

# Modeling the Consumption Response to the CARES Act

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Viewpoints and conclusions stated in this paper are the responsibility of the authors alone and do not necessarily reflect the viewpoints of the Federal Reserve Board or the ECB.

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

We begin with a 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)

This model has an annual Marginal Propensity to Consume (MPC) around 0.5

Matches *both* micro and macro phenomena - e.g. ?

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

We want to be able to experiment with different expectations (and realities) about the length of 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

Consumption during the lockdown is restricted: many forms of consumption are less desirable, or illegal

- We calibrate an 11 percent reduction in spending directly (from travel, restaurants, etc)
- We model this as a reduction in the marginal utility of consumption

Households prefer to defer some of their consumption into the future

# Calibrating the Pandemic

We present two scenarios

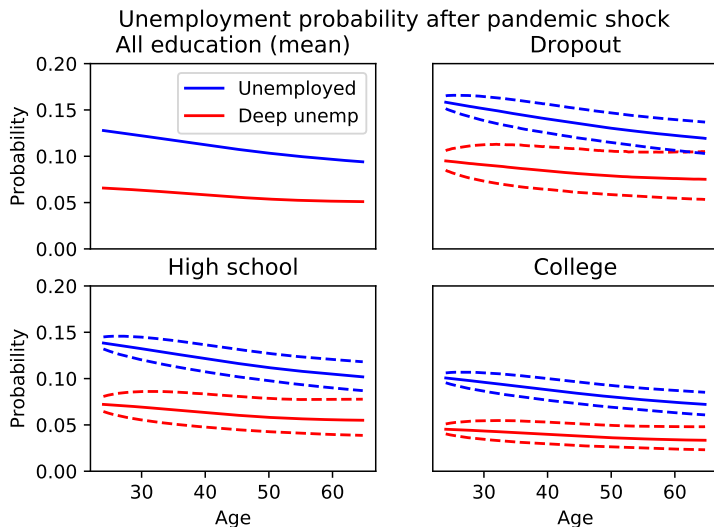
- Short-Lived: The 'lockdown' lasts two quarters on average, unemployment 15%  
One-third deep unemployment
- Long, Deep: The 'lockdown' lasts four quarters on average, unemployment 22%  
Mostly deep unemployment

BUT these assumptions are highly contested and rapidly changing with data

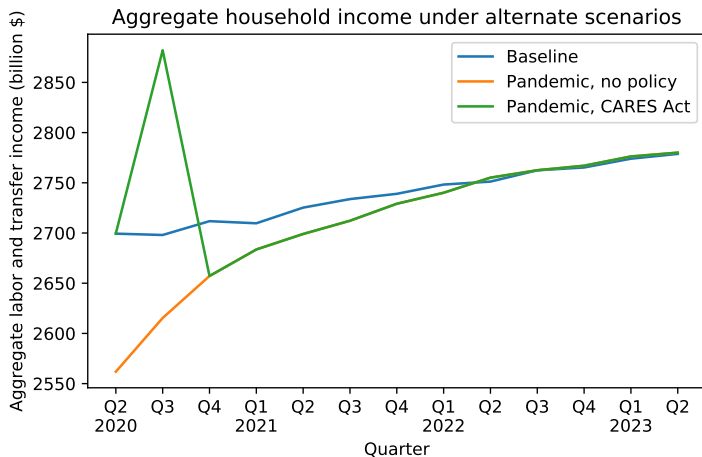
We invite you to make your own assumptions:

