# 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.

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# 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) $\approx 0.5$

Matches *both* micro and macro phenomena

- **?**
- **?**

# 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

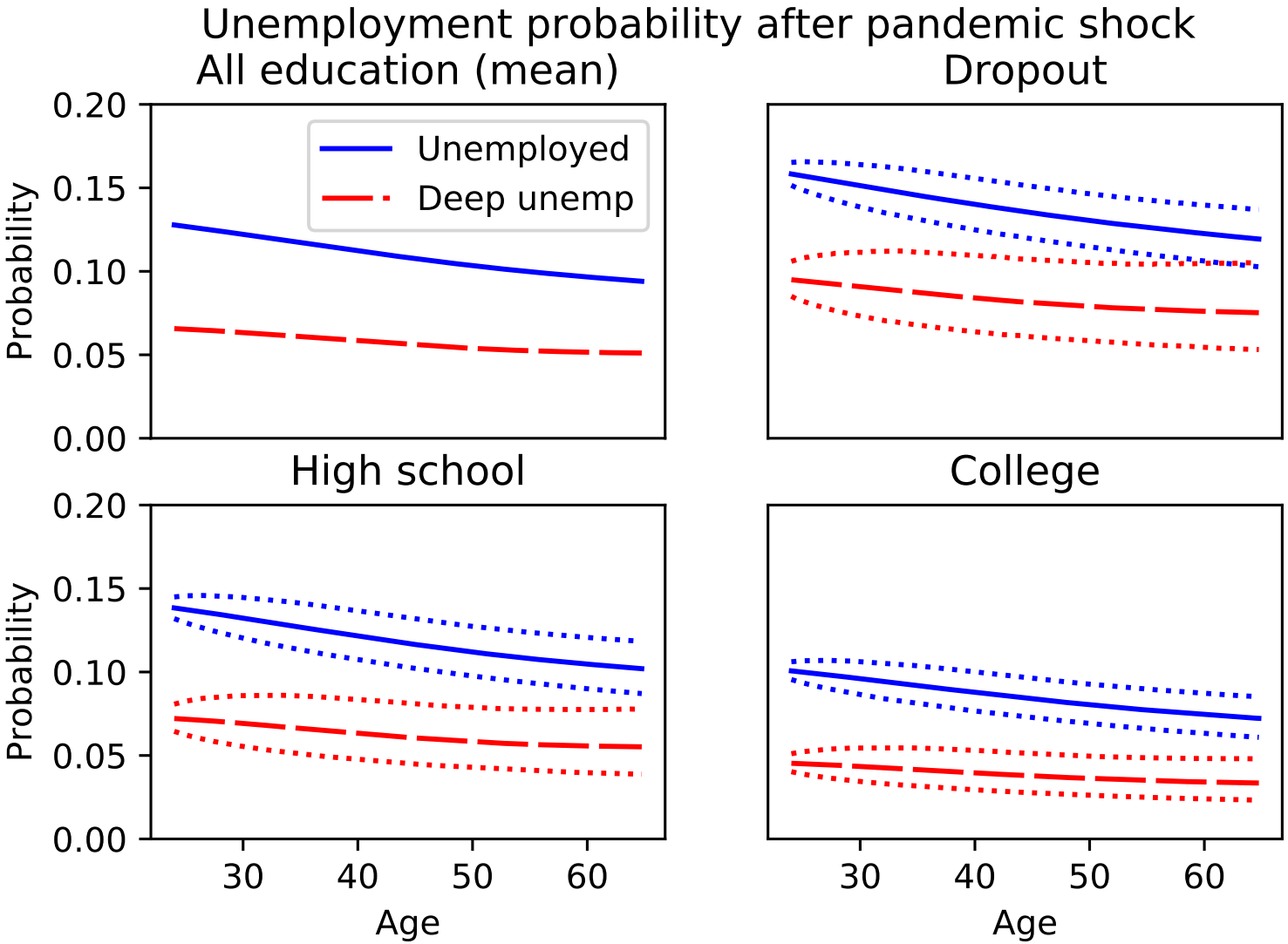
Two scenarios:

