COVID-19 and Remote Work

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Motivation

- What does the evolution of remote work in the US look like in the pandemic?
- What predicts these shifts? How do they vary across states, demographic groups, and why?
- How permanent are these shifts?

- Illustrate the usefulness of swiftly and cheaply deploying surveys to get almost real-time data and inform policy makers how unexpected shocks are reshaping the economy

Methodology

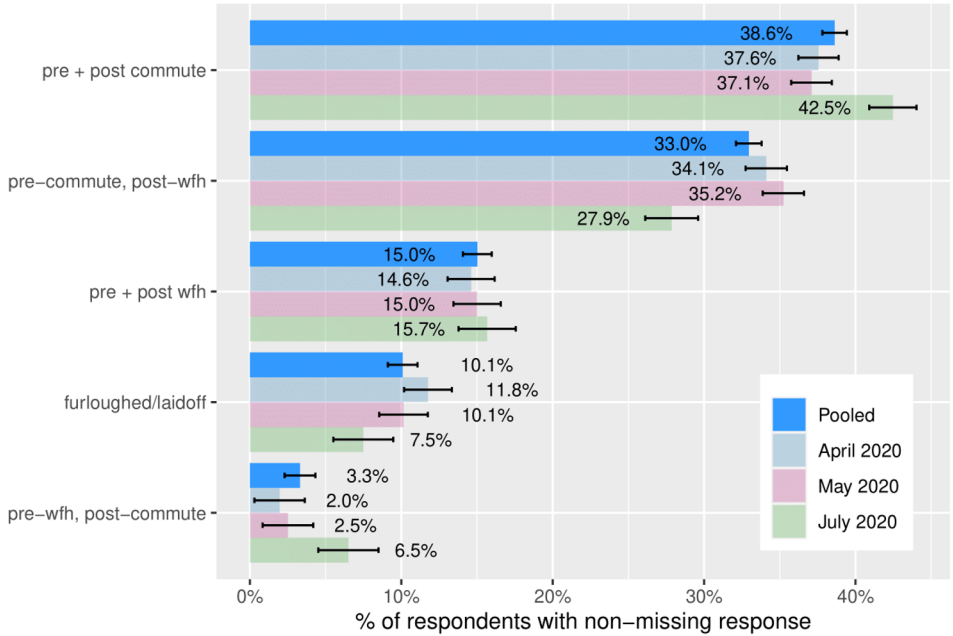
- 3 waves of Google Consumer Surveys (15k-25k observations each)
  - April, May, and July 2020
- Fast deployment with a rich set of inferred demographic data
  - Gender, age group, and geography
- Google has a vast network of websites participating in its ad network and it intercepts survey takers through those websites
  - Paywall-like: access content once you take the survey
- Estimates resemble more traditional, expensive surveys: Dallas Fed in August estimated average increase of around 27% in remote workforce since the start of the pandemic until August in Texas, consistent with our national estimate.

Survey details

- Question: Have you started to work from home in the last 4 weeks?
  - Timeframe is important, we consider the end of February 2020 as the start of COVID-19 in the US. In the April version we use “4 weeks” because the country started taking COVID-19 seriously in March.
  - May and July waves change this to since the start of the COVID pandemic.
- Answer options (order randomized except for last one):
  - I continue to commute to work
  - I have recently been furloughed or laid-off
  - Used to commute, now work from home
  - Used to work from home and still do
  - Used to work from home, but now I commute
  - None of the above / Not working for pay

