

# Modeling the Consumption Response to the CARES Act

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Views in this paper are the responsibility of the authors alone and do not necessarily reflect the views of the Federal Reserve Board or the ECB.

Thanks to the **Consumer Financial Protection Bureau** for funding creation of the **Econ-ARK** toolkit, and to the **Sloan Foundation** for funding Econ-ARK's **extensive further development**

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

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

⇒ Annual Marginal Propensity to Consume (MPC)  $\approx 0.5$

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  $C$

⇒ Households defer some of their spending into the future

# Calibrating the Pandemic

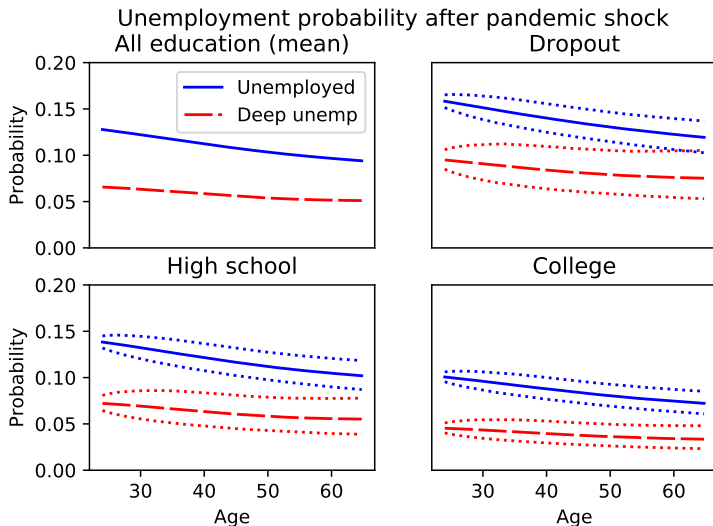
Two scenarios:

- 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:

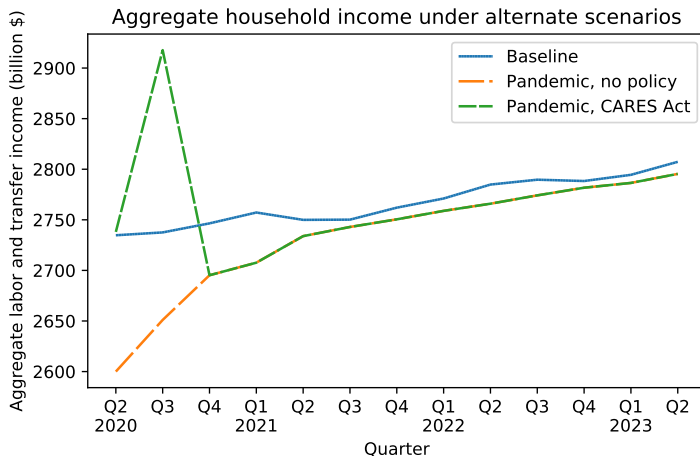
Interactive-Jupyter-Notebook    *Allows user to modify some assumptions*  
[github.com/econ-ark/Pandemic](https://github.com/econ-ark/Pandemic)    *Full codebase*

