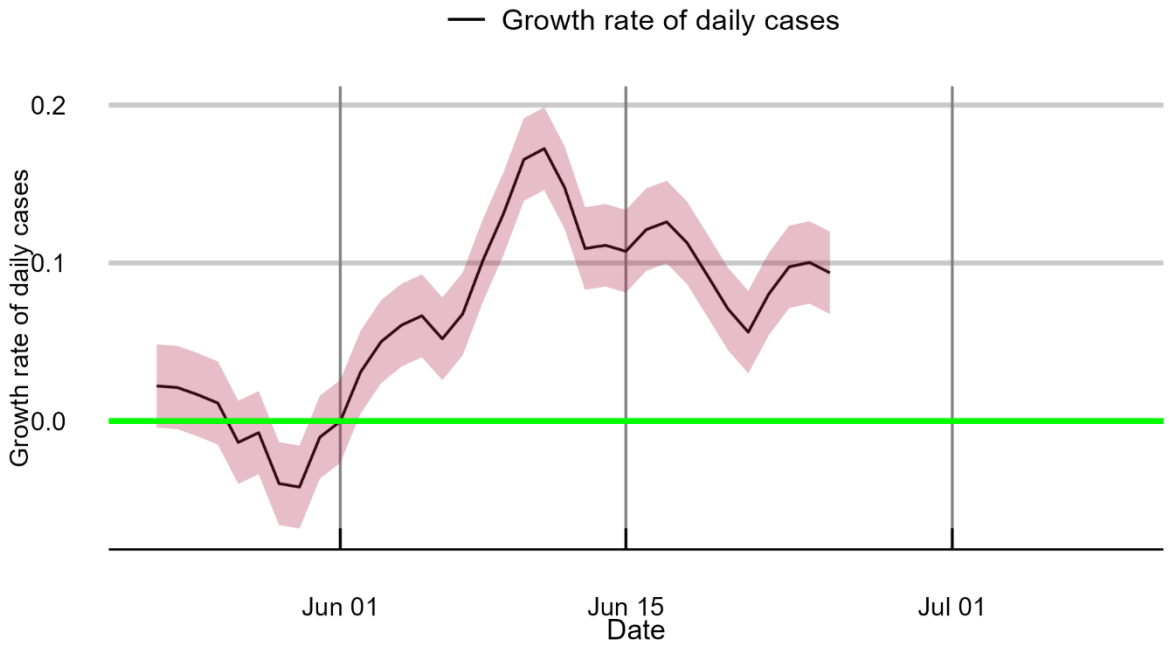
Delhi



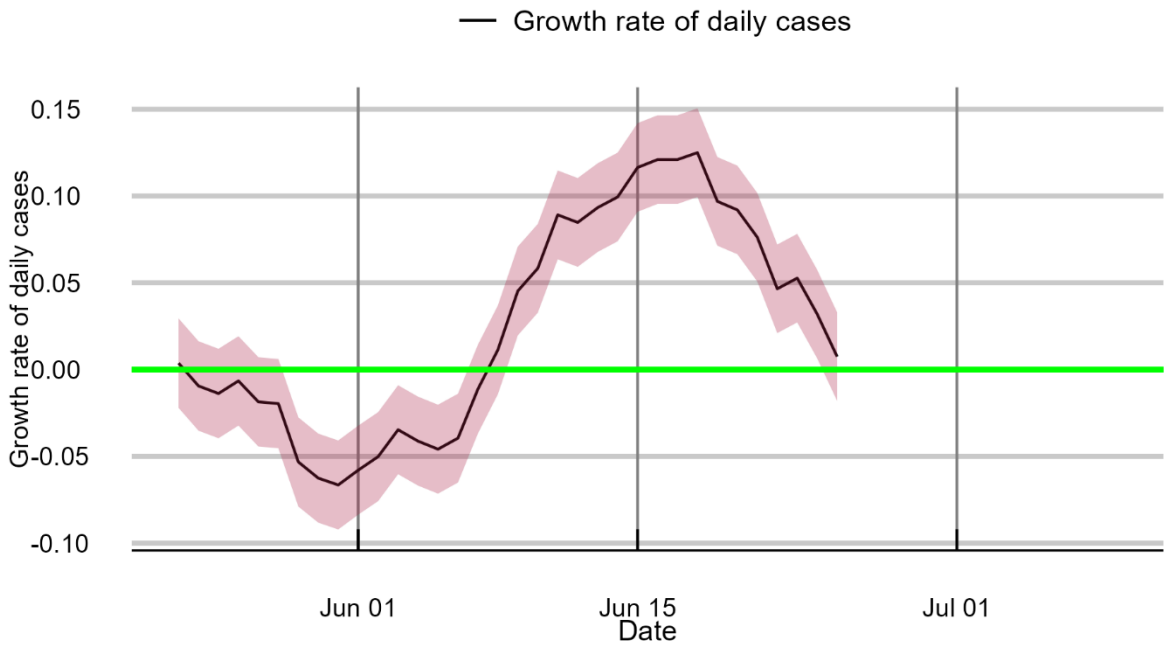
Goa


Growth rate of daily cases
0.2
0.1
0.0
-0.1
Growth rate of daily cases
Jun 01
Jun 15
Jul 01
Date