- 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

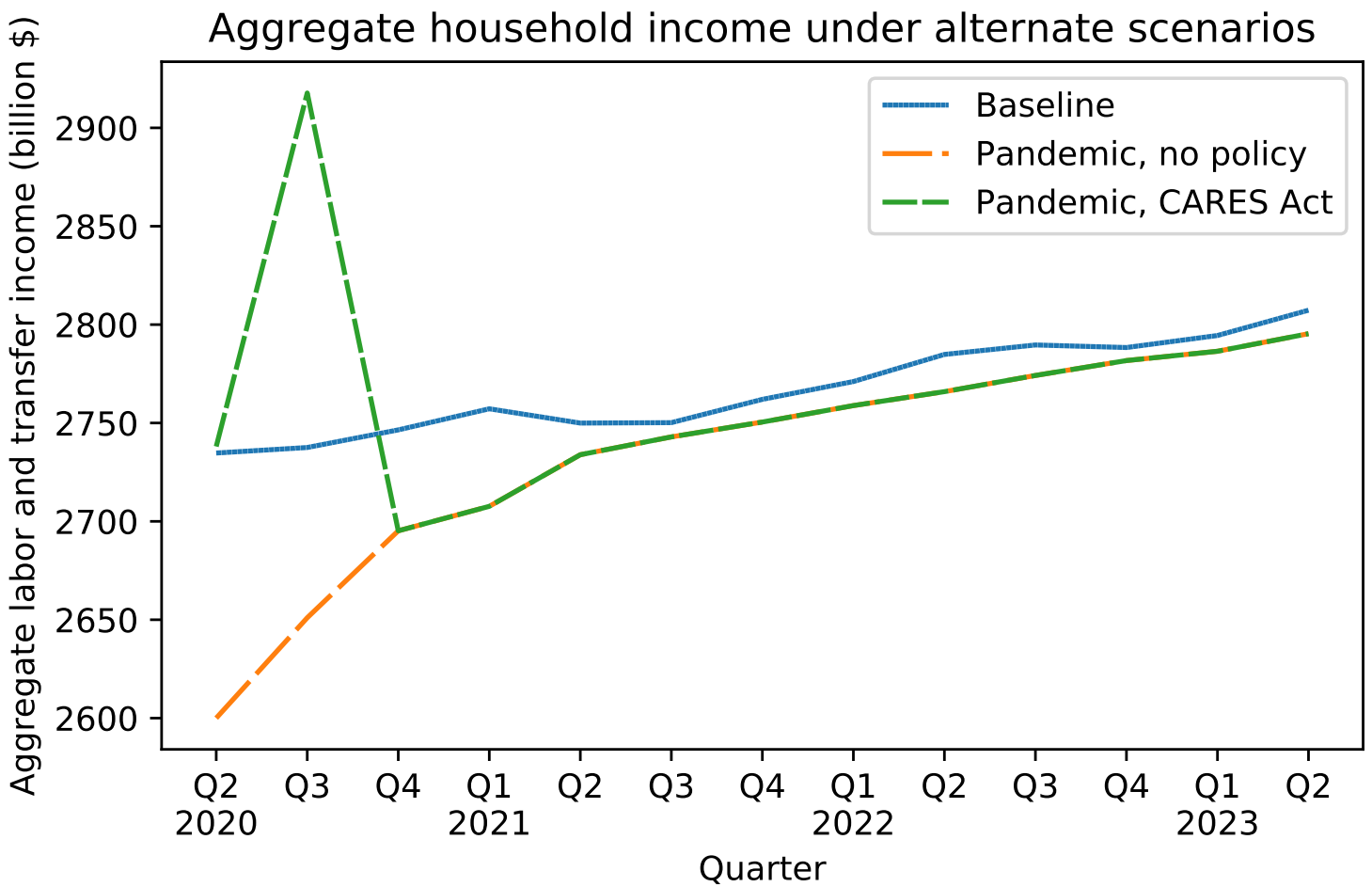
We invite you to make your own assumptions:

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

# Unemployment skews young, unskilled and low income

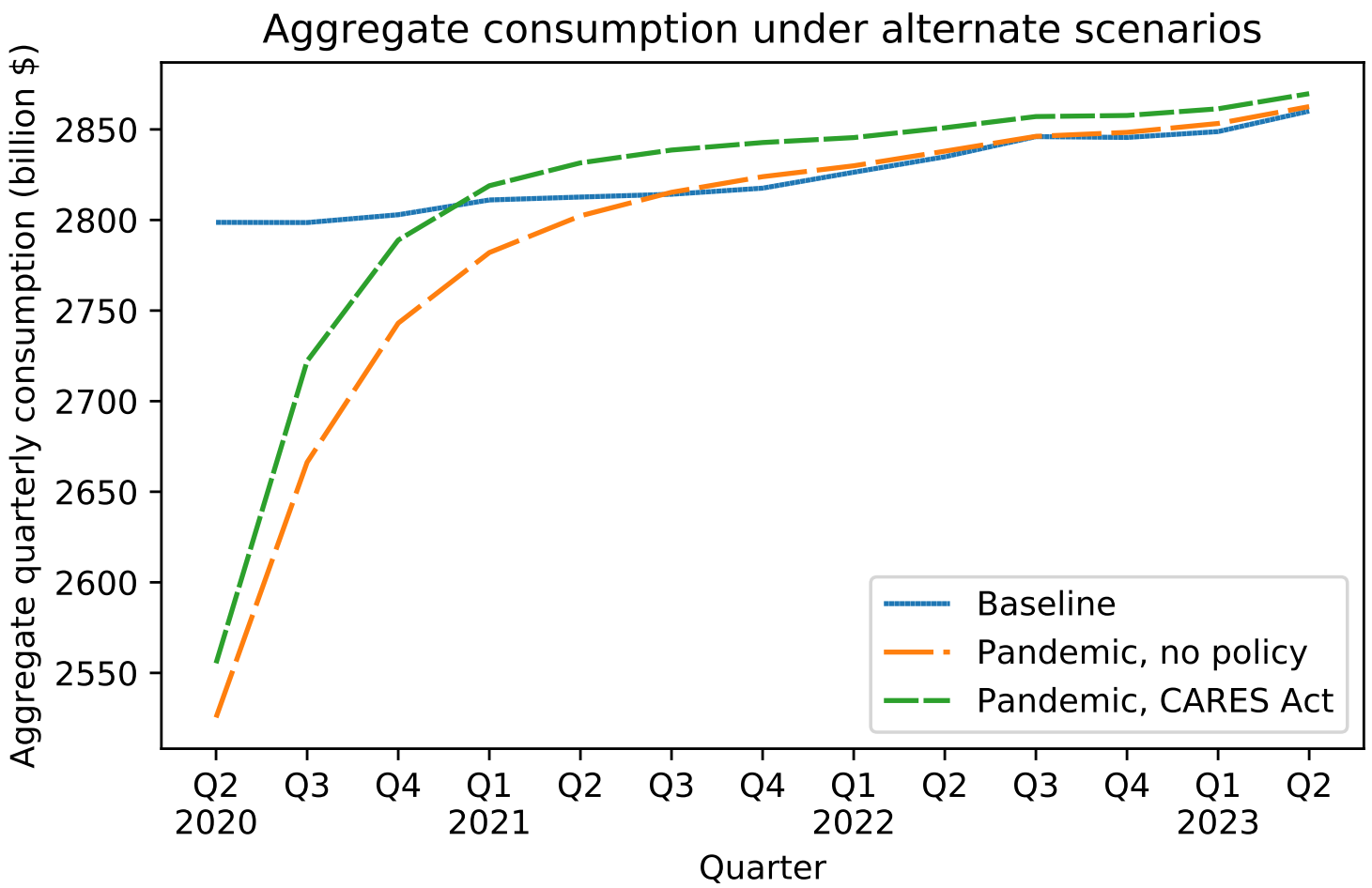


# Aggregate Labor and Transfer Income

