Modeling the Consumption Response to the CARES Act

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About this Project

Modeling Topic: Timing and Magnitude of Consumer Spending

Quick Takeaways:

- Big negative effect on spending during lockdown
- Consumer "stimulus" part of CARES act was large

$\Rightarrow$ when lockdown ends, pretty substantial cash-on-hand

- Detailed distributional data: history/models
  - $\Rightarrow$ lots of spending

Gaps:

- Computational (Programming) Resources
- Integration With Epidemiological Model Inputs

Interesting Finding:

- The UI Component Is Big Enough – While It Lasts

Links

econ-ark.github.io/Pandemic	*HTML version of paper*
Interactive-Jupyter-Notebook	*Allows user to modify some assumptions*
github.com/econ-ark/Pandemic	*Full codebase; explore all assumptions*
LaTeX subdirectory of ↑	*PDF version of paper*
LaTeX subdirectory of ↑	*Presentation slides*

The CARES Act

The CARES Act directly impacts household balance sheets:

- $1,200 to every adult (means tested)
- $600 per week *additional* unemployment benefits, for up to 13 weeks ($7,800)

Compared to 10 years ago, we now have good models of how household consumption responds

Contribution of paper:

- How is this time different?
- What does a carefully calibrated consumption model say?

What's Old - Baseline Model

Rich stochastic lifecycle model made up of high school dropouts, high school graduates and college graduates, matching:

- Their income profiles (trends and uncertainty)
- Liquid wealth distribution
  - matched using patience heterogeneity

$\Rightarrow$ Annual Marginal Propensity to Consume (MPC) ≈ 0.5

Matches *both* micro and macro phenomena

- Parker, Souleles, Johnson, and McClelland (2013)
- Fagereng, Holm, and Natvik (2017)

What's New: (1) 'Deep' Unemployment

Want to experiment with different expectations (and realities) about the length of pandemic-related unemployment.

Two types of unemployed:

1. 'Normal' Unemployed: 2/3 probability of finding a job each quarter - expected unemployment duration 1.5 quarters
2. 'Deep' Unemployed: 1/3 probability of returning to 'normal' unemployed state each quarter - expected unemployment duration 4.5 quarters

What's New: (2) 'Lockdown' Consumption

C during lockdown is restricted:

- Many types of C less desirable, or illegal
- Calibration: 11 percent C reduction (travel, restaurants, etc)
- Captured by reduction in the marginal utility of C

$\Rightarrow$ Households defer some of their spending into the future

Calibrating the Pandemic

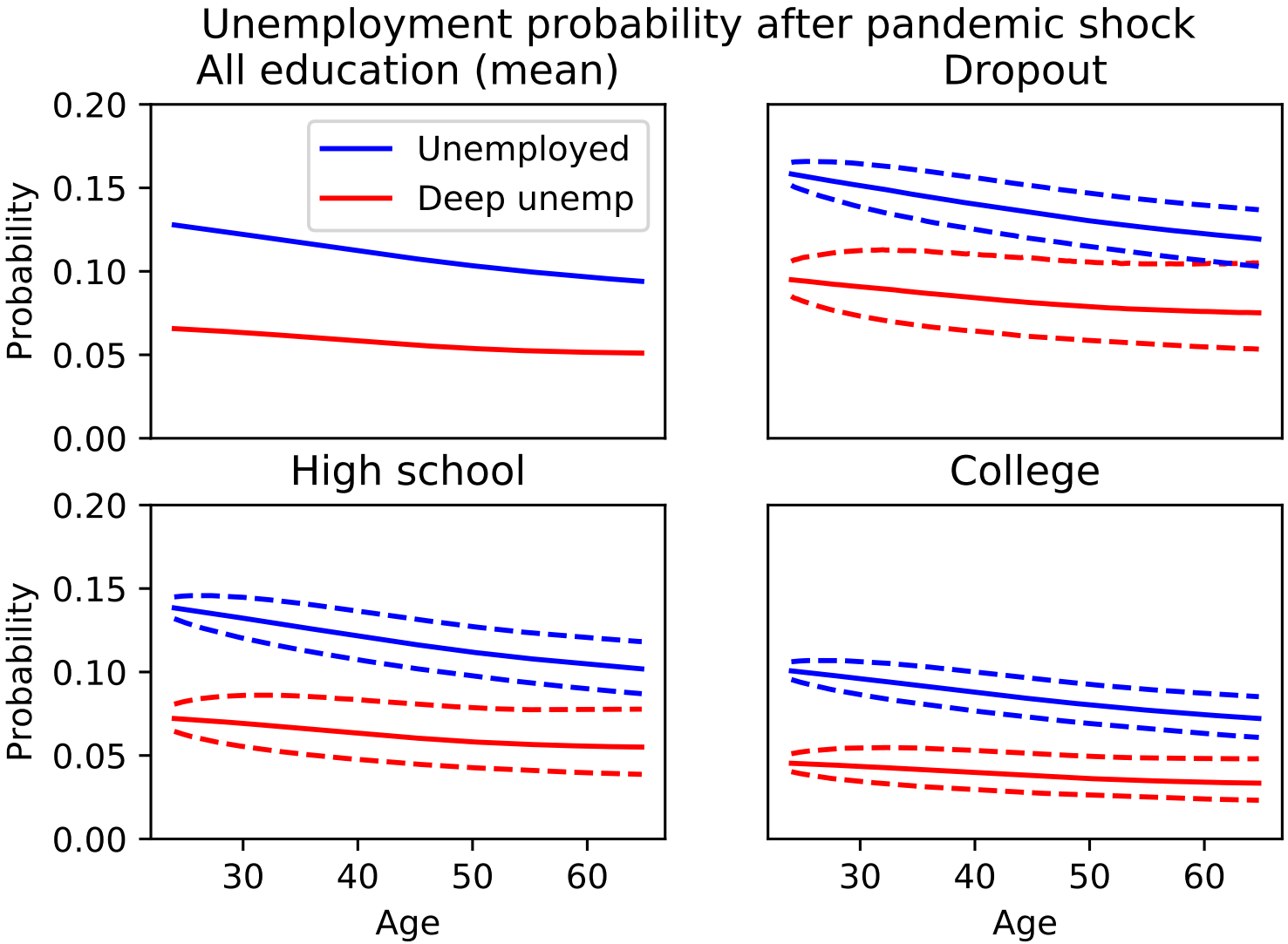
Two scenarios:

- Short-Lived: 'Lockdown' lasts two quarters on average
  - unemployment 15%
  - One-third is 'deep unemployment'
- Long, Deep: The 'lockdown' lasts four quarters on average
  - unemployment 22%
  - Mostly deep unemployment

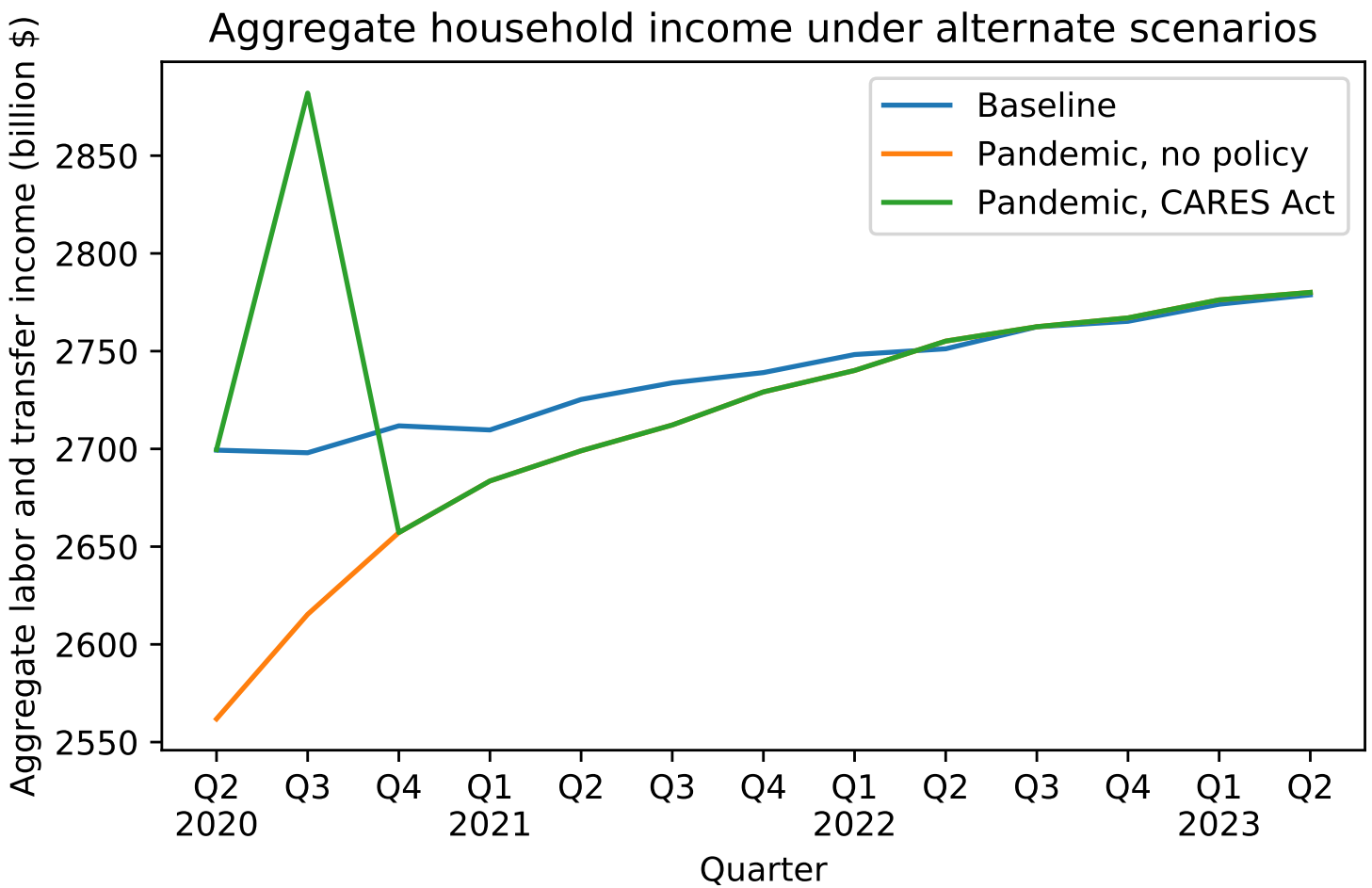
We invite you to make your own assumptions:

Interactive-Jupyter-Notebook	*Allows user to modify some assumptions*
github.com/econ-ark/Pandemic	*Full codebase*

Unemployment skews young, unskilled and low income

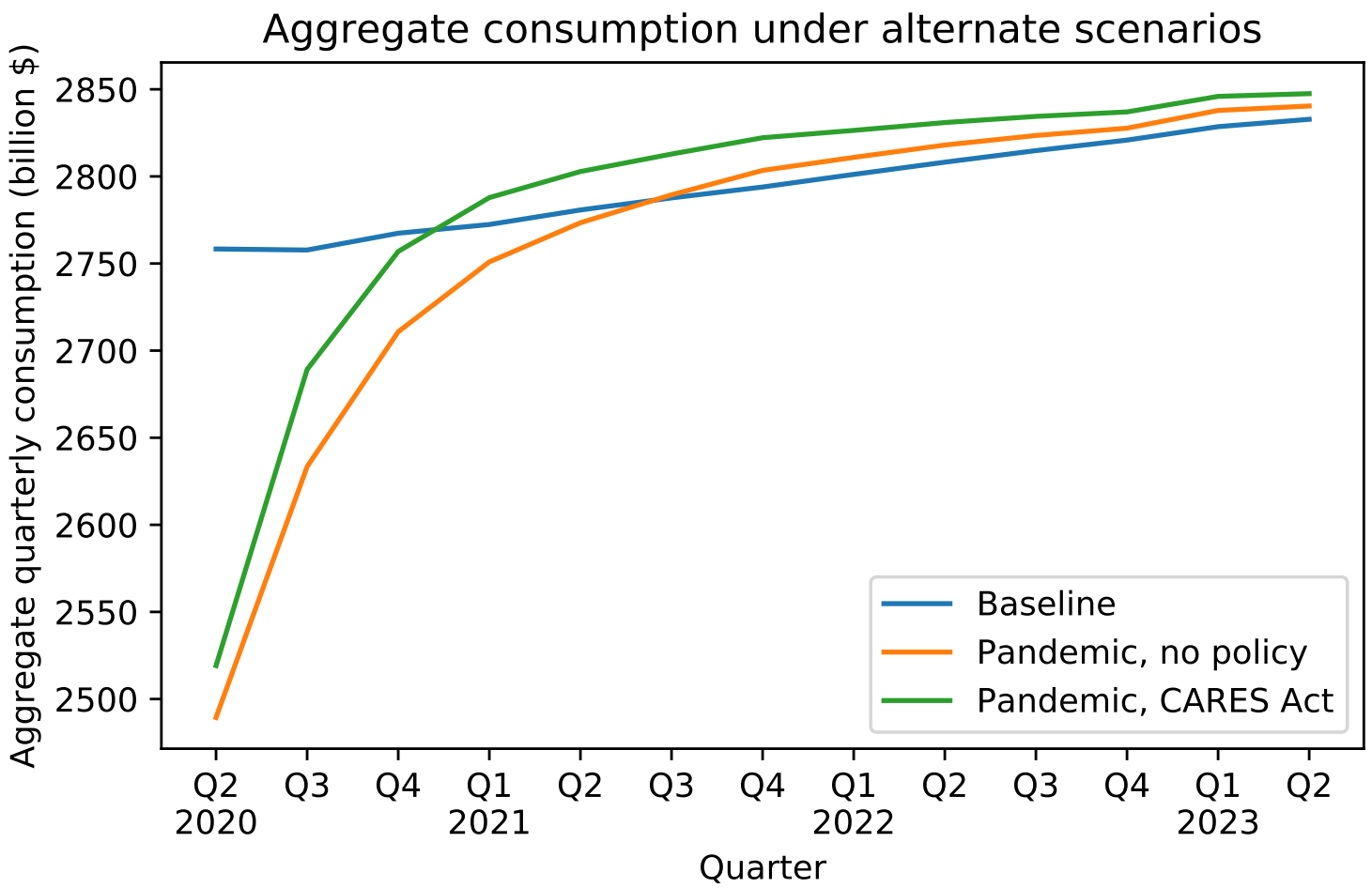