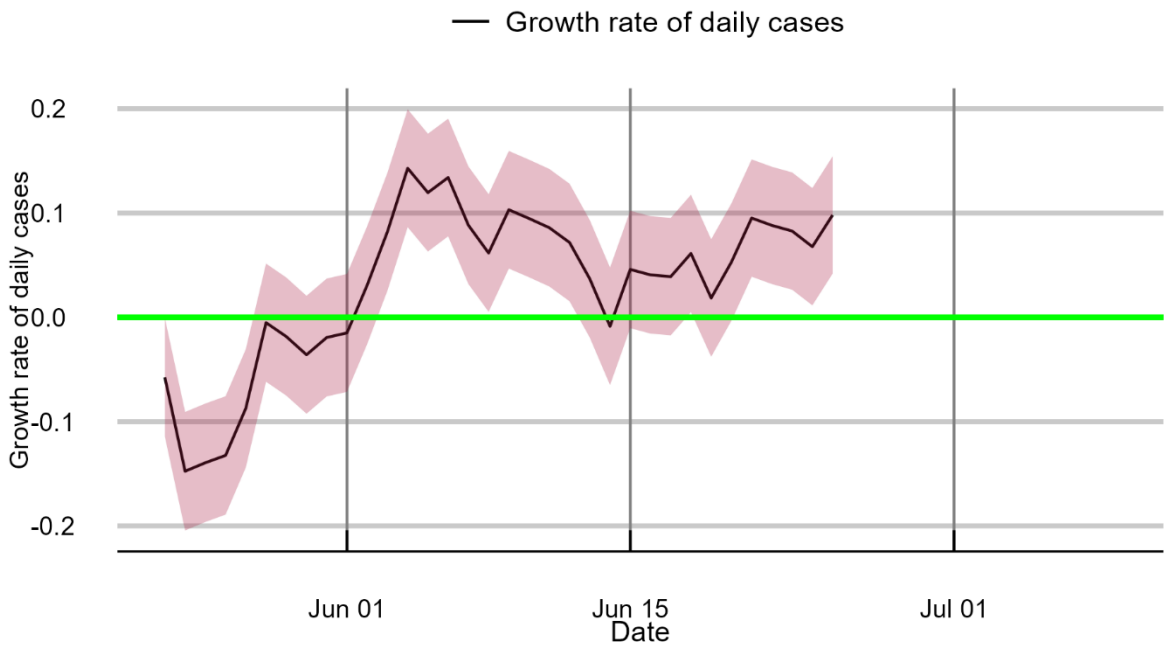
Gujarat


Growth rate of daily cases
0.2
0.1
0.0
Growth rate of daily cases
Jun 01
Jun 15
Jul 01
Date