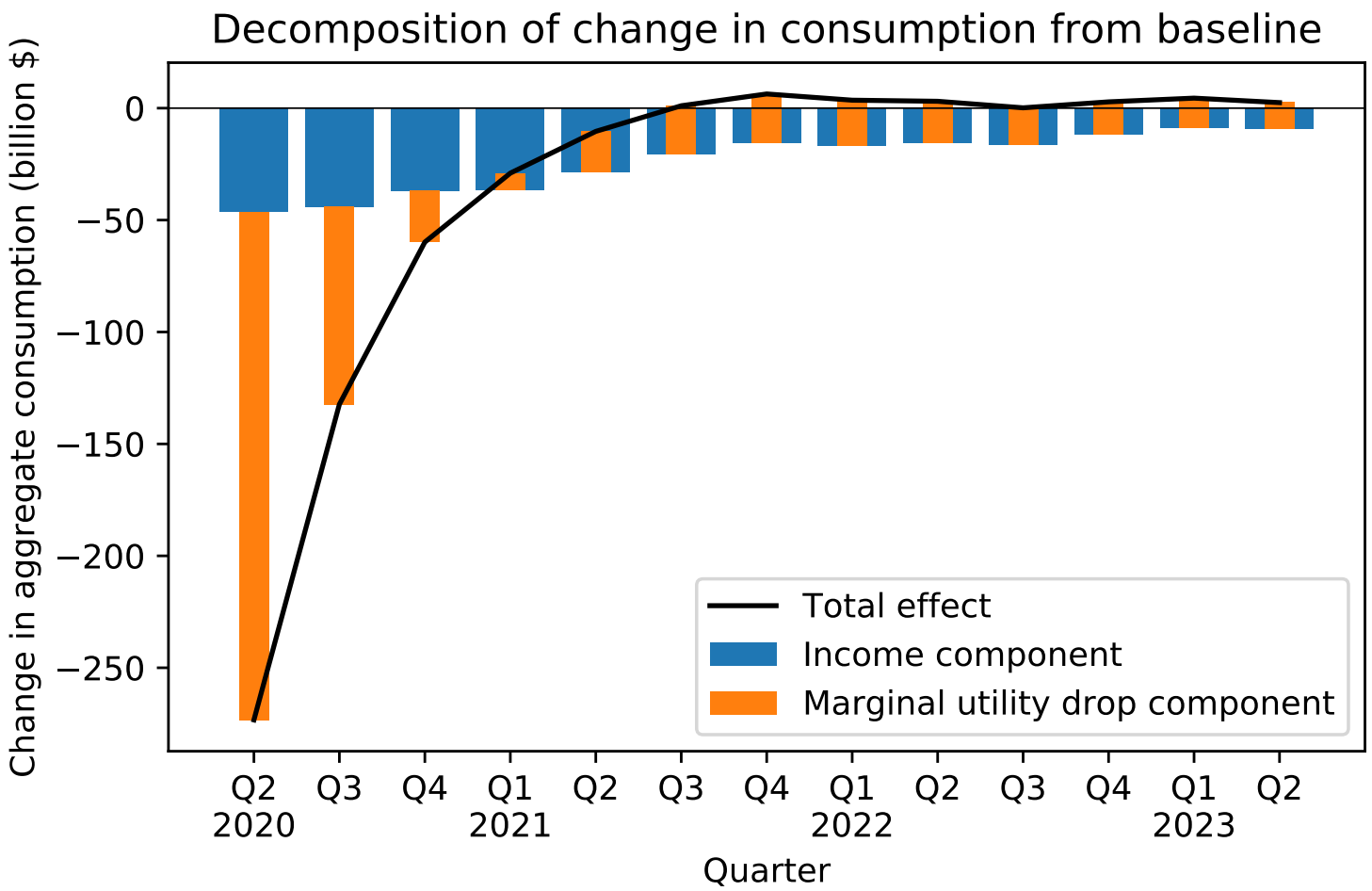



Assumes: Stimulus check delayed one qtr; 25 percent spend before check

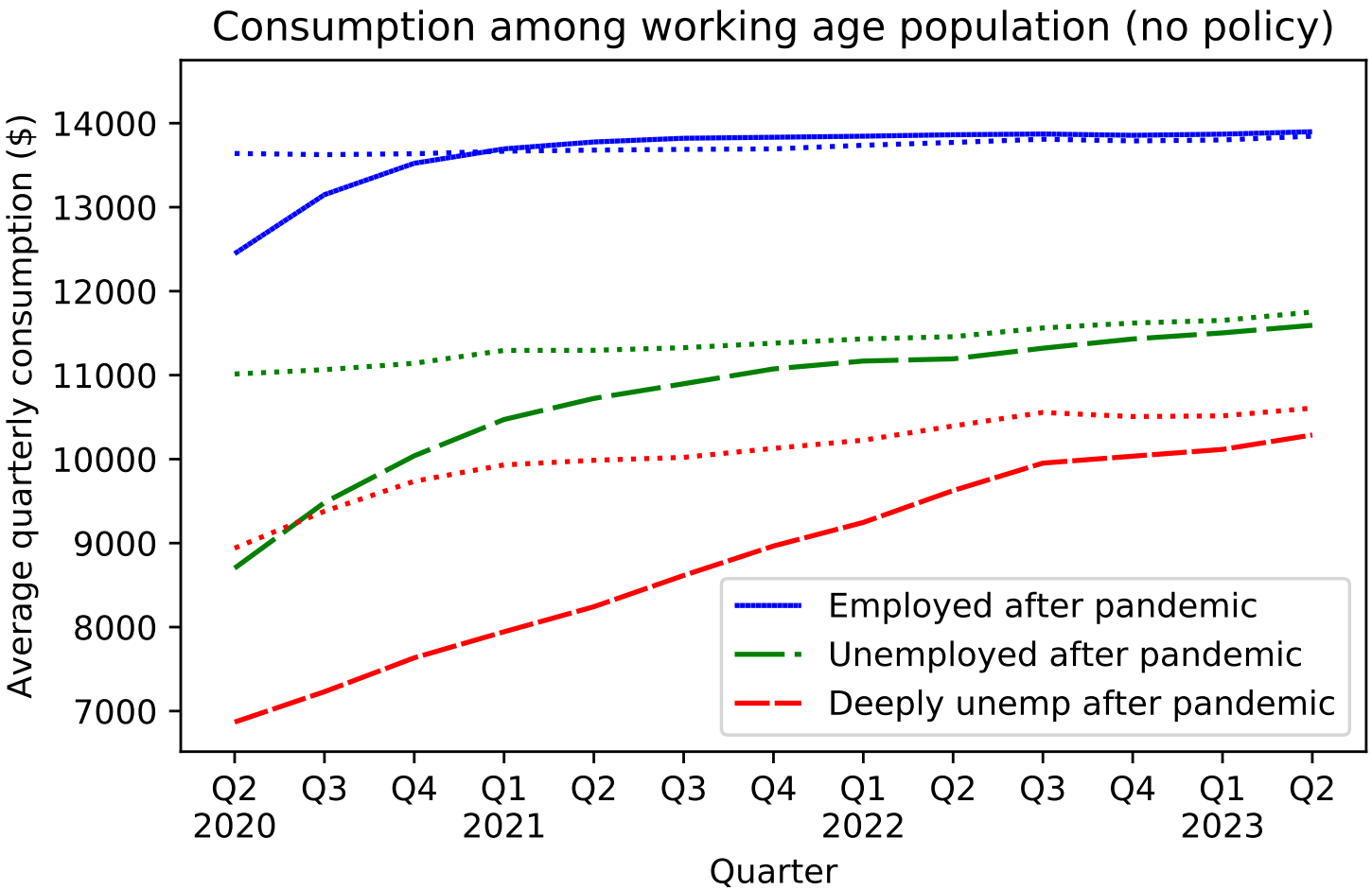