Aggregate Labor and Transfer Income

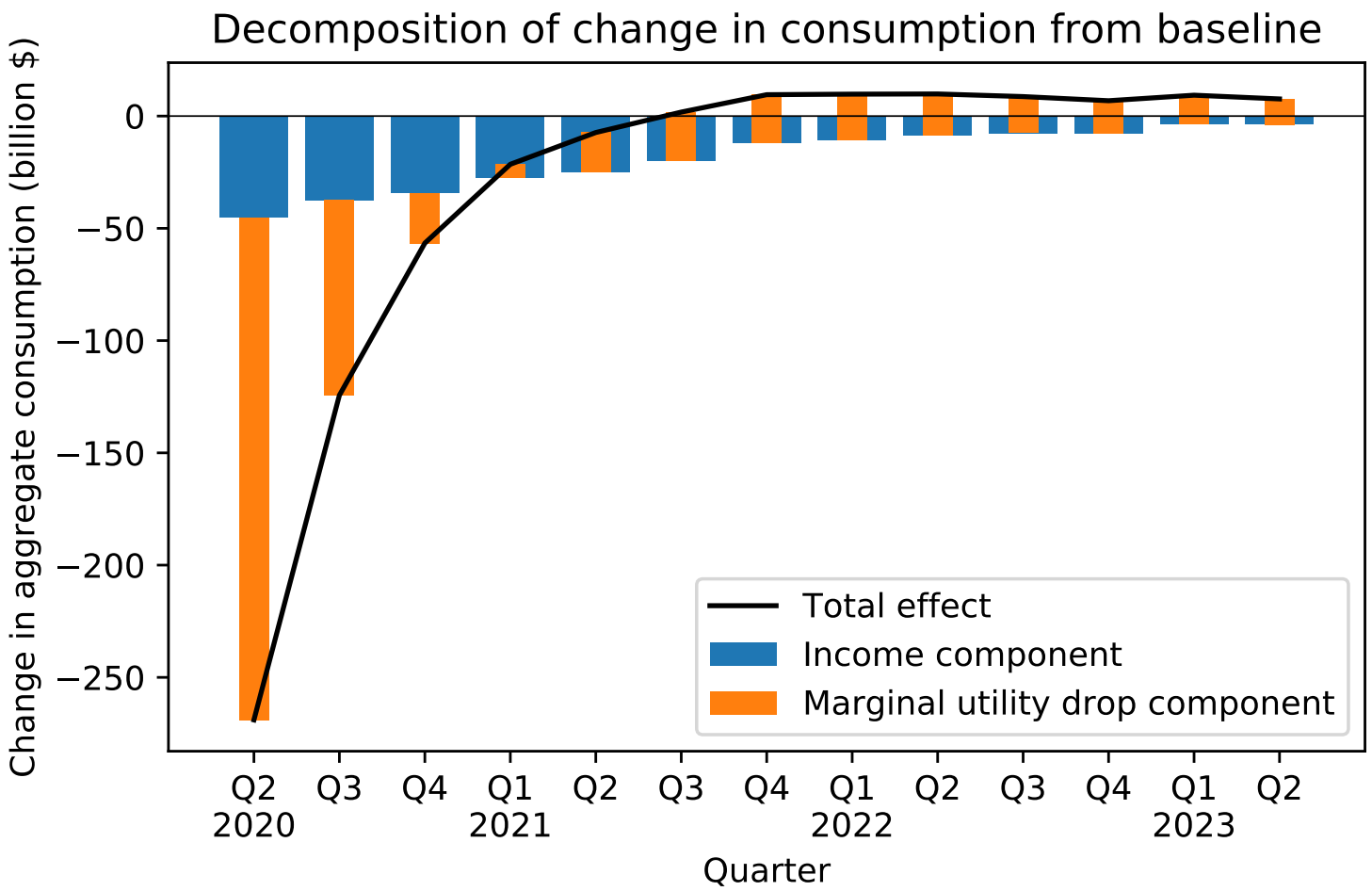


Assumes: Stimulus check delayed one qtr; 25 percent spend before check

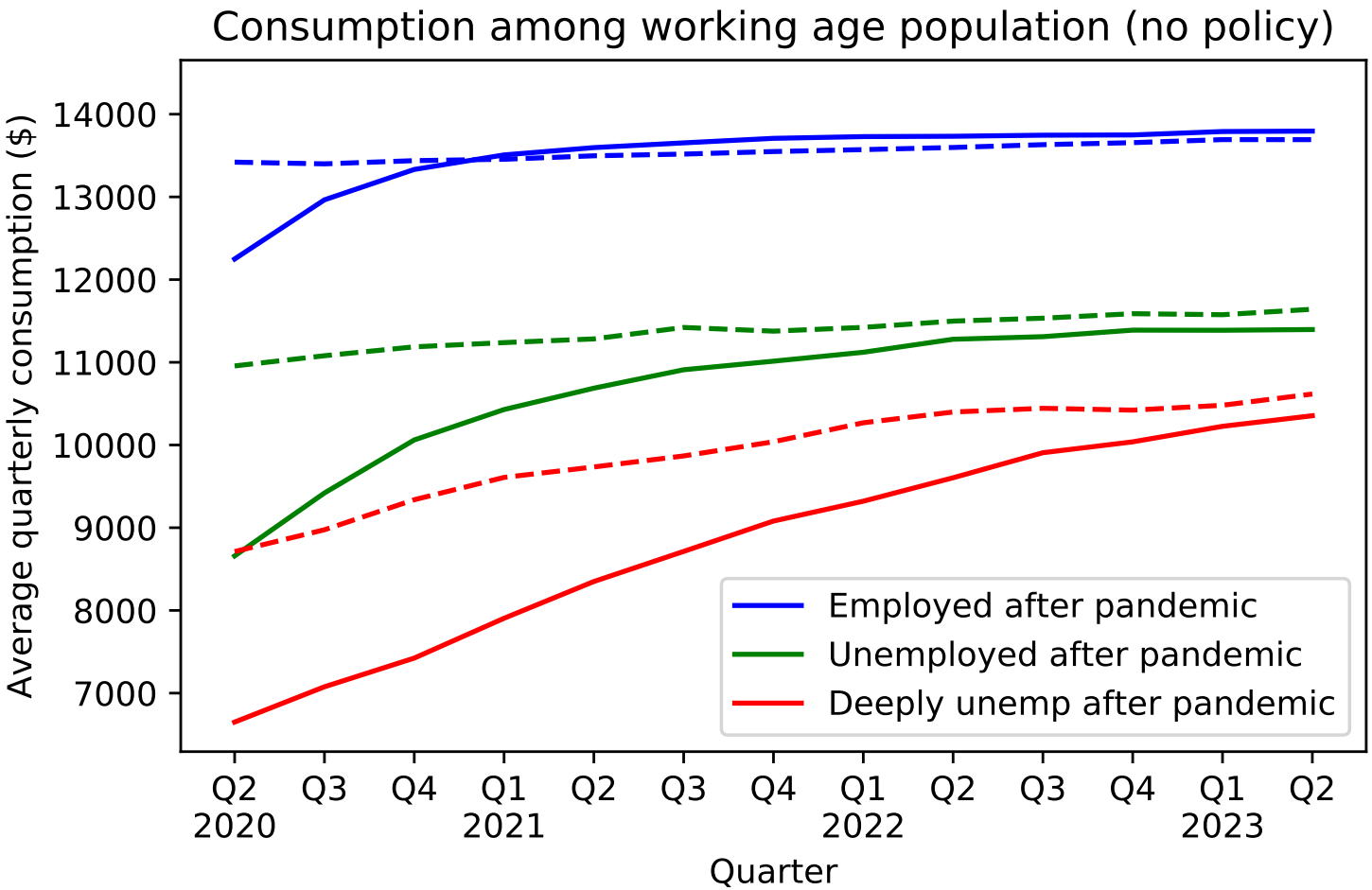