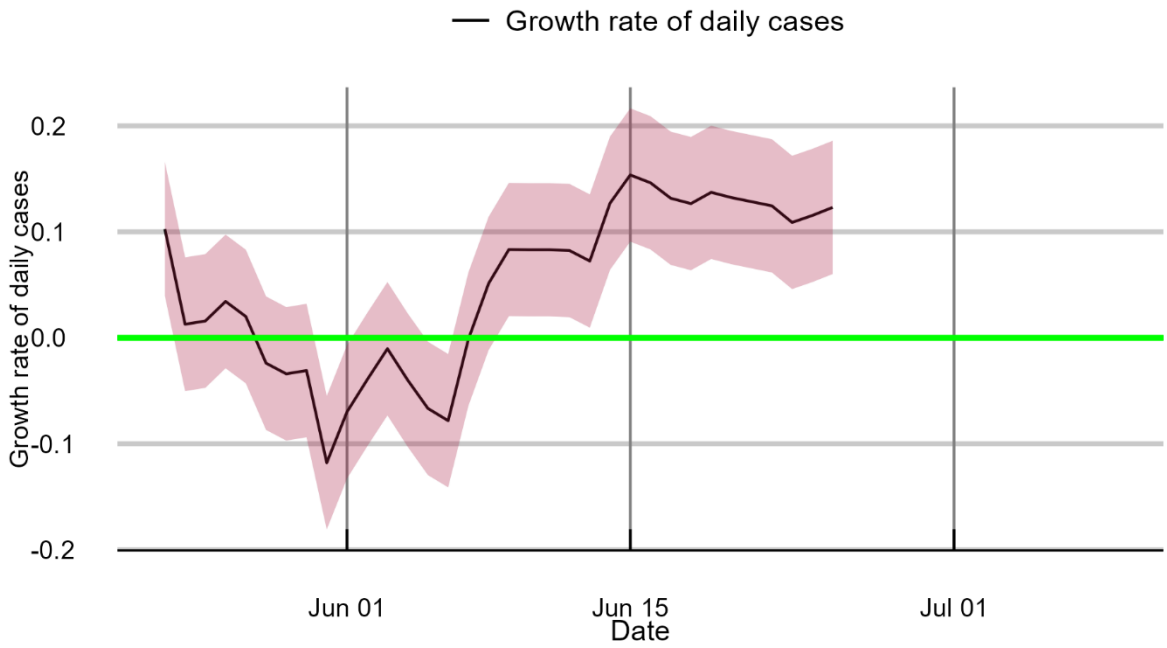
Haryana



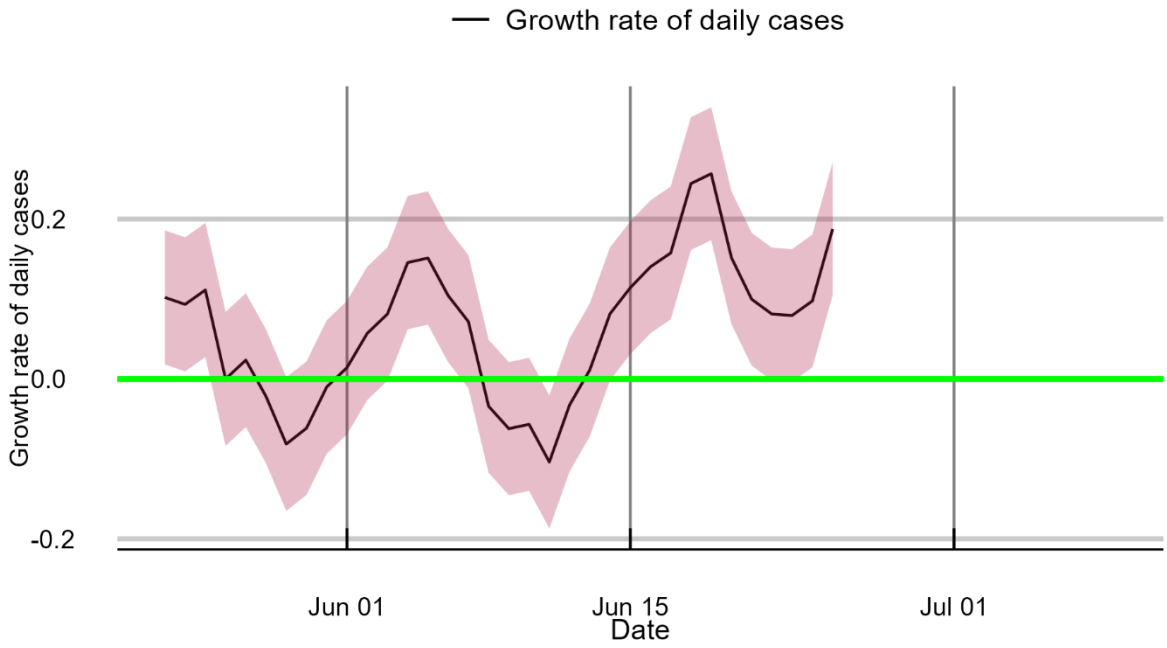
Himachal Pradesh



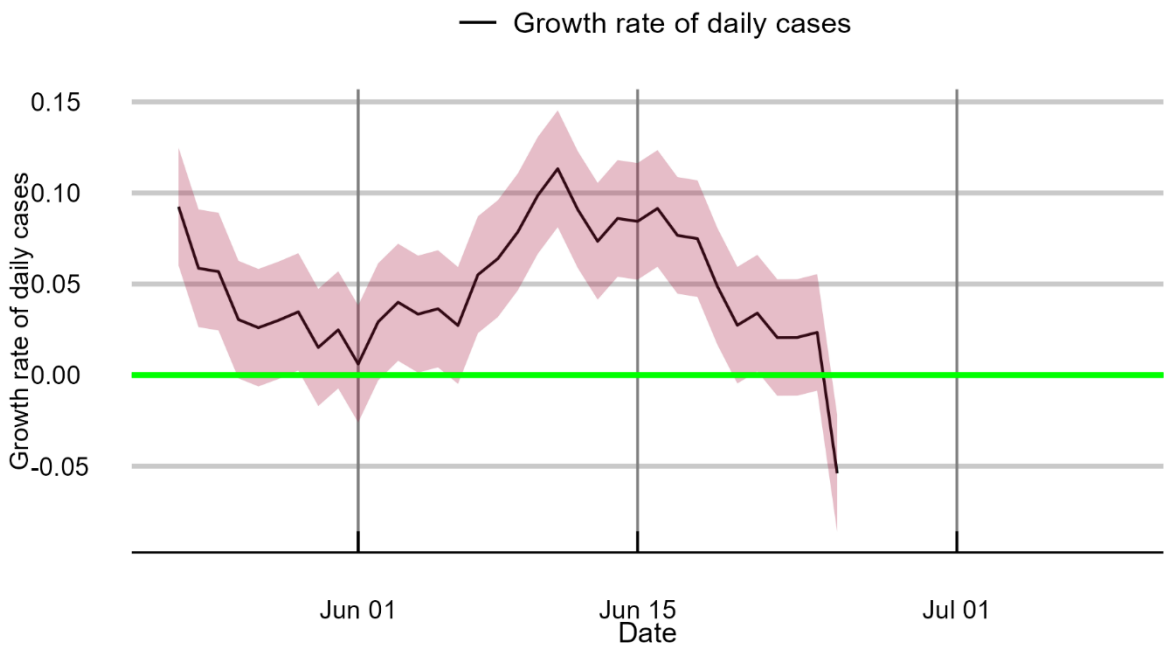
Jammu & Kashmir



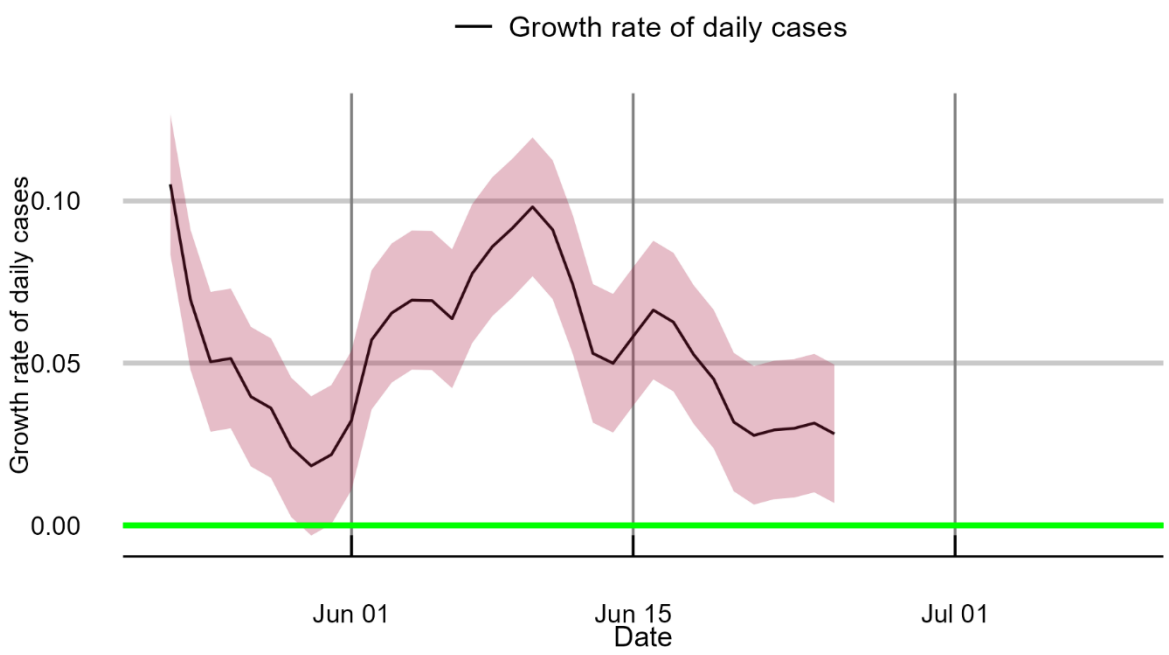
Jharkhand



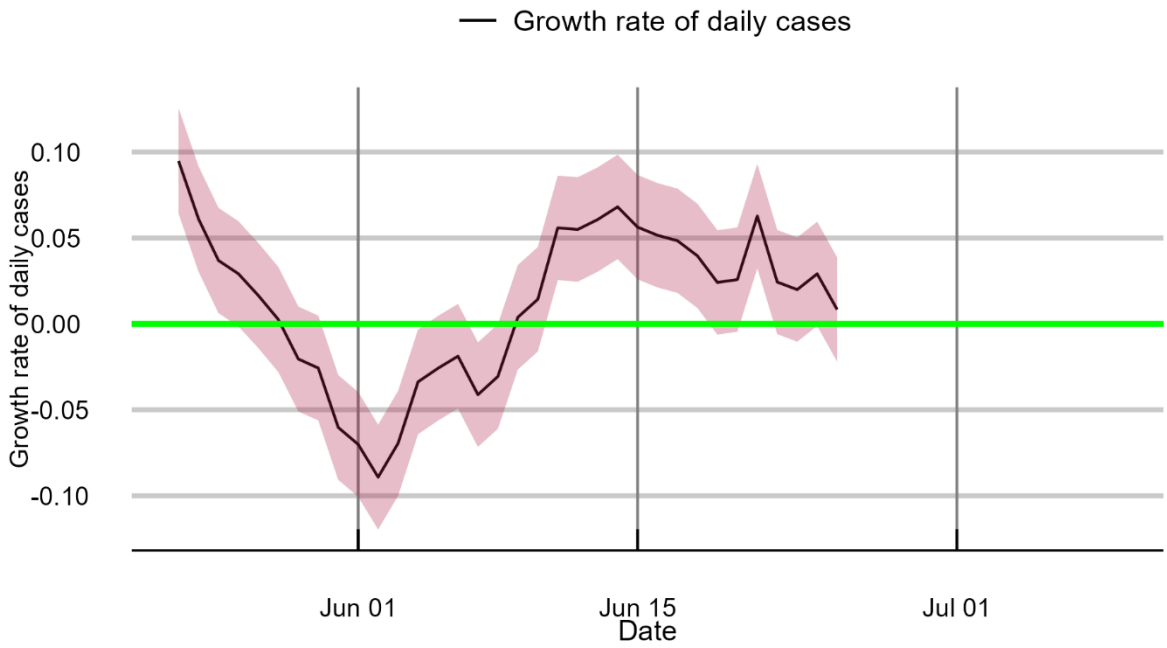
Karnataka



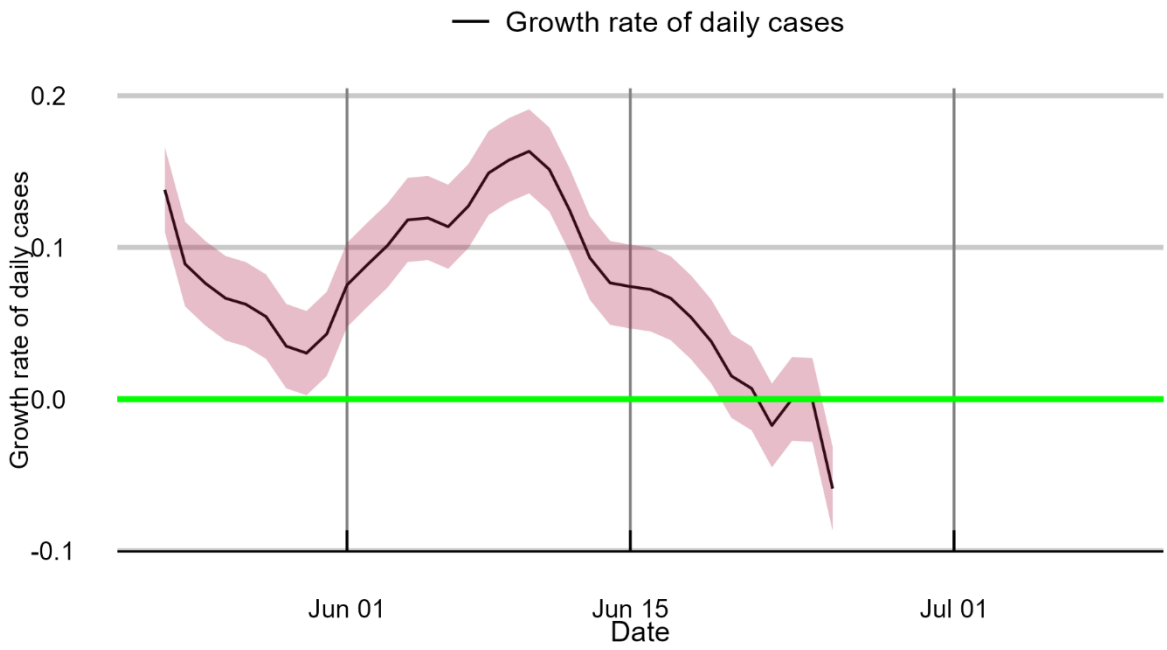
Kerala



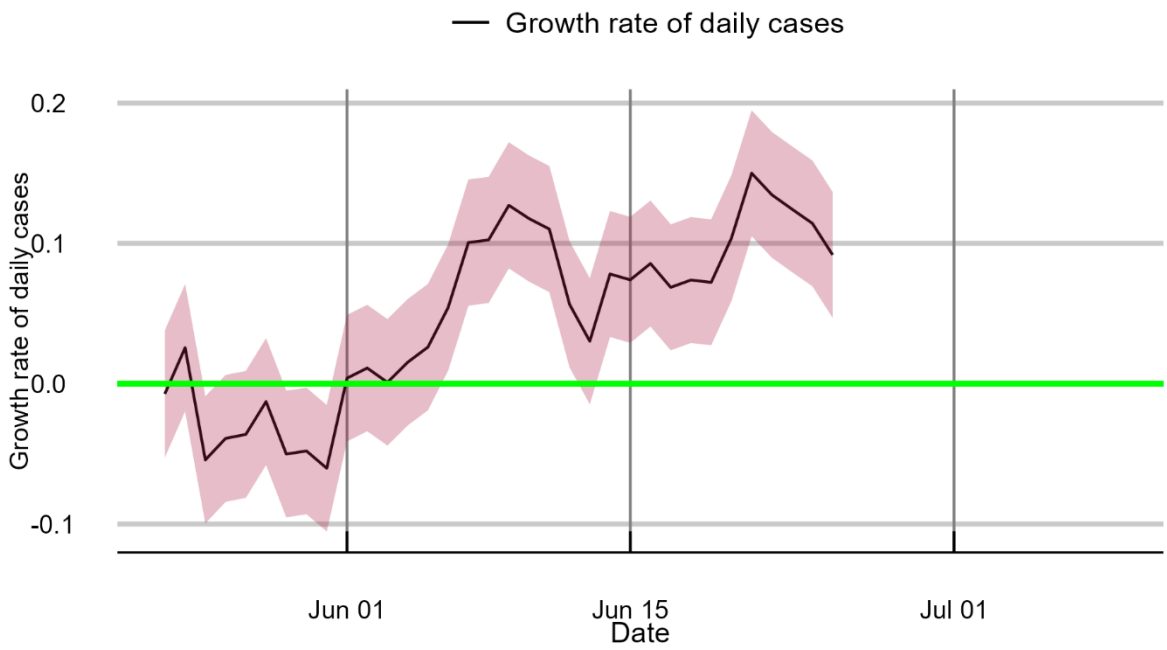
Madhya Pradesh



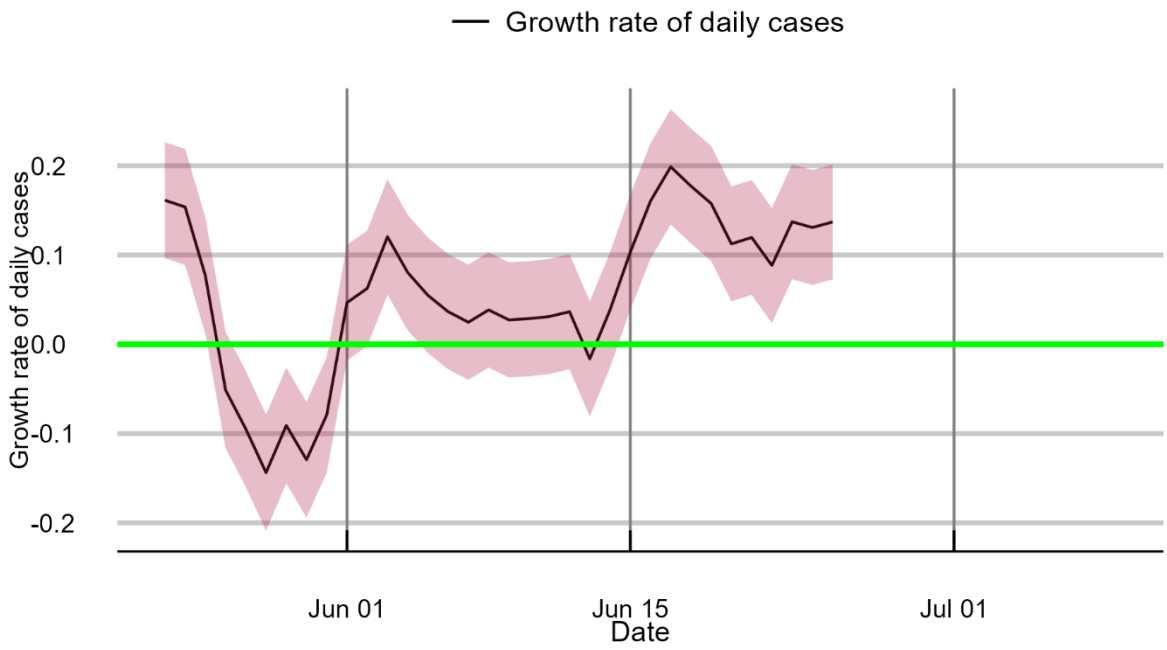
