Why has consumption grown only moderately after the Great Recession?

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Introduction

- Consumer spending is the largest component of GDP (2/3)
- Like GDP, consumption has recovered very slowly
- Why?

Explanations

1. Wealth effects, Liquidity constraints, Debt overhang

2. Revisions in permanent income, Uncertainty, Inequality

3. Other – behavioral, etc.

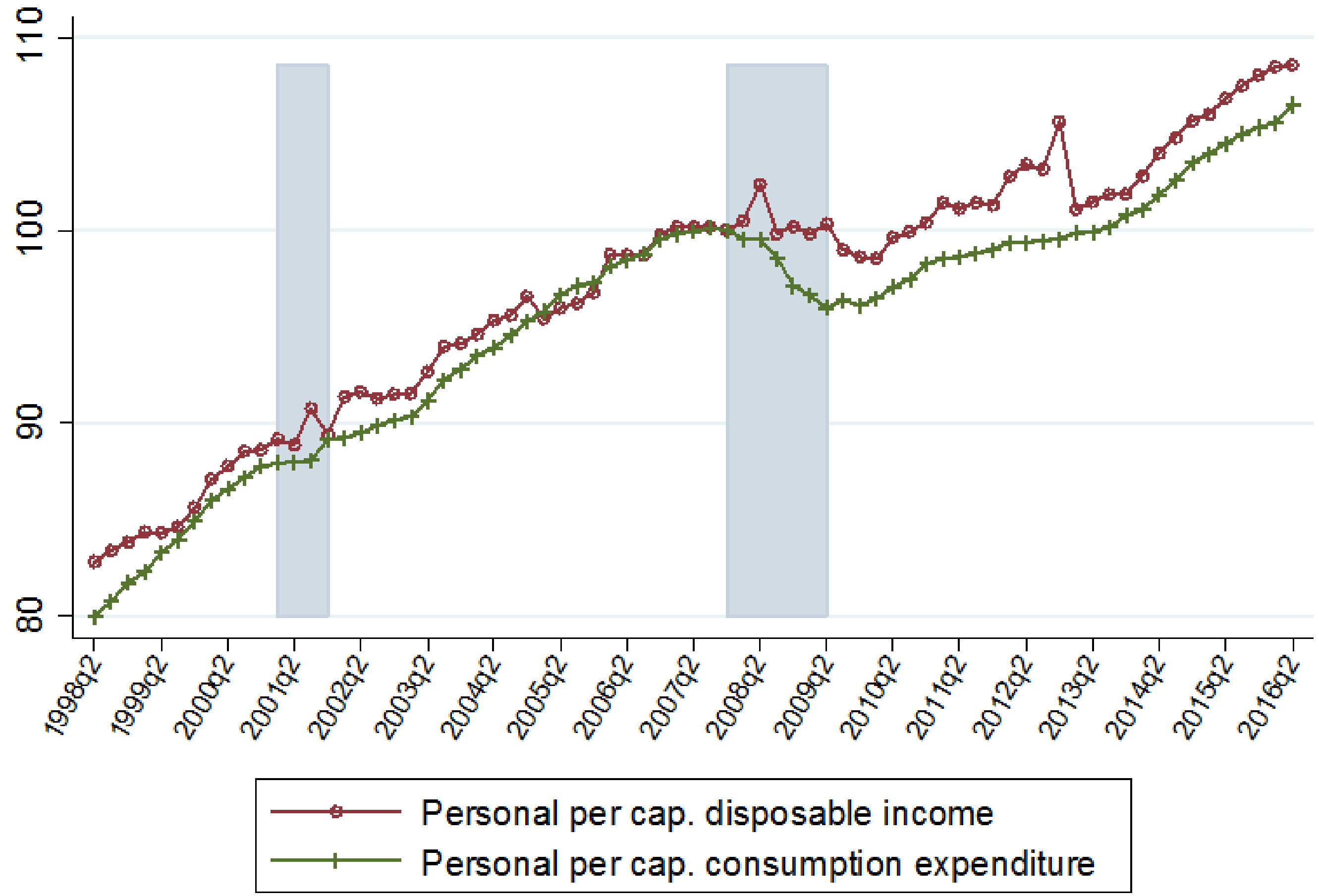
A tentative narrative?