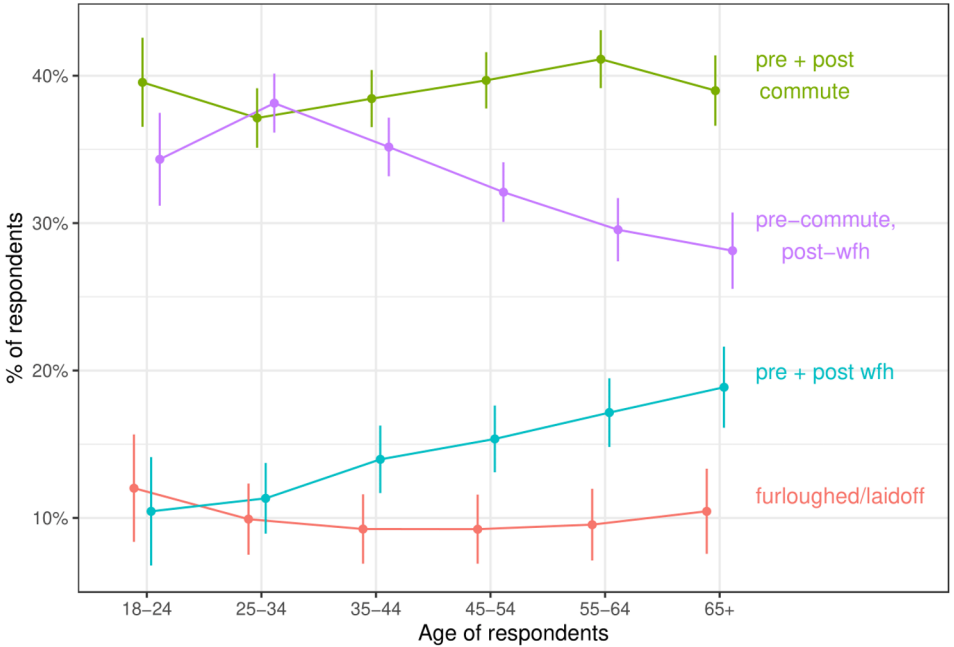
Results Overview

- Overall results broadly consistent across waves
- Switch to WFH is the second most common response (33%)
- On average, in between April-July, nearly **half the workforce** was working from home among the working respondents
- Consistent with: Barrero et al. (2020) of workers making above $20k, Dallas Fed



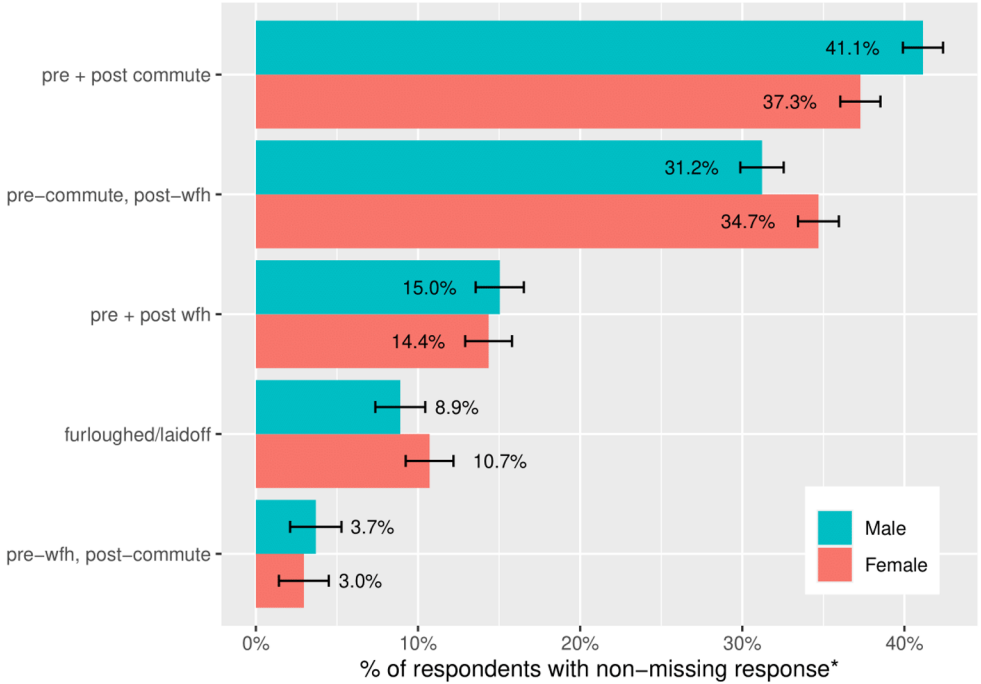
Breakdown by Age Group

- Similar proportion of workers continue to commute to work across all age groups, as is also the case for the recently furloughed or laid-off worker contingent
- Proportion of respondents that has recently converted from commuting to work to remote work drops as we move from younger to older cohorts.
- This is driven by the fact that the older cohort was more likely to be working from home prior to the pandemic's onset.