Aggregate Consumption Response



Consumption Response Decomposition



Consumption Response By Employment Type



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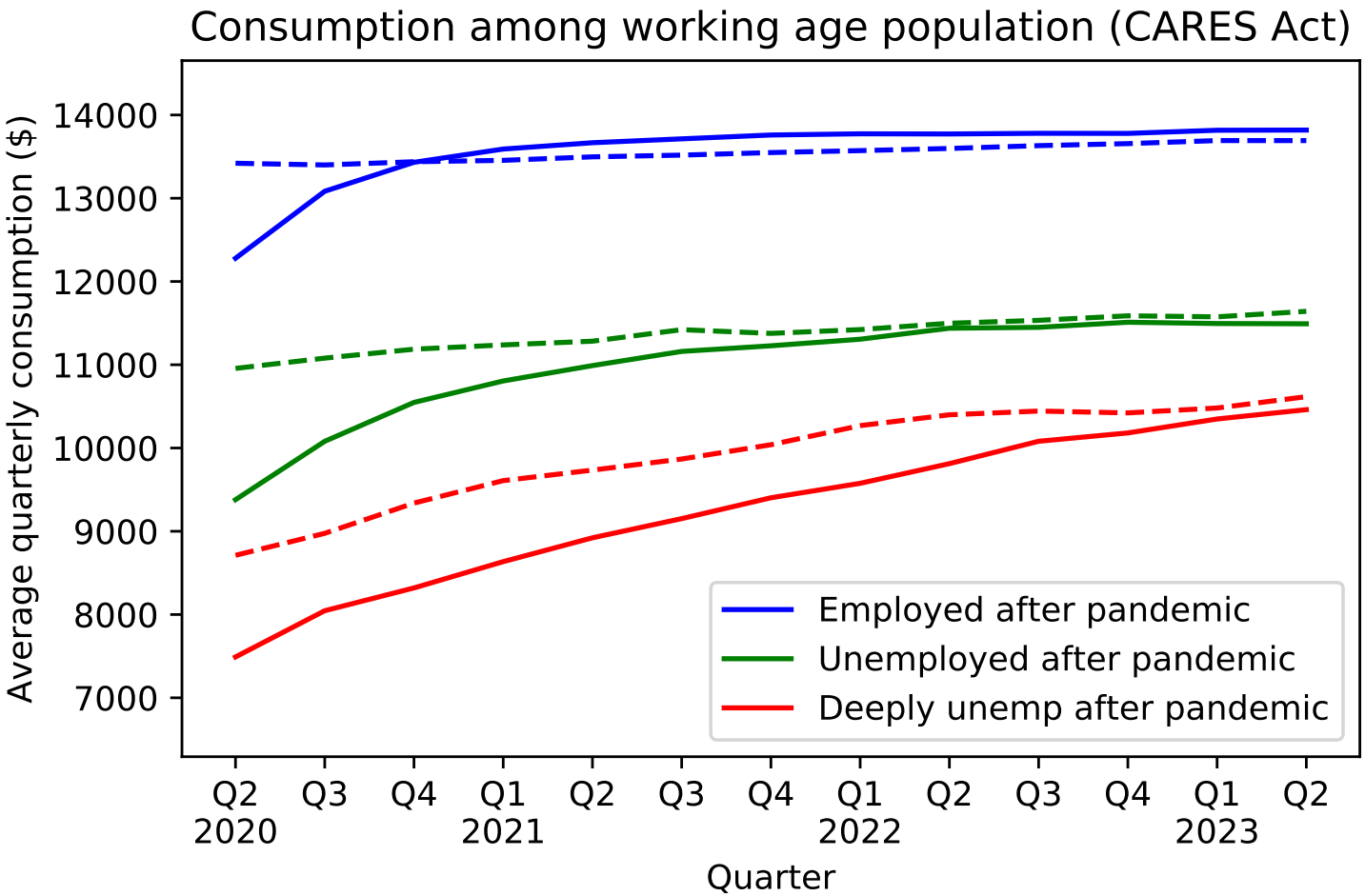