# Aggregate Consumption Response



# Consumption Response Decomposition



# Consumption Response By Employment Type



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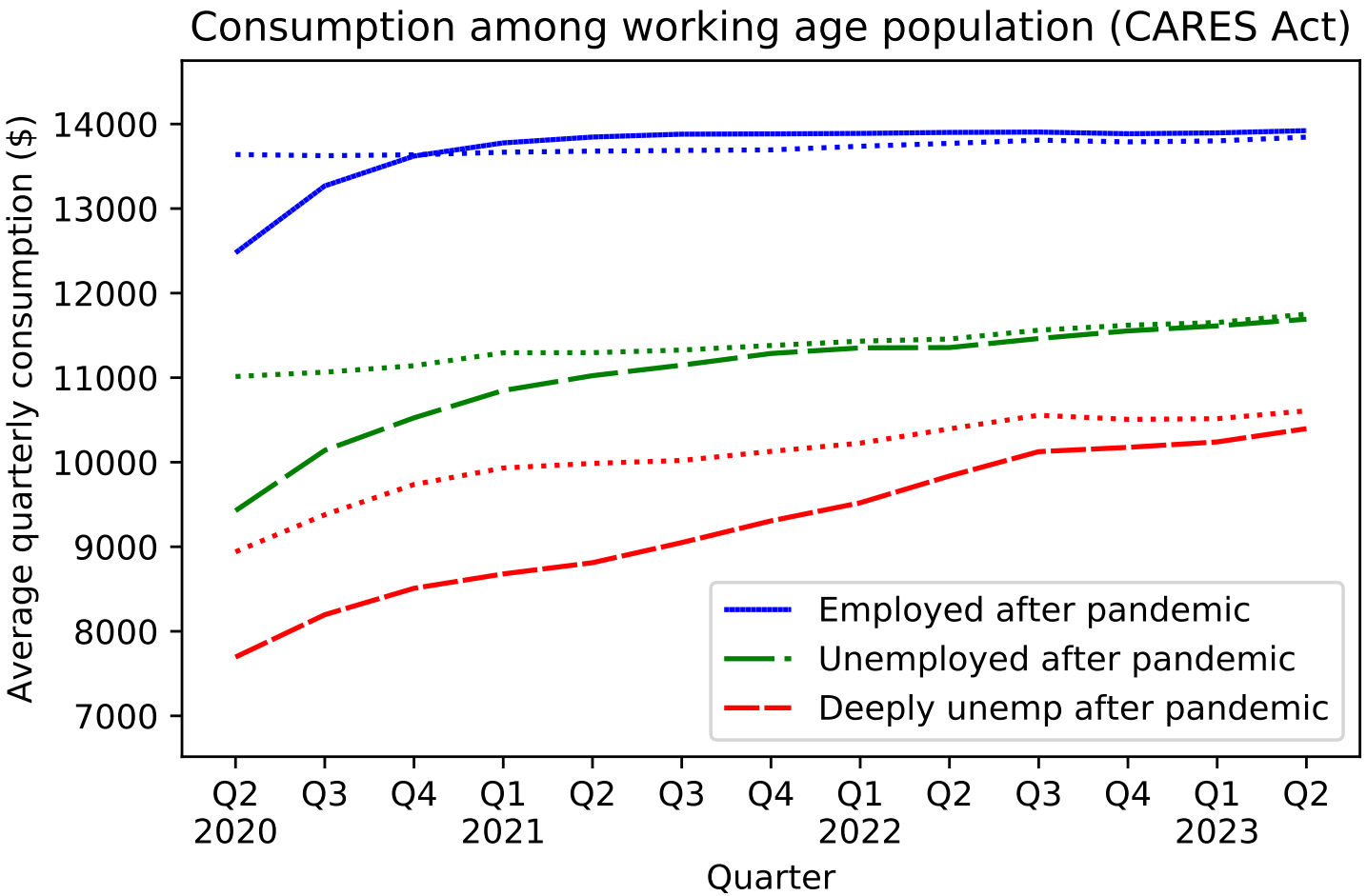

