Household Welfare: Do We Need Big Data?

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Do We Need Big Data?

Yes! I will highlight three possible uses of big data for policymakers:

- **Disaster relief** (COVID-19, "financial public health")
  - ▶ Heterogeneous household *resources*

- **Aggregate demand management**
  - ▶ Heterogeneous household *responses*

- **Financial regulation**
  - ▶ Heterogeneous household *tastes* and *capabilities*.

Disaster Relief

- When a disaster strikes the economy, the priority is to ensure adequate spending power for the whole population
  - ▶ To avoid a Sen (1981) famine, in which people starve despite sufficient aggregate food supply.

- We know that many people lack emergency funds
  - ▶ Famous Fed finding that 50% of US adults could not cover a $400 unexpected expense with cash or formal credit in 2013 (down to 40% in 2018).

- To target relief, we need to know both who suffers an income loss and who lacks emergency funds
  - ▶ In the absence of such information, we use crude policies like the CARES Act ($1200 per person for US taxpayers with 2019 adjusted gross income below $150K, phasing out for higher-income taxpayers).

Aggregate Demand Management

- In a normal recession, fiscal and monetary policy seek to stimulate aggregate demand
  - ▶ Channels of transmission through business investment and household consumption.
- Effectiveness of consumption channel depends on the MPCs of households
- Modern macroeconomics derives MPCs within a canonical model that has
  - ▶ Random income with a life-cycle pattern
  - ▶ Borrowing constraints
  - ▶ Multiple assets (safe/risky, liquid/illiquid).
- Implied MPCs depend sensitively on liquid asset positions
  - ▶ Which in turn depend on age, history of income and return shocks, time and risk preferences
- To calibrate and apply this model, we need to be able to measure MPCs and their determinants.
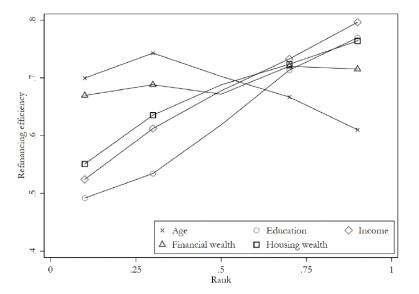
The Mortgage Channel of Monetary Policy

- One channel through which monetary policy can affect aggregate demand is by changing the mortgage rate.

- In an adjustable-rate mortgage (ARM) system, the passthrough to household budgets depends on the short rate and occurs automatically.

  ▶ Even here the demand effect depends on MPCs of borrowers relative to lenders.

  ▶ And there may be ways to add further stimulus through mortgage payment holidays (Campbell, Clara, and Cocco 2020).

- In a fixed-rate mortgage (FRM) system, the passthrough depends on the long rate and requires borrowers to refinance.

  ▶ Long-term payment relief stimulates consumption approximately 1:1 for "permanent income" households, possibly more than 1:1 for constrained households whose constraints are relaxed by lower mortgage payments.

Frictions in the Mortgage Channel

- In the US FRM system, refinancing requires adequate home equity and credit score
    - Which consumers are able to take advantage of lower FRM rates?
    - Effectiveness of monetary policy depends on the distribution of house prices (Beraja, Fuster, Hurst, and Vavra 2019).

- There is also behavioral heterogeneity in responsiveness
    - Borrowers slow to respond to prequalified refinancing offers (Keys, Pope, and Pope 2016)
    - Slow refinancing in the Danish FRM system where there are no barriers to rate-reducing refinancing (Andersen, Campbell, Nielsen, and Ramadorai 2020)

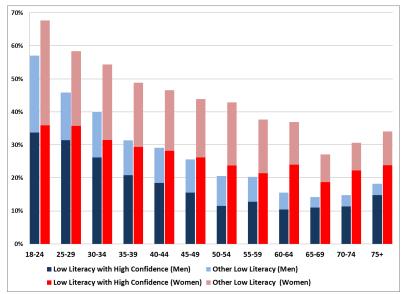# Variation in Refinancing Efficiency (Andersen et al 2020)

Cross-Subsidy and Shrouded Equilibrium

- When some households manage a product (such as a FRM) effectively while others do not, the result in a competitive market is cross-subsidy from unsophisticated to sophisticated users
  - ▶ Concerning distributional consequences when unsophisticated are older, less educated, and poorer than sophisticated
- Cross-subsidy can also inhibit the development of better products
  - ▶ A firm with a new product (a self-refinancing mortgage) can only sell it by educating consumers
  - ▶ But educated consumers get a cross-subsidy from the existing product so they won't buy the new one.
- Gabaix and Laibson (2016) "shrouded equilibrium" may justify financial regulation to eliminate cross-subsidy
  - ▶ But it is important first to be able to measure the extent of the problem.

Financial Regulation and Heterogeneity

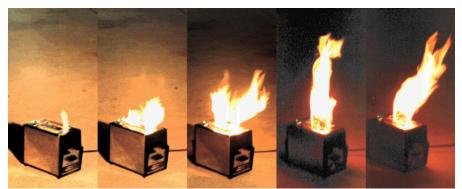- More generally, the extent of financial regulation should depend on
  - Heterogeneity of tastes (negatively—avoid "one size fits all")
  - Heterogeneity of financial capabilities (positively—protect the unsophisticated).

- Swedish administrative data suggest that middle-aged households saving for retirement are very heterogeneous in their rates of time preference and elasticity of intertemporal substitution, moderately heterogeneous in their risk aversion (Calvet, Campbell, Gomes, and Sodini 2020).

- Financial literacy test data suggest considerable heterogeneity in financial capabilities, and also in self-confidence (Campbell 2016).

Financial Literacy Test Results (Campbell 2016)

How Much Financial Regulation?

- Elizabeth Warren's "flaming toaster" analogy relies on the assumption that all households are identical
  - We all want the same thing from a toaster, so strict regulation to ban unsafe toasters is warranted.
- But in household finance, this is not always true and we need high-quality micro data to properly calibrate financial regulation.

Calibrating Financial Regulation