- Before the GR
  - Loosening of credit standards allowed credit constrained and "wealthy hand-to-mouth" consumers to borrow against increasingly valued collaterals (housing) to finance spending
- The GR
  - Wealth shocks left consumers excessively leveraged
  - Sharp drop in spending to repair damaged balance sheets
- After the GR
  - Liquidity constraints persist - when housing wealth rebounds, consumers find it harder to translate equity increases into spending power
  - Debt hangover slows down recovery at first, but in more recent years appears less relevant
  - Reduced income and employment prospects, as well as redistributive issues being magnified by heterogeneity in MPCs

Roadmap

- Some facts
- Consumption "gap"
- A review of explanations
- Conclusions

The facts – C vs Y^d



Source: BEA, NIPA Tables 2.1, 2.3.4 and 2.3.5

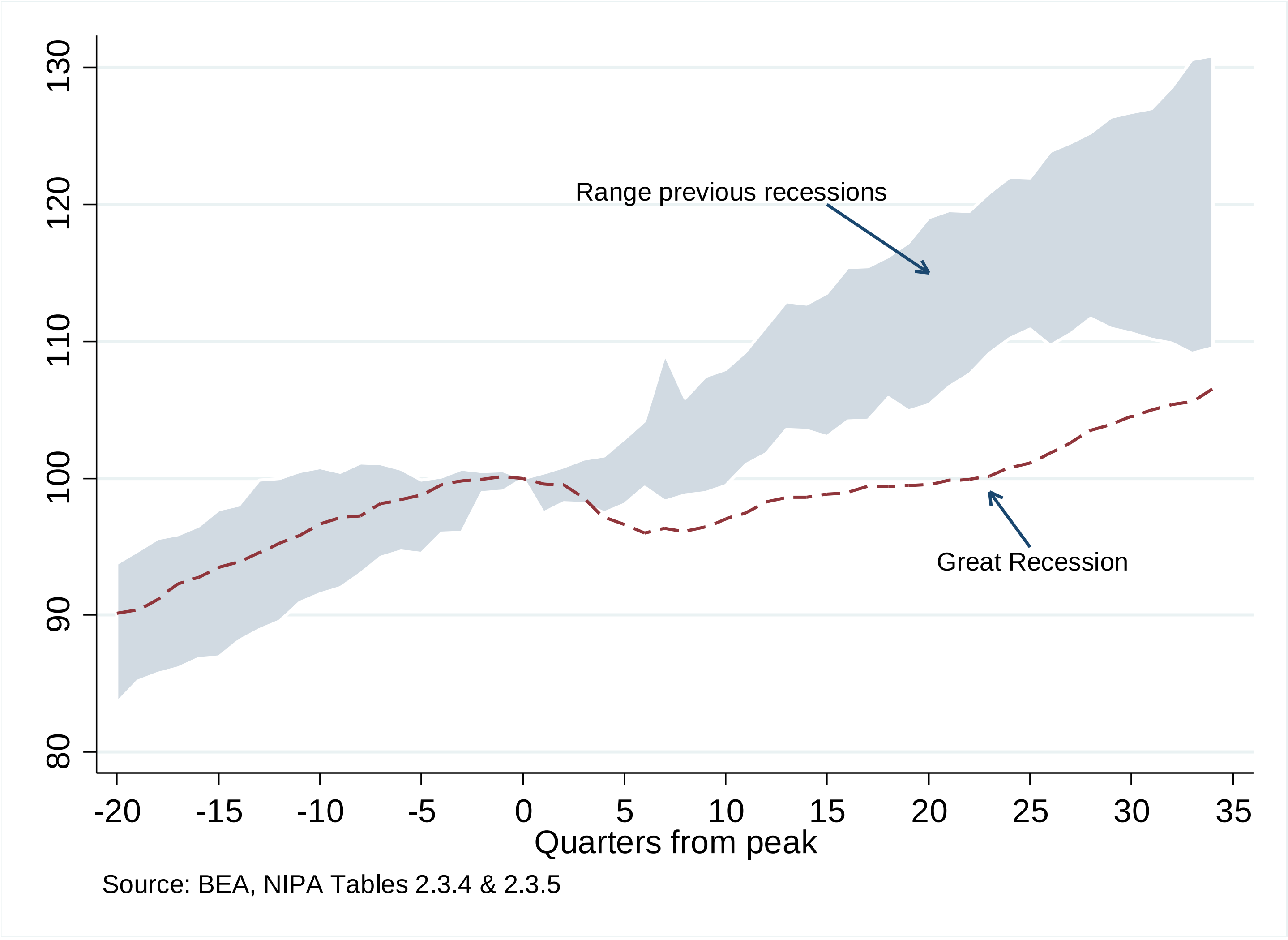
Other facts

- Consumption growth rates: D, N, S

	Period	