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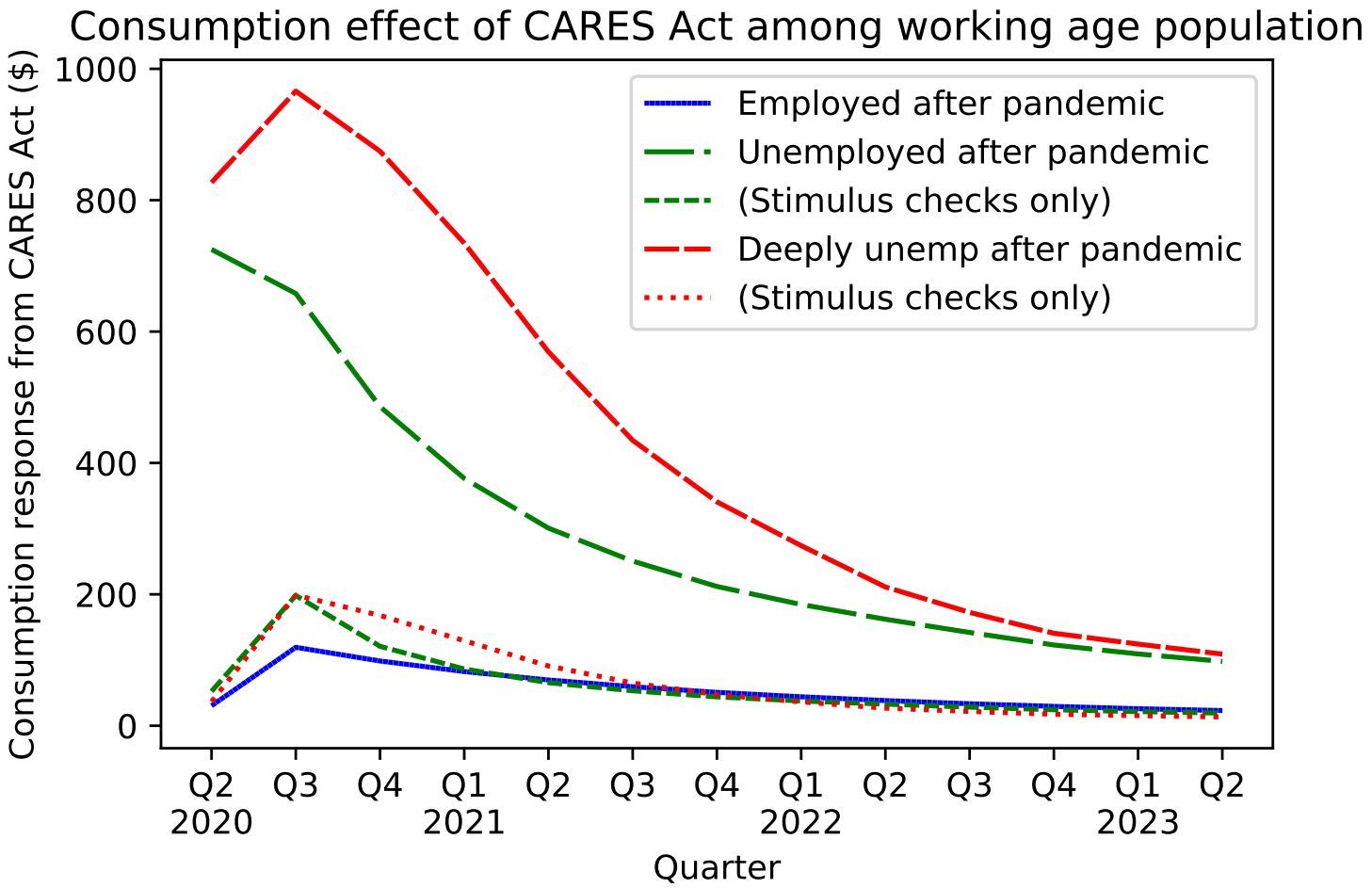
