Lessons from the Great Recession: Household Debt in Macroeconomic Models

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The Argument

- Weakness in household balance sheets is the primary reason for the severity and length of the economic slump.
How Does Household Debt Generate a Downturn?

• Models have three critical ingredients:

1. Before recession, heterogeneity across households in balance sheet strength/leverage
   • Geographic variation in household debt as of 2006

2. A shock to household balance sheets leads to sharp drop in consumption by “levered” households
   • Collapse in house prices in 2007, financial crisis of 2008

3. Frictions prevent “unlevered” households from picking up slack
Consumption Declines: High/Low Deciles of Household Debt, 2006

- See Mian, Rao, and Sufi (2011) for more details
Employment

- Major negative shock to consumption in counties with high debt during the housing boom

- How does this affect employment?
  - Difficult because goods consumed in high debt areas are produced throughout country
  - Mian and Sufi (2011) idea: separate employment into jobs catering to local versus national consumption
  - Evaluate “local” employment, use estimate to back out aggregate effects

- Result: consumption shock due to weak balance sheets explains 65% of job losses from 2007 to 2009
Employment Growth, by High and Low Leverage Counties

- Non-tradable employment
- Tradable employment

- Note: Non-tradable employment excludes construction—further tests show this is not a construction jobs effect
Implications

• Evidence consistent with household balance sheet view of the recession

• Evidence less consistent with “policy uncertainty” or “credit supply to firms” view
  • Policy uncertainty does not have such strong cross-sectional predictions, especially with regard to employment in tradable and non-tradable industries
  • Firm credit supply view inconsistent with employment evidence
  • Credit supply to households more important

• Not just U.S. – exact same pattern shown across Europe during Great Recession and 1989 – 1992 recession
What is the Friction Preventing Adjustment?

- Wage rigidity: we see some wage adjustment, but not nearly enough (Daly, Hobijn, and Lucking (2012))

- Mobility remains at all time low – role of underwater homeowners?

- Zero lower bound on nominal interest rates
  - Hard to quantify exact role
  - How negative would real interest rates need to get to induce consumption among unlevered households?
Policy Advice

1. Efforts to directly target household debt will have largest positive impact on economy
   • An immediate implication of models
   • Very little done on mortgage restructuring relative to historical episodes
   • IMF (2012) analysis strongly supports

2. Macroeconomic models should take into account household heterogeneity as it relates to aggressive borrowing behavior
   • Substantial fraction of households that borrow aggressively
   • Implications for monetary policy and regulation

3. Investigation of flexible mortgage contracts in which principal automatically reduced if aggregate negative house price shock materializes