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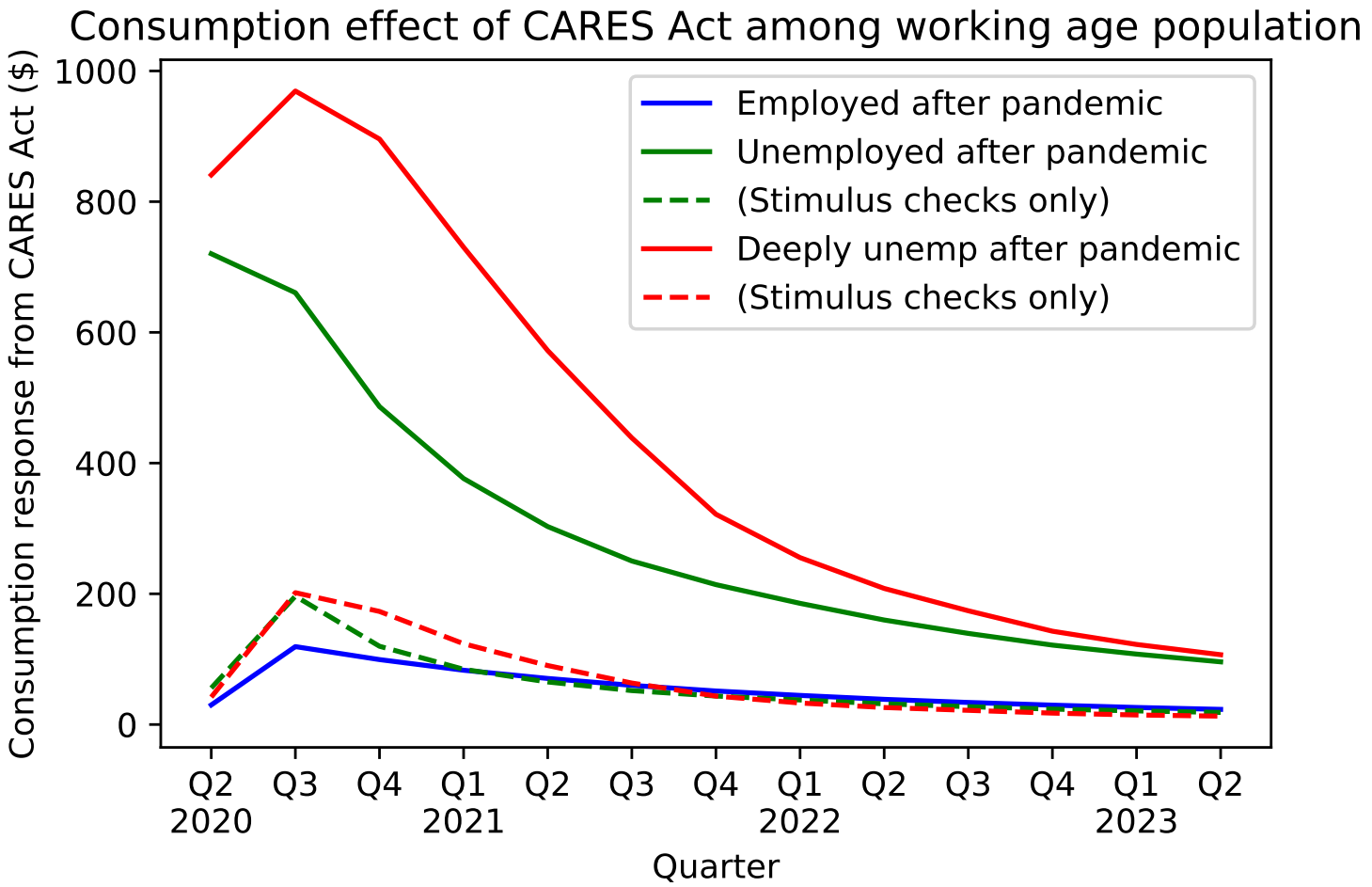
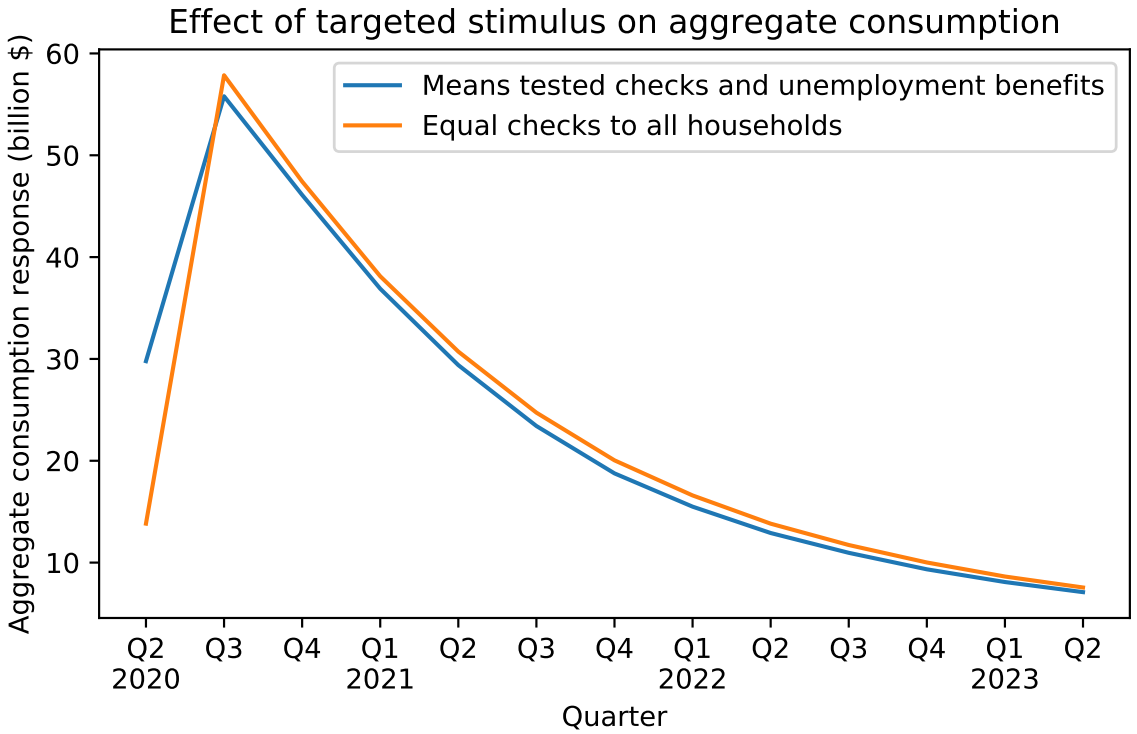
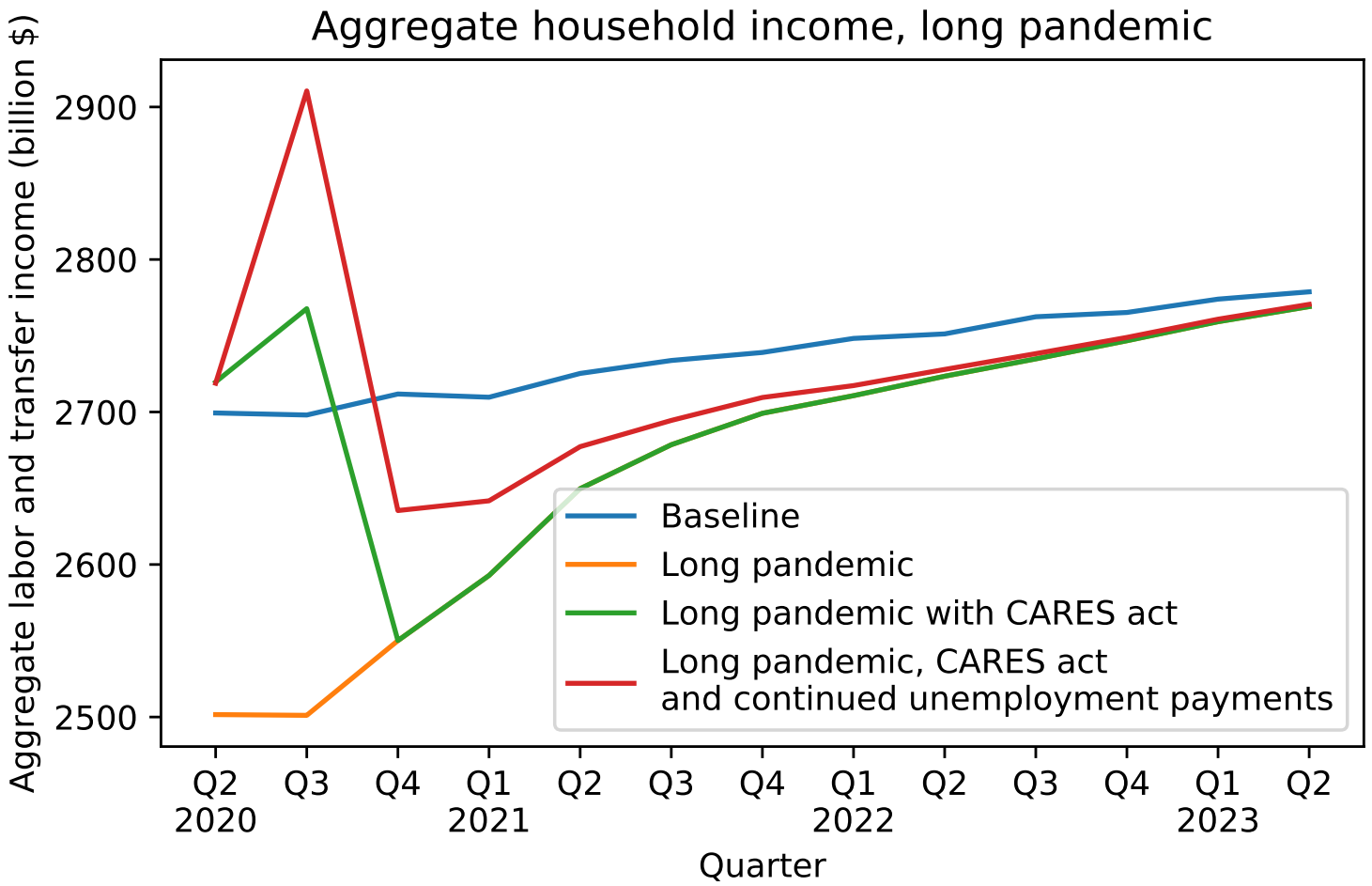