Maharashtra



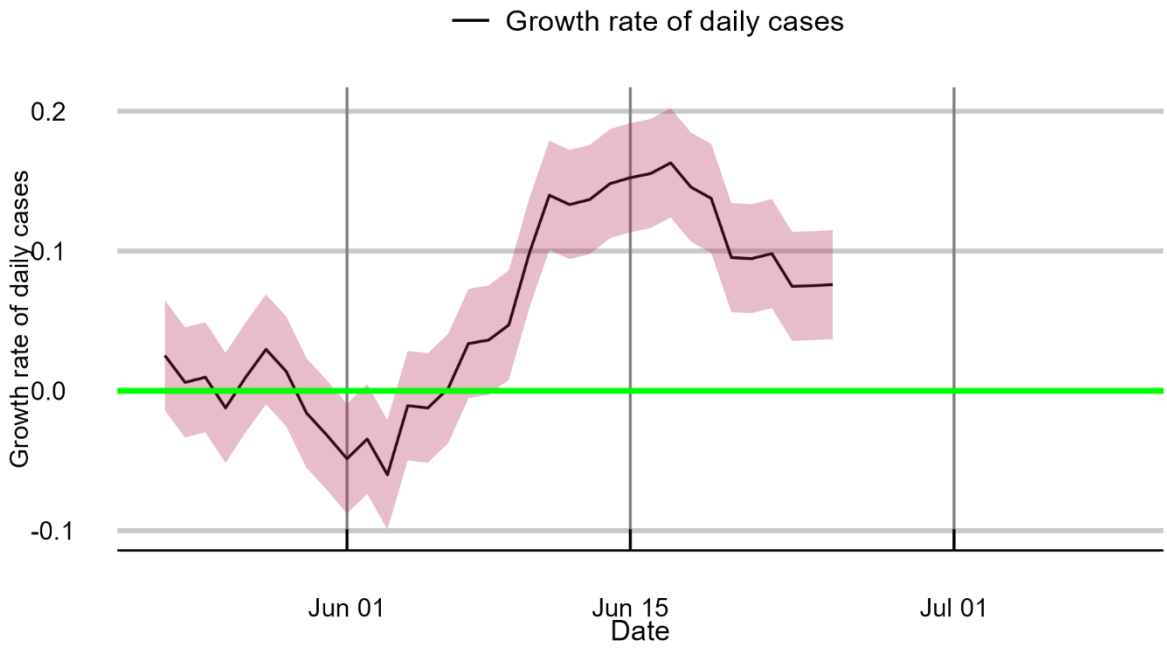
Odisha



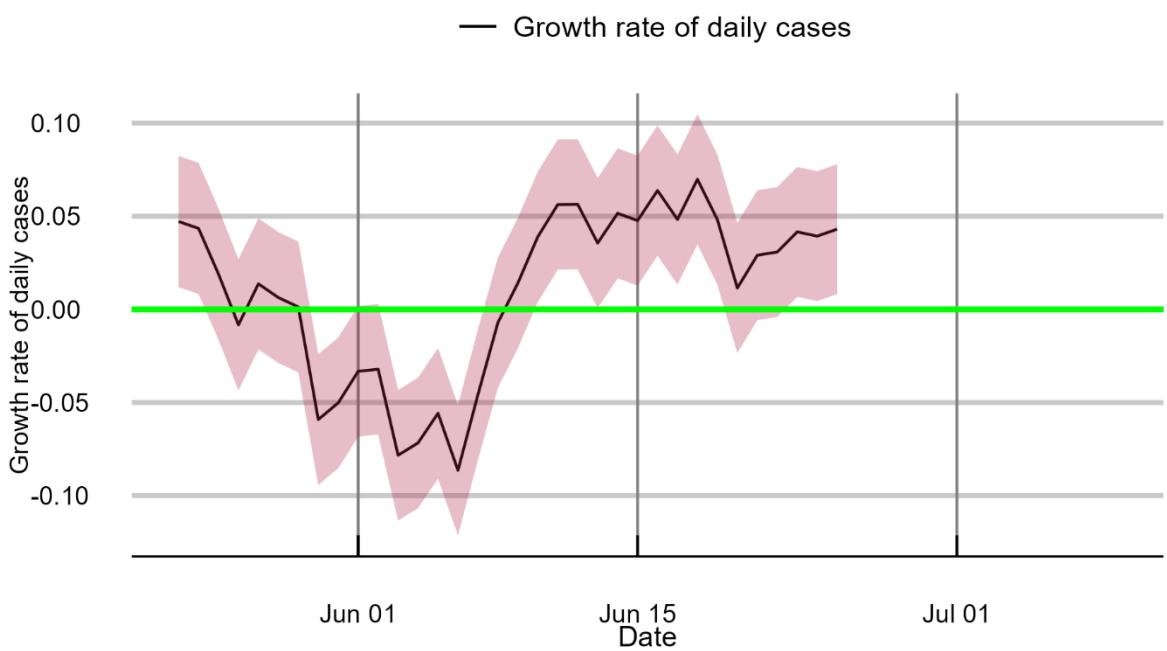
Puducherry



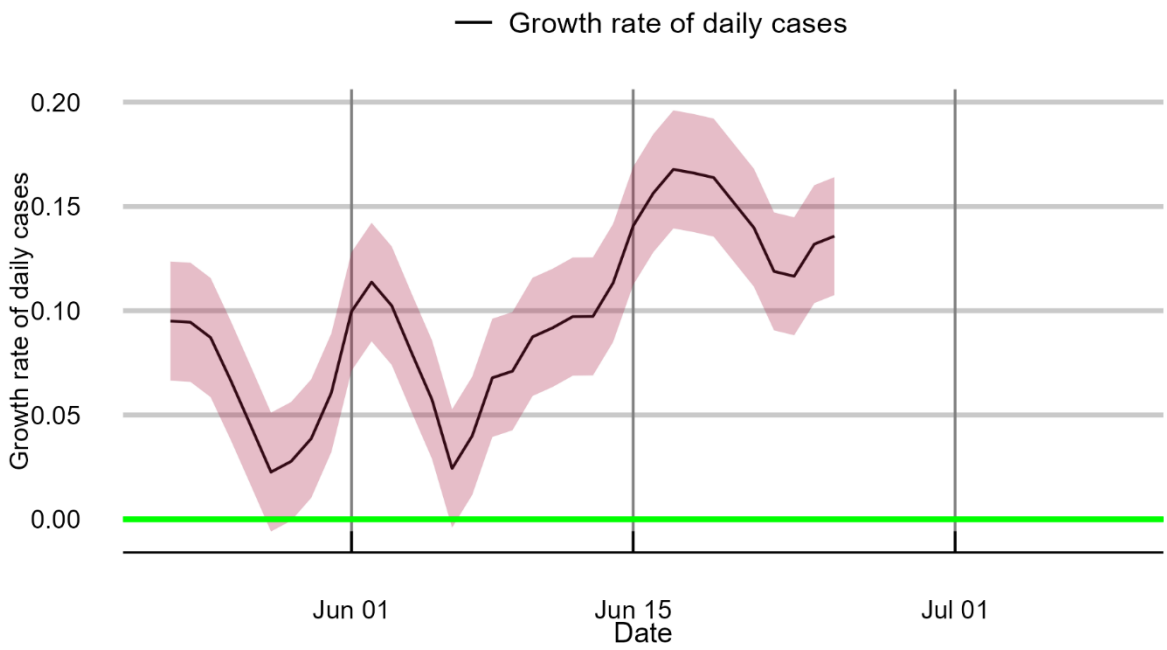
Punjab



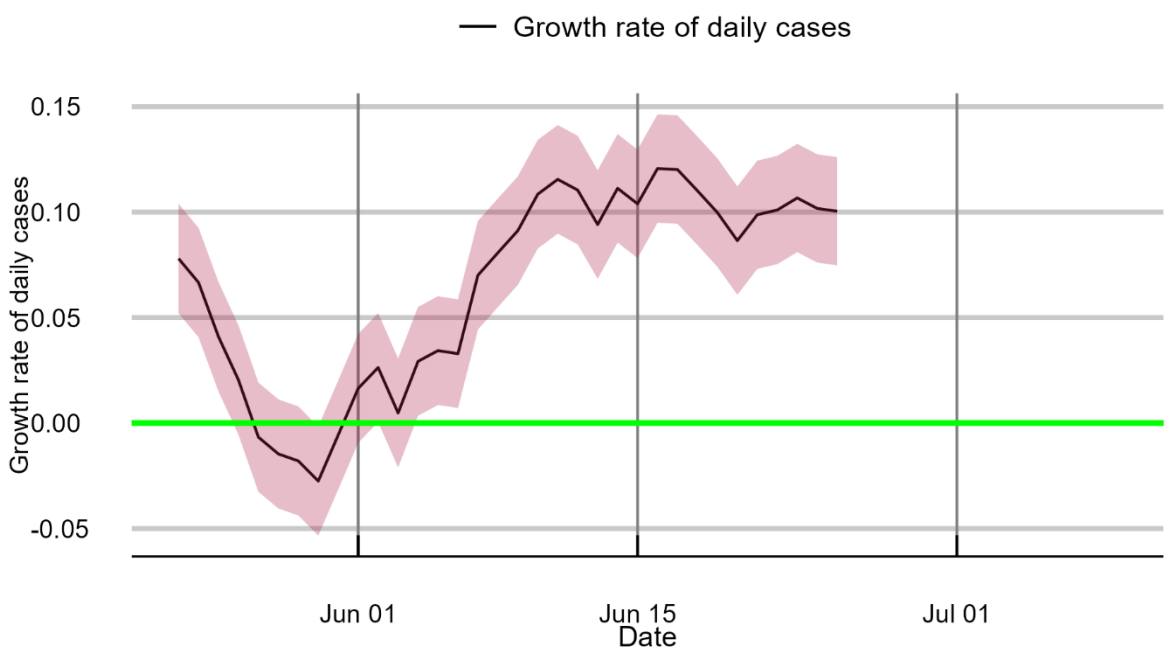
Rajasthan



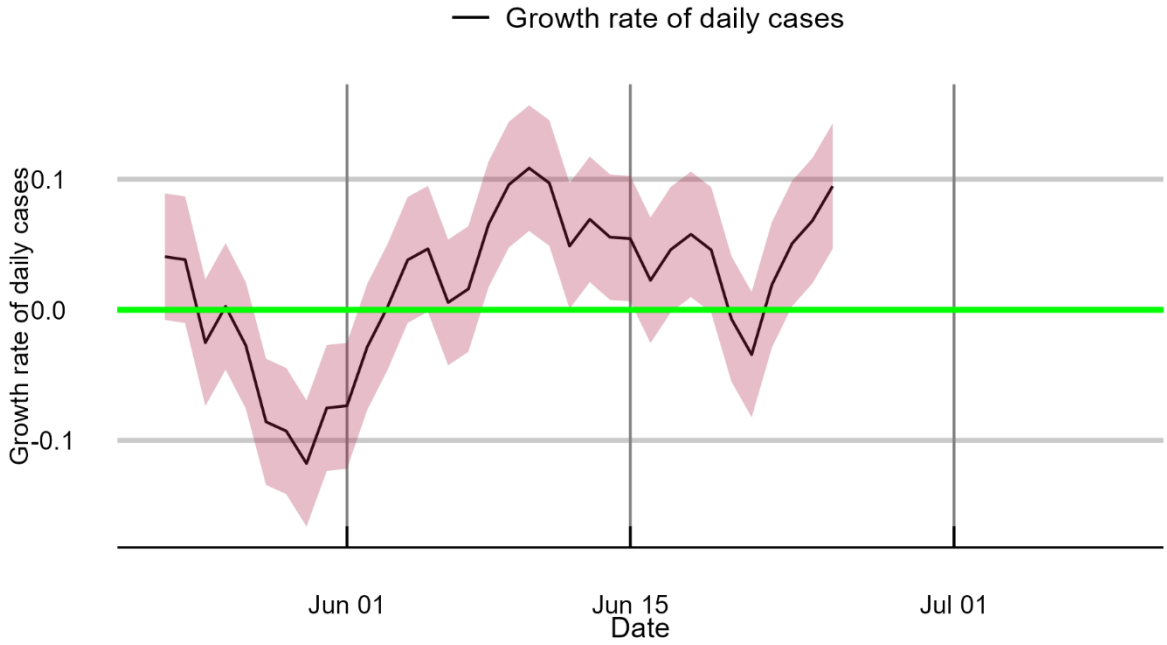
Tamil Nadu



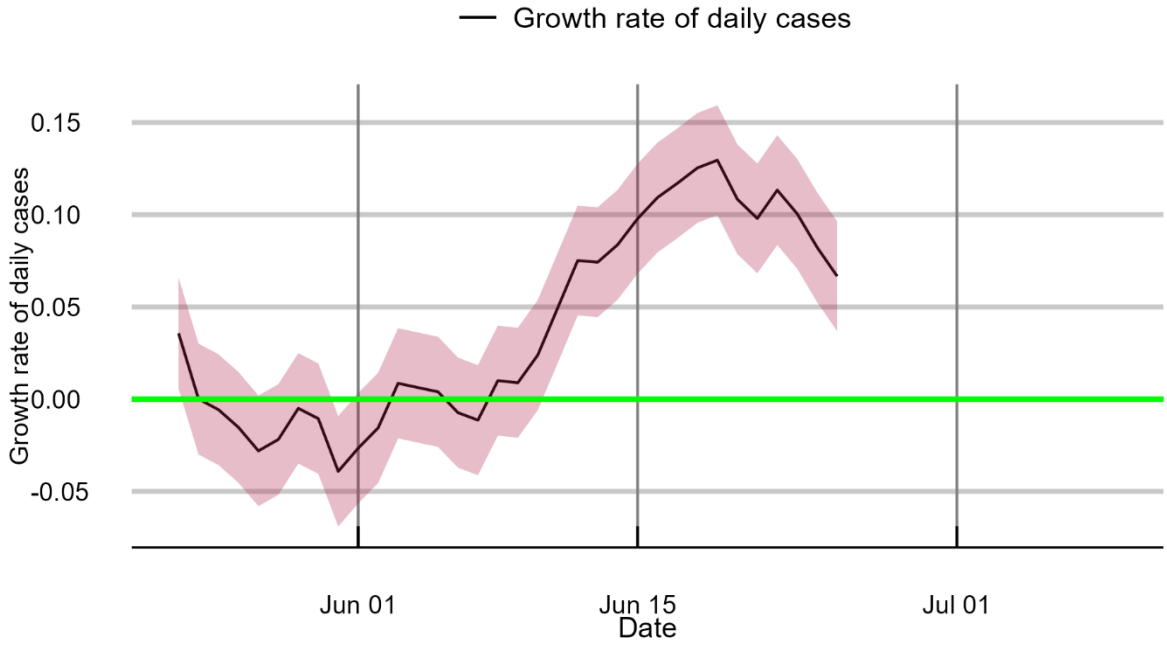
Telangana

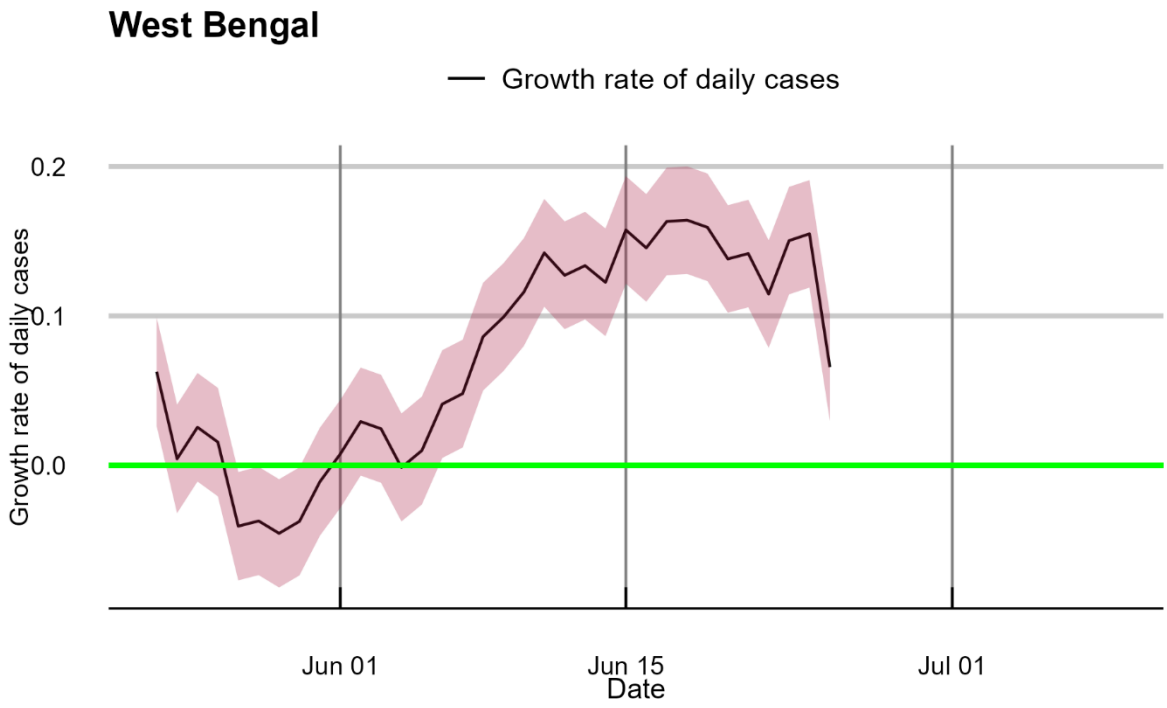


Uttarakhand



Uttar Pradesh




West Bengal