# Unemployment skews young, unskilled and low income



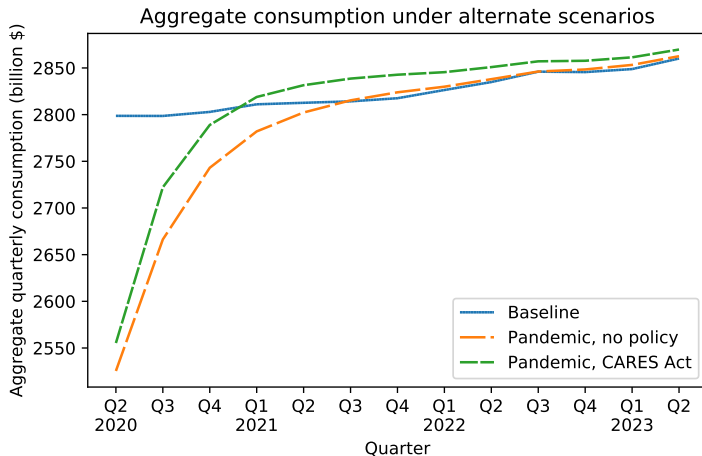


# Aggregate Labor and Transfer Income

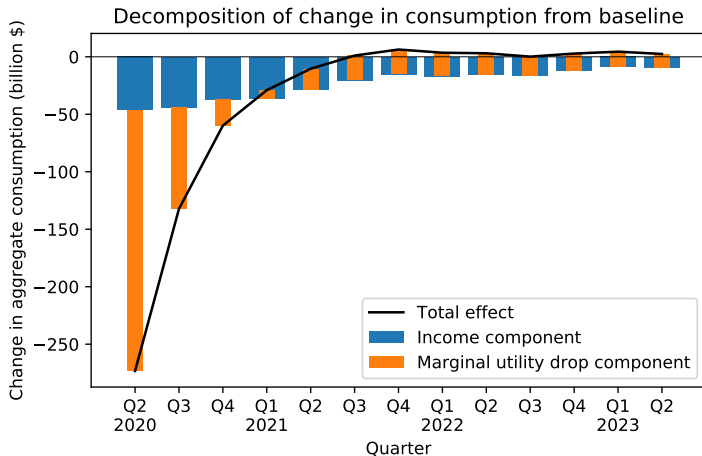


Assumes: Stimulus check delayed one qtr; 25 percent spend before check

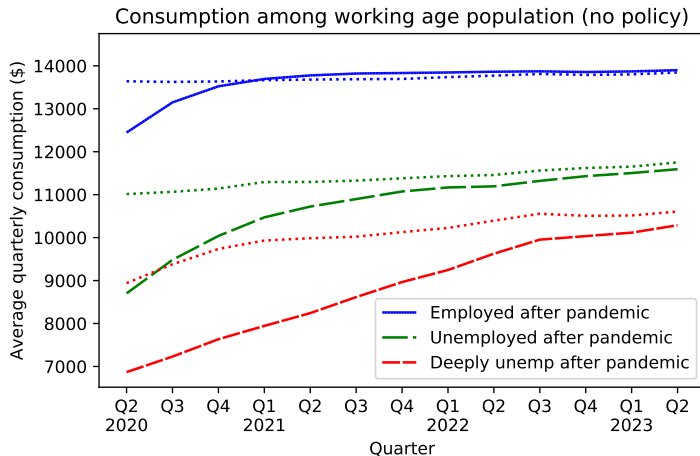
# Aggregate Consumption Response



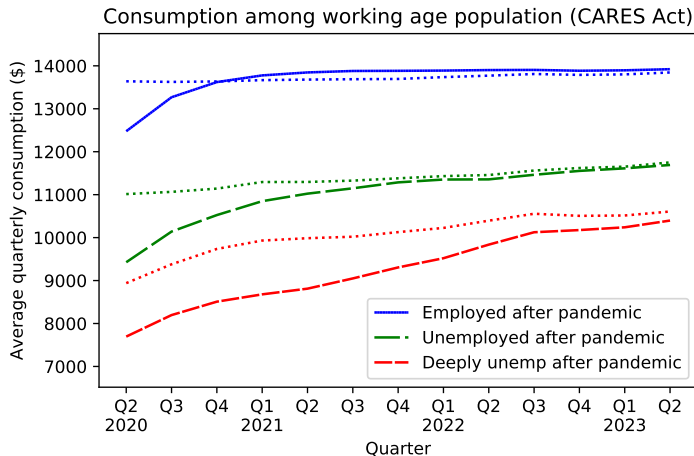
# Consumption Response Decomposition



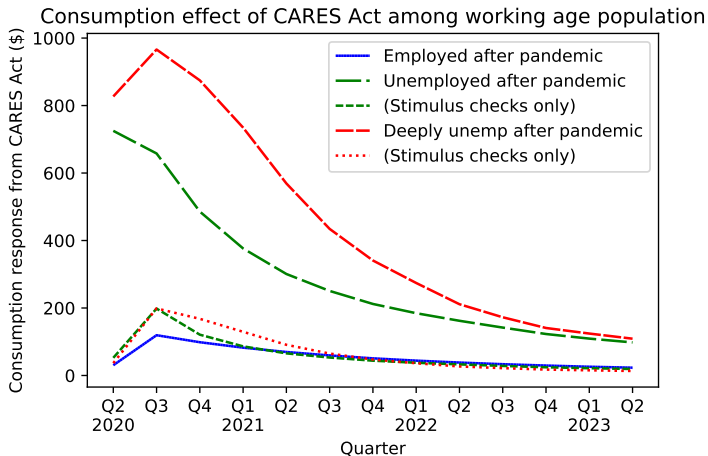
