

1. Title: The COVID-19 Pandemic: Government vs. Community Action Across the United States

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3. Abstract

Are lockdown policies effective at inducing physical distancing to counter the spread of COVID-19? Can less restrictive measures that rely on voluntary community action achieve a similar effect? Using data from 40 million mobile devices, we find that a lockdown increases the percentage of people who stay at home by 8% across US counties. Grouping states with similar outbreak trajectories together and using an instrumental variables approach, we show that time spent at home can increase by as much as 39%. Moreover, we show that individuals engage in limited physical distancing even in the absence of such policies, once the virus takes hold in their area. Our analysis suggests that non-causal estimates of lockdown policies' effects can yield biased results. We show that counties where people have less distrust in science, are more highly educated, or have higher incomes see a substantially higher uptake of voluntary physical distancing. This suggests that the targeted promotion of distancing among less responsive groups may be as effective as across-the-board lockdowns, while also being less damaging to the economy.

4. Data Description

We compile a dataset on government policies and physical distancing for the period between February 1, 2020 and March 31, 2020 from various sources. Our main dataset comes from SafeGraph, a California-based company that provides data on over 4 million points of interest (POI) across the United States, along with the associated foot traffic at those places, collected from up to 40 million mobile devices. The data was made available to academic researchers by SafeGraph to study the COVID-19 pandemic. We aggregate this data to the state and county level to estimate the effect of state- and county-level lockdown policies.

Data on government measures implemented to combat the COVID-19 spread has been retrieved from the National Association of Counties (NACO) and the National Governors' Association. For each state and county, we obtained data on whether and when they declared a state of emergency (SOE) and implemented business or school closures and safer-at-home policies. The dates for school closures were obtained from the official websites of the administrations of the 50 states and the District of Columbia.

Finally, we source data on demographic patterns from the American Community Survey (2018), the Quarterly Census of Employment and Wages, the United States Department of Agriculture's Economic Research Service, the MIT Election Lab, and the United States Congress Joint Economic Committee.

5. JEL Codes

I12, I18, H12, H75, D04.

6. Keywords

COVID-19, difference-in-differences, instrumental variables, NPI, community action, physical distancing, lockdown, county, state, big data.