Growth rate of daily cases
0.2
0.1
0.0
Growth rate of daily cases
Jun 01
Jun 15
Jul 01
Date

Notes

This tracker was developed by researchers at Cambridge Judge Business School and National Institute of Economic and Social Research, working with Health Systems Transformation Platform in India, as part of a pandemic monitoring series devoted to India and its states and union territories. It provides short term forecasts of the trajectory of the pandemic, identifying states and union territories that are at risk of increases in infection incidence.

Data: COVID-19 confirmed cases and deaths data are sourced from Johns Hopkins University (JHU), Center for Systems Science and Engineering (CSSE).

New cases: growth rate. The filtered trends presented for daily growth rates of cases are estimated using the Kalman filter, applied to the observed series. The method filters out day of the week effects and random noise to reveal the underlying signal. Unlike methods such as the moving average, this method adapts the trend to changes in real time and characterises underlying patterns of surges or attenuations that are hidden in the volatile series. See: Harvey, A. and P. Kattuman (2020). Time series models based on growth curves with applications to forecasting coronavirus. *Harvard Data Science Review*, Special issue 1 - COVID -19. https://hdsr.mitpress.mit.edu/pub/ozgjx0yn/release/2

Note: Accuracy relies on the quality of the published data. Further, changes in government pandemic policies including testing, and changes in transmission relevant social behaviour may lead to actual outcomes that differ from the current projections.

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