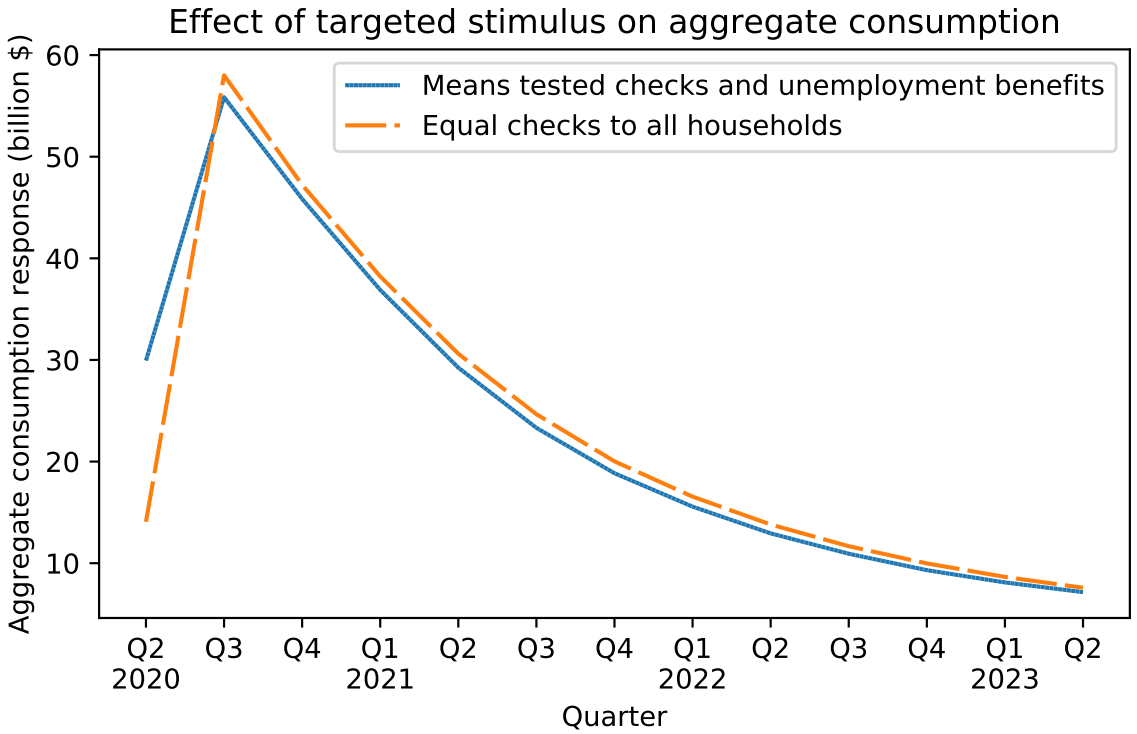
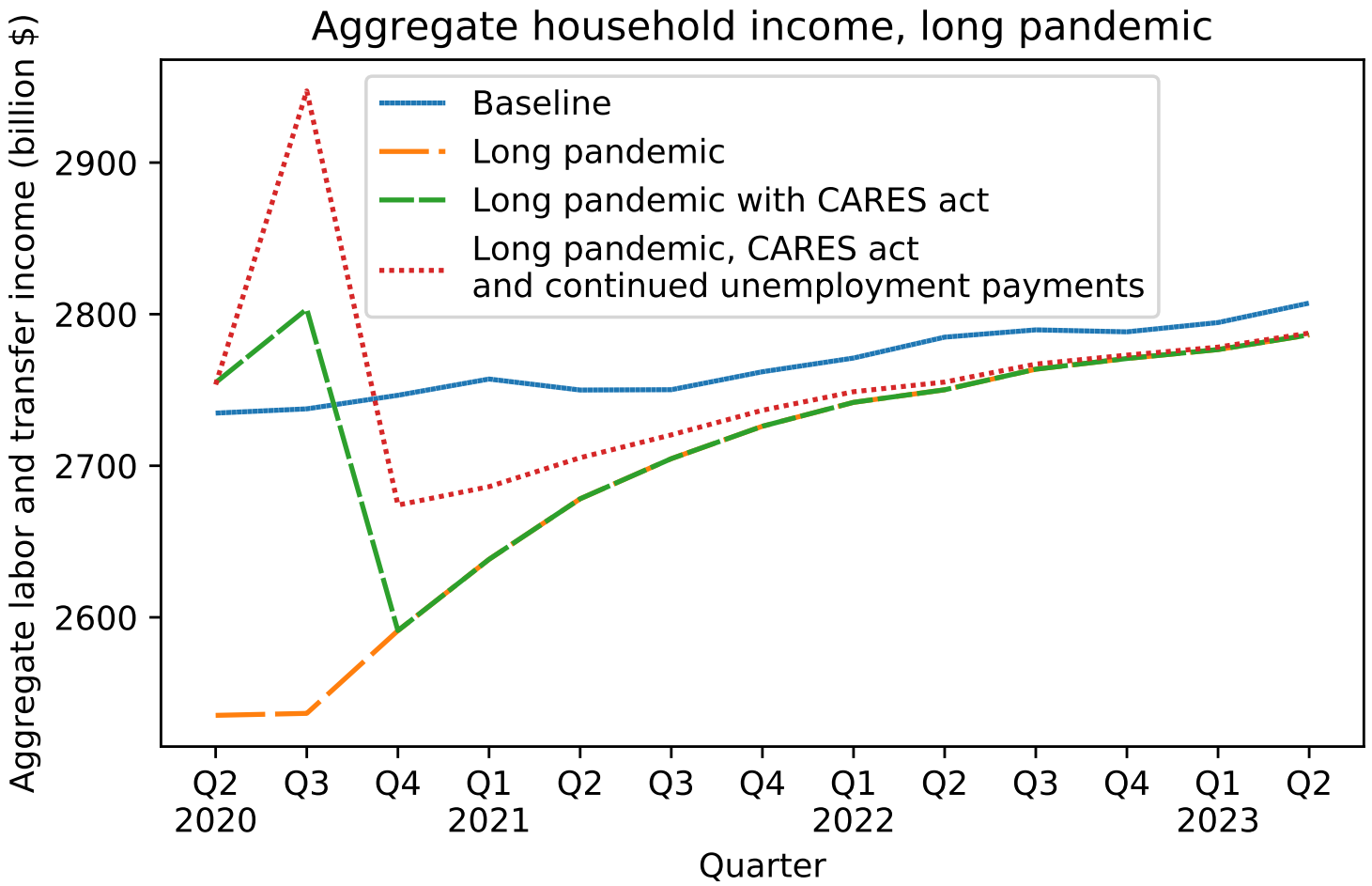