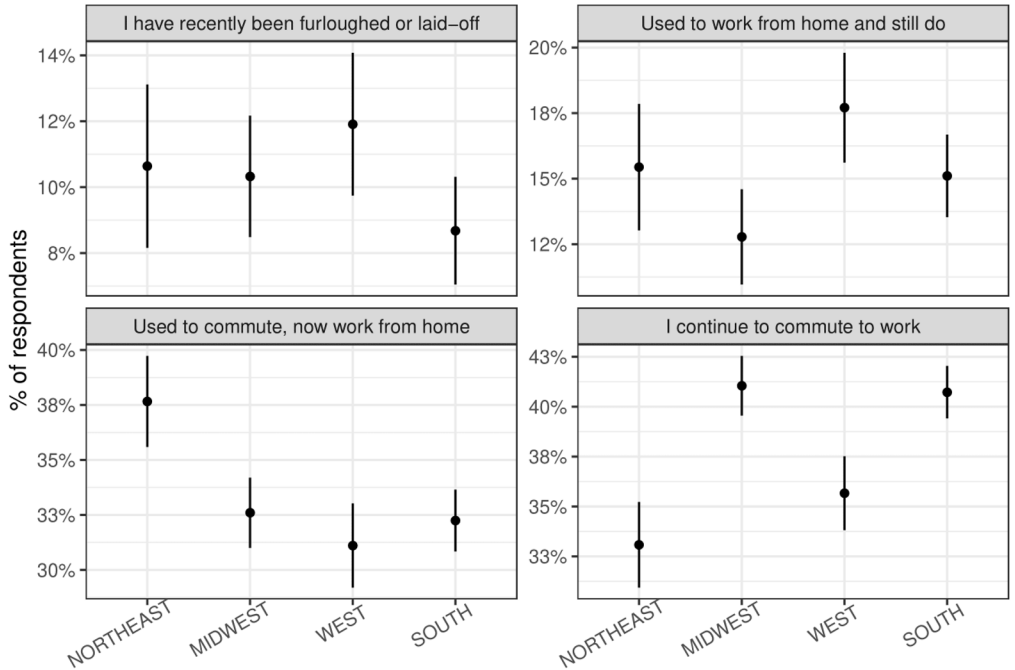
Breakdown by Gender

- Statistically significant differences for
  - “I continue to commute to work”
  - “Used to commute, now work from home"
- It appears that **men were modestly more likely to continue to commute** to work.
- **Women were more likely to report switching** from commuter to work from home status.



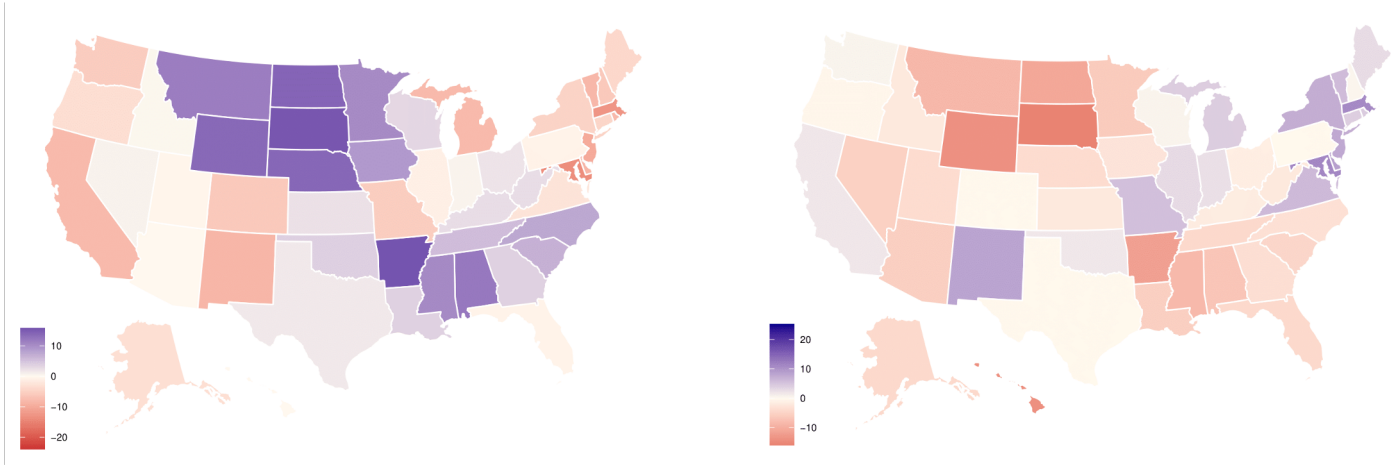
Breakdown by Region

- Pooled across all survey waves we see that, from April-July, the South and the Midwest had the highest fractions still commuting to work and the Northeast had the lowest.
- The Northeast had the highest fraction of respondents switching to working from home.
- “Used to commute, now work from home" + “Used to work from home and still do" = rough estimate of the total fraction of employed respondents working from home -> Northeast highest