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

# Unemployment skewed young, unskilled and low income



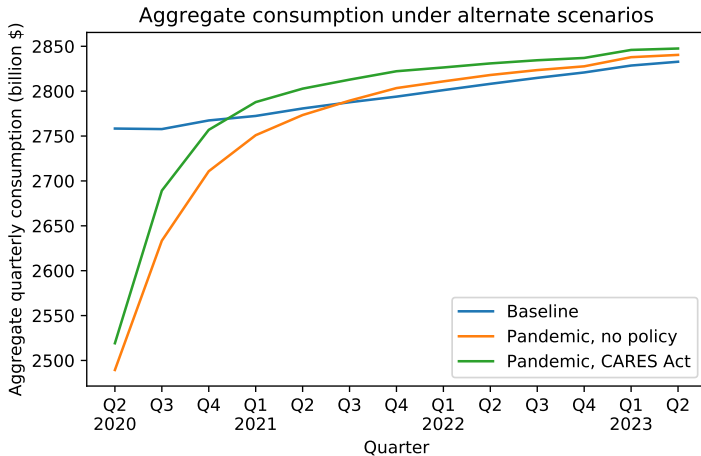
# Aggregate Labor and Transfer Income



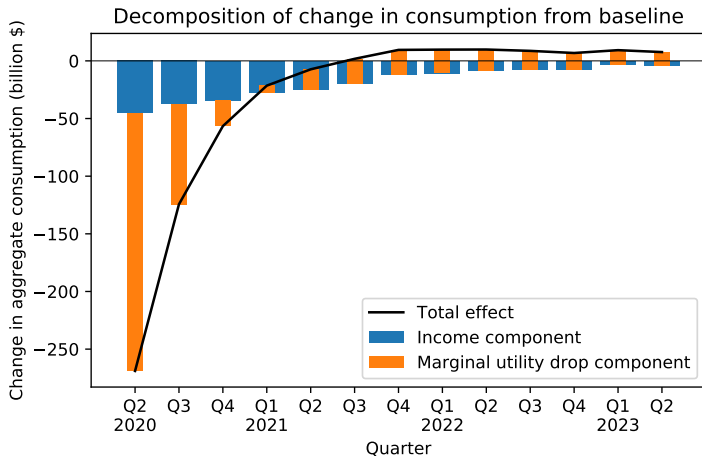
Assumption: Stimulus check delayed one quarter, 25 percent forward looking