Consumption definition	2002:1-2007:3	2009:3-2016:2
Total consumption	3.00%	2.29%
Durables	5.62%	6.68%
Nondurables	2.78%	2.12%
Services	2.60%	1.68%

- Consumption vs. spending
  - In-kind transfers, time use, shopping activities, “trading down”
- Saving rates
  - Increase between 2006 and 2011, flat afterwards
- Great escape from homeownership

How large is the “consumption gap”?



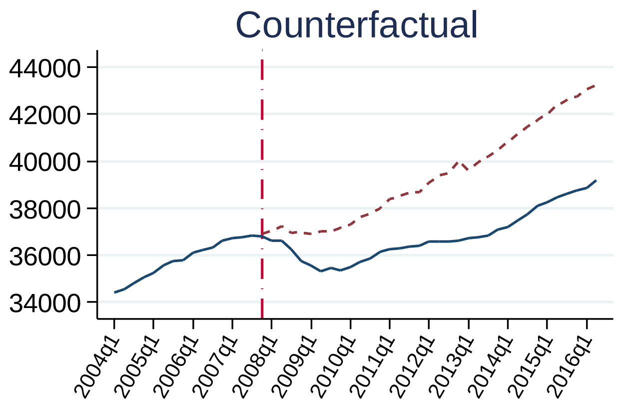
Alternative: predictive regressions

- Predict consumption growth using growth in disposable income and net worth appreciation
  - Regress using data up to 2007:IV
  - Use estimated coefficients to predict past 2007:IV
  - Compare with actual consumption

- Add lagged leverage ratio

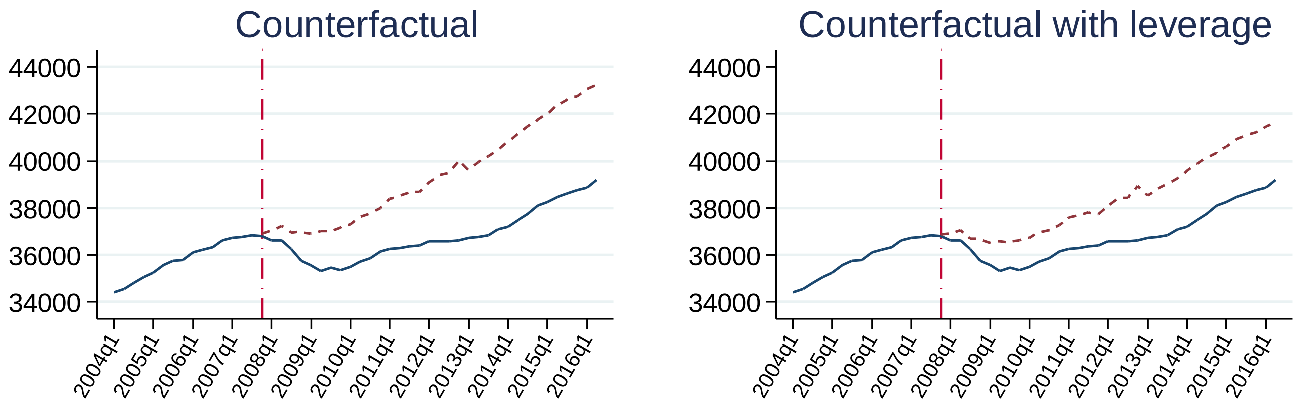
- Add lagged consumer confidence index

Alternative: predictive regressions



Source: BEA, NIPA Tables 2.3.4 & 2.3.5 and own elaboration

Alternative: predictive regressions



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