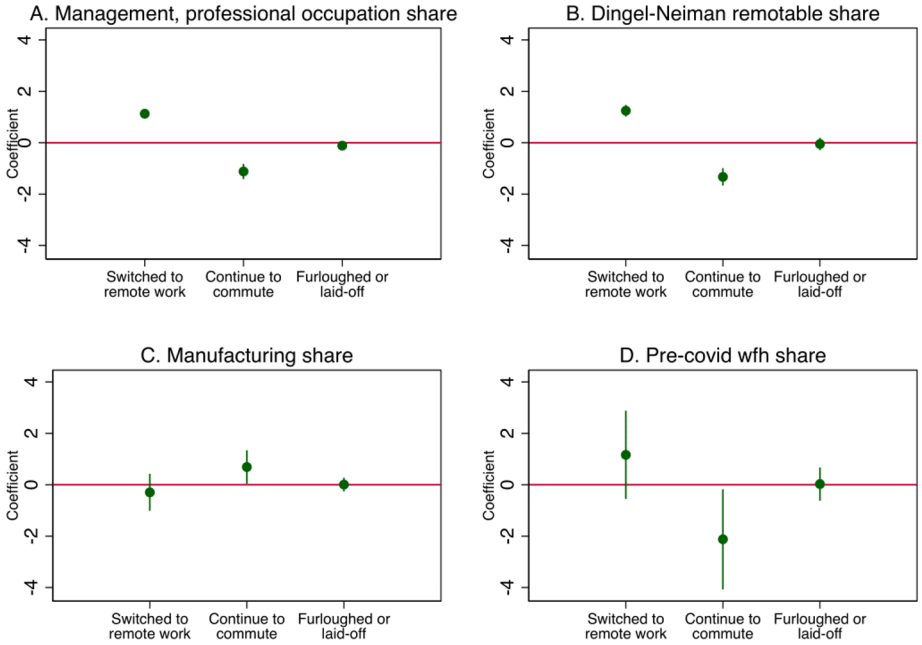
Breakdown by States (pooled, levels)

Maps showing deviations from the national average in percentage points. Responses illustrated: “continue to commute” (Left), “switch from commute to remote” (Right)