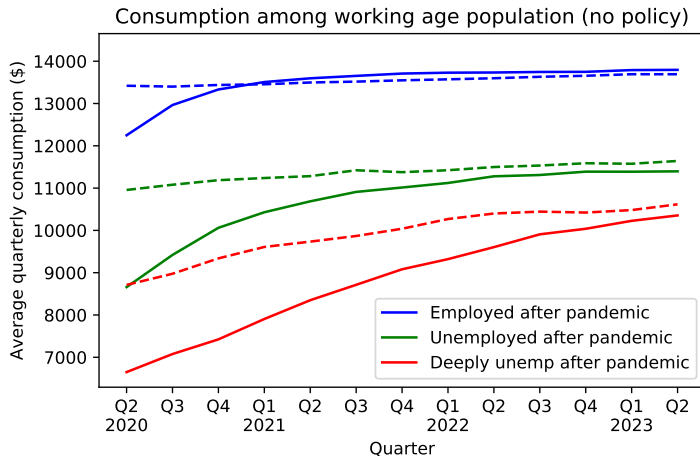
# Aggregate Consumption Response



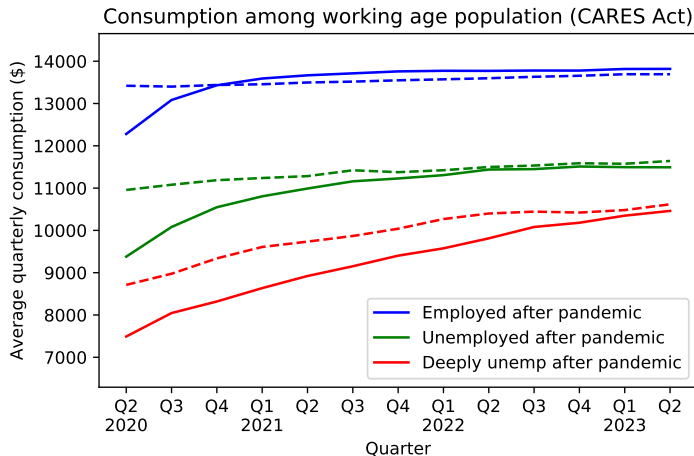
# Consumption Response Decomposition



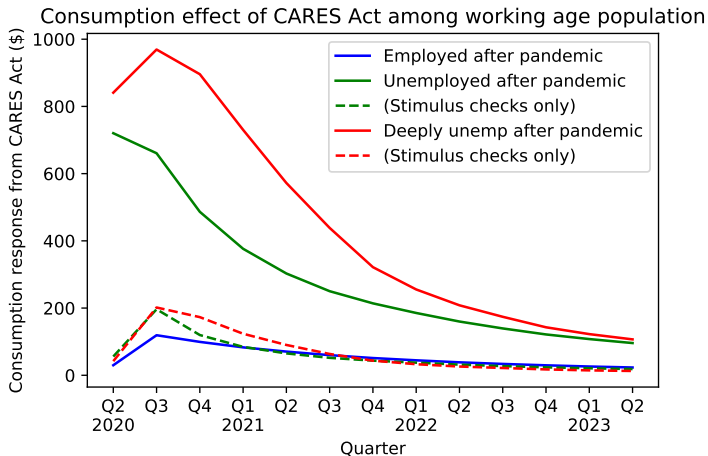
# Consumption Response By Employment Type



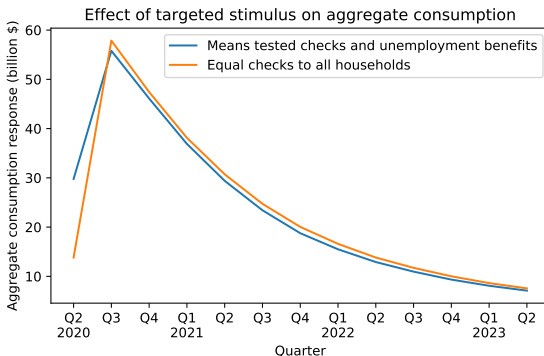
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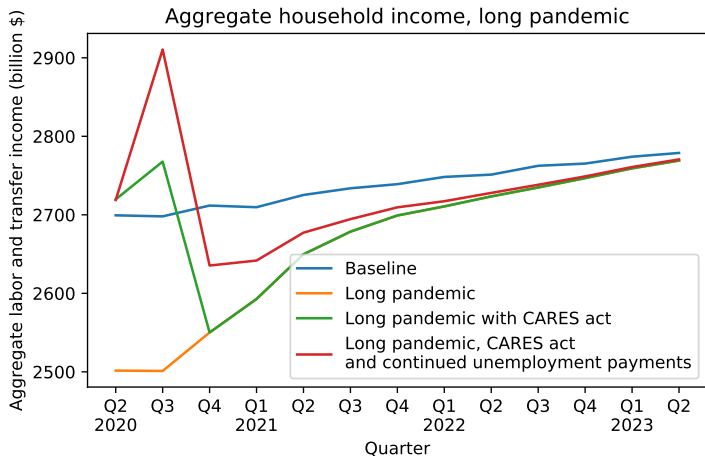


# Is Targeting Useful In The Aggregate?

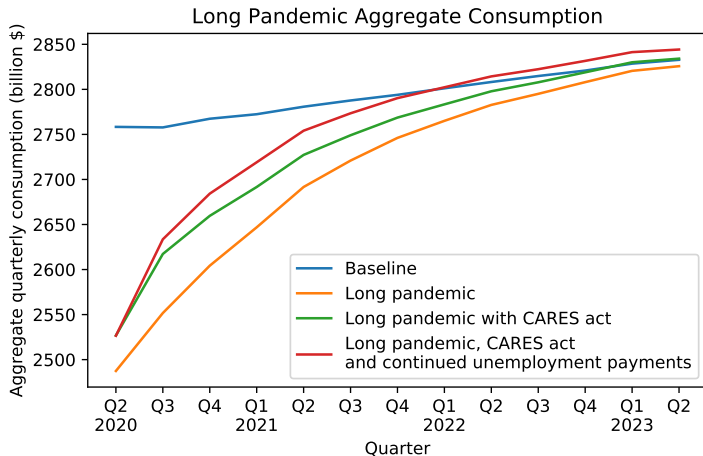


- Deep unemployed have lower MPCs
- UE benefits are generous - average MPC lower than marginal

# Deep, Long Pandemic: Income



# Deep, Long Pandemic: Consumption





Short-lived lockdown: CARES Act looks sufficient for a swift recovery

Long, deep lockdown: Increased payments required to maintain demand

Check out the dashboard

<https://econ-ark.org/pandemicdashboard>