# Is Targeting Useful In The Aggregate?

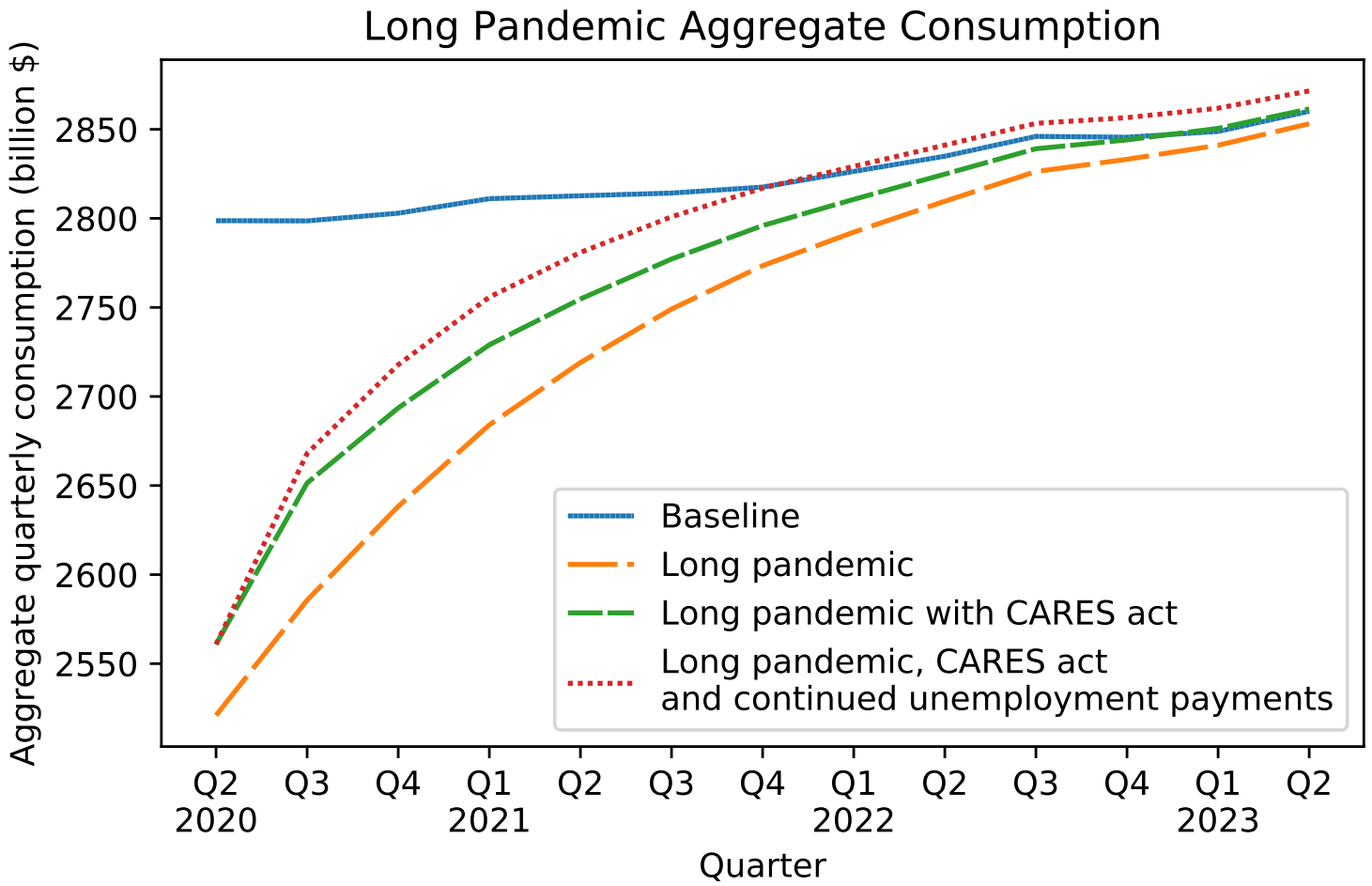



- Deep unemployed have lower MPCs
- UE benefits are generous - average MPC lower than marginal

# 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