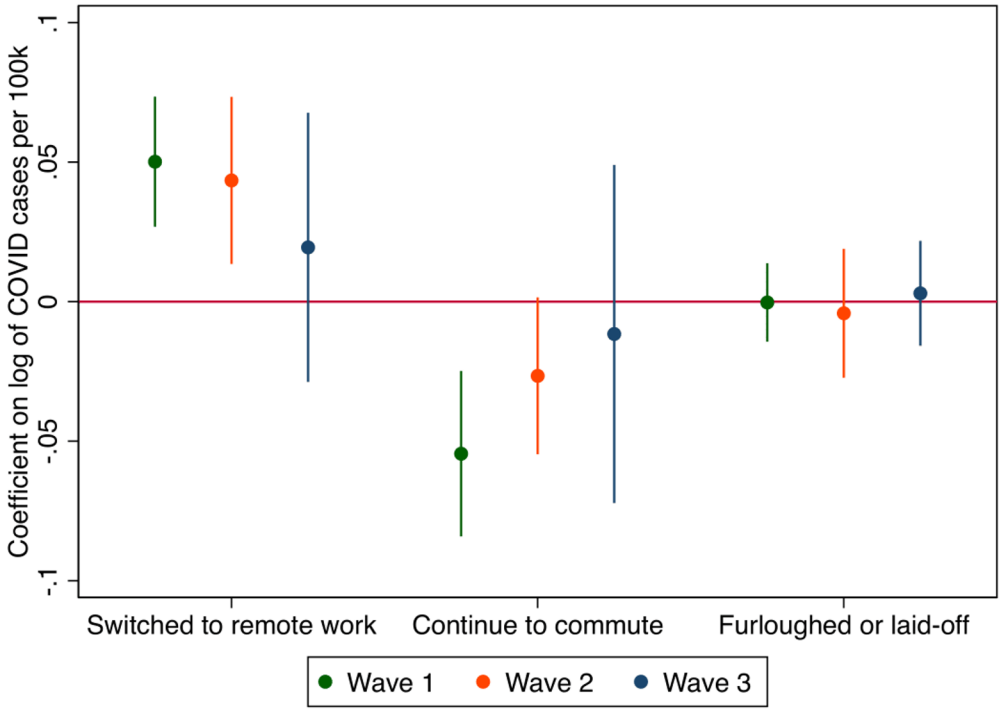
Predicted by pre-COVID Occupations

- We used several measures to describe pre-COVID occupational distributions and they all suggested a significant link to different response shares.
- 1: MPR based on Bureau of Labor Statistics classification
- 2: Dingel and Neiman score describes potential remotability
- 4: Pre-COVID share of workers working from home from 2017 ACS



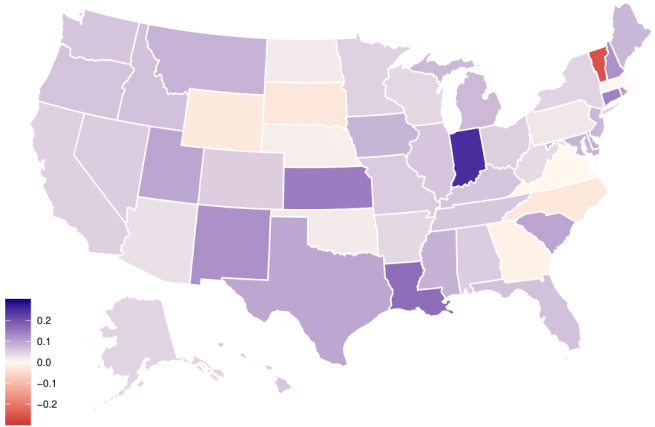
Change Across Time

- Heterogeneity in COVID-19 infection rates affects rates of switching to remote work or continuing to commute
- Waves 1 and 2 show substantial consistency, supporting the conclusion that most short-term changes to remote work occurred by April.
- Preliminary evidence that the shift toward working from home after the early stages of the pandemic is now retracing, albeit at a slower pace (see following maps)

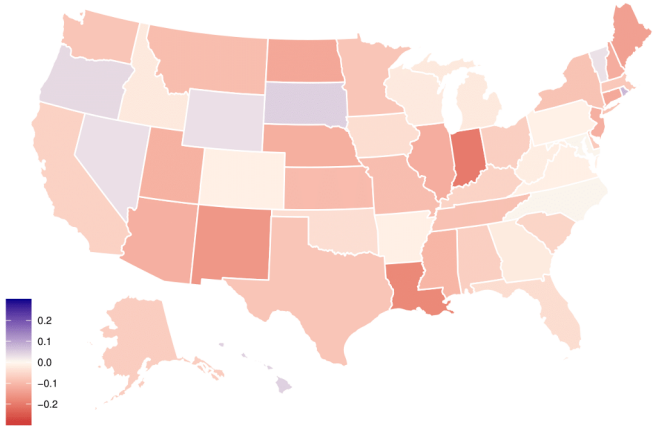


Change Across Time and Geo (deltas)

Maps showing changes in response rates from April to July (pct points). Responses illustrated: “continue to commute” (Left), “switch from commute to remote” (Right)



* Results pooled across survey waves



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Conclusions

- We find that since between February and May 2020 over one third of the labor force switched to remote work, resulting in about half of American workers working from home three months into the pandemic.
- We document preliminary evidence that the shift toward working from home after the early stages of the pandemic started to reverse in July 2020, albeit at a slower pace
- The state-level COVID-19 infection rates predict these WFH switches.
- States with more people in management, professional and related occupations were more likely to see large shifts toward working from home and had fewer people laid off or furloughed.
- In order to **measure hysteresis** we will continue to track changes to the nature of remote work, asking how pandemic-induced changes transform workplaces in the short and long-term.