# Consumption Response By Employment Type



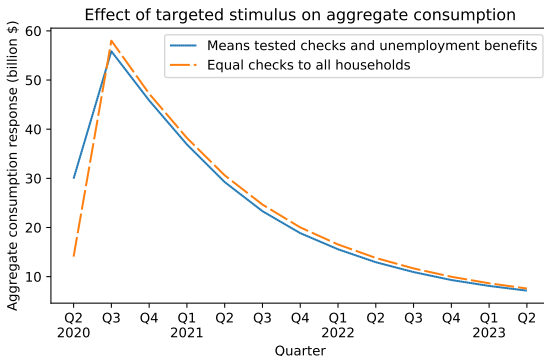
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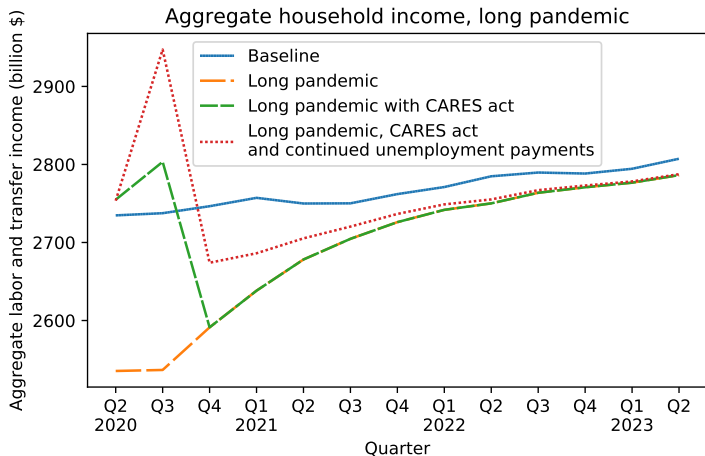


# Is Targeting Useful In The Aggregate?



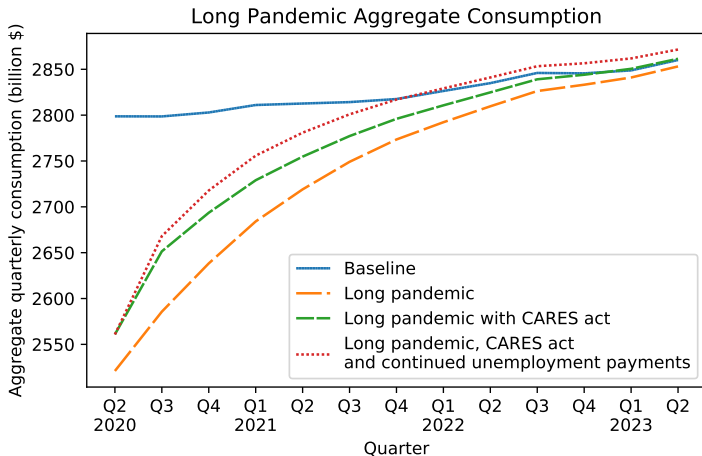
- Deep unemployed have lower MPCs
- UE benefits are generous - average MPC lower than marginal

# Deep, Long Pandemic: Income





# Deep, Long Pandemic: Consumption



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>