Is Targeting Useful In The Aggregate?

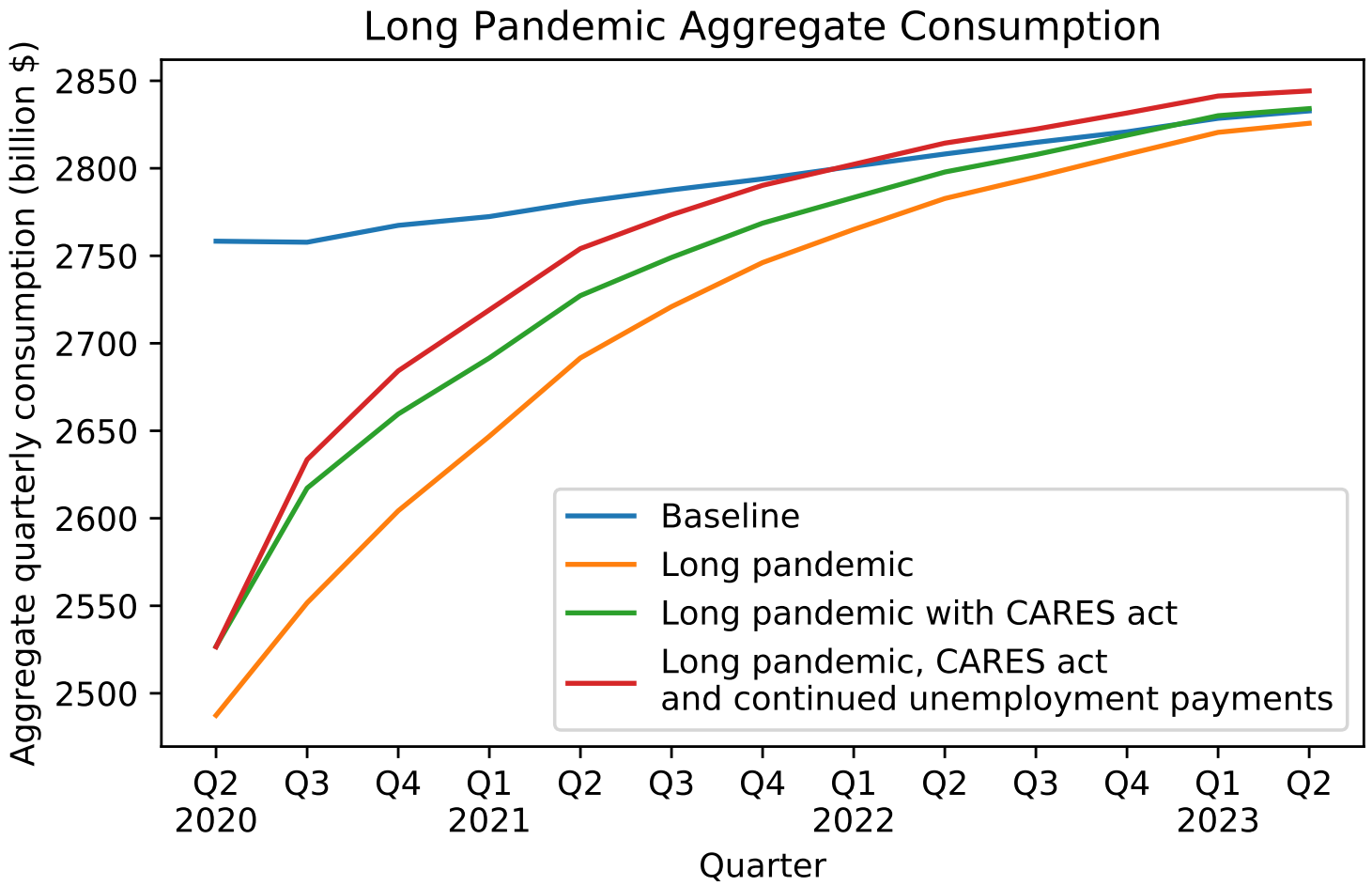


- Deep unemployed have lower MPCs
- UE benefits are generous - average MPC lower than marginal

Deep, Long Pandemic: Income



Deep, Long Pandemic: Consumption



Conclusions

Short-lived lockdown: CARES Act sufficient for swift C recovery

Long, deep lockdown: Further action to prevent big C drop

Check out the dashboard:

https://econ-ark.org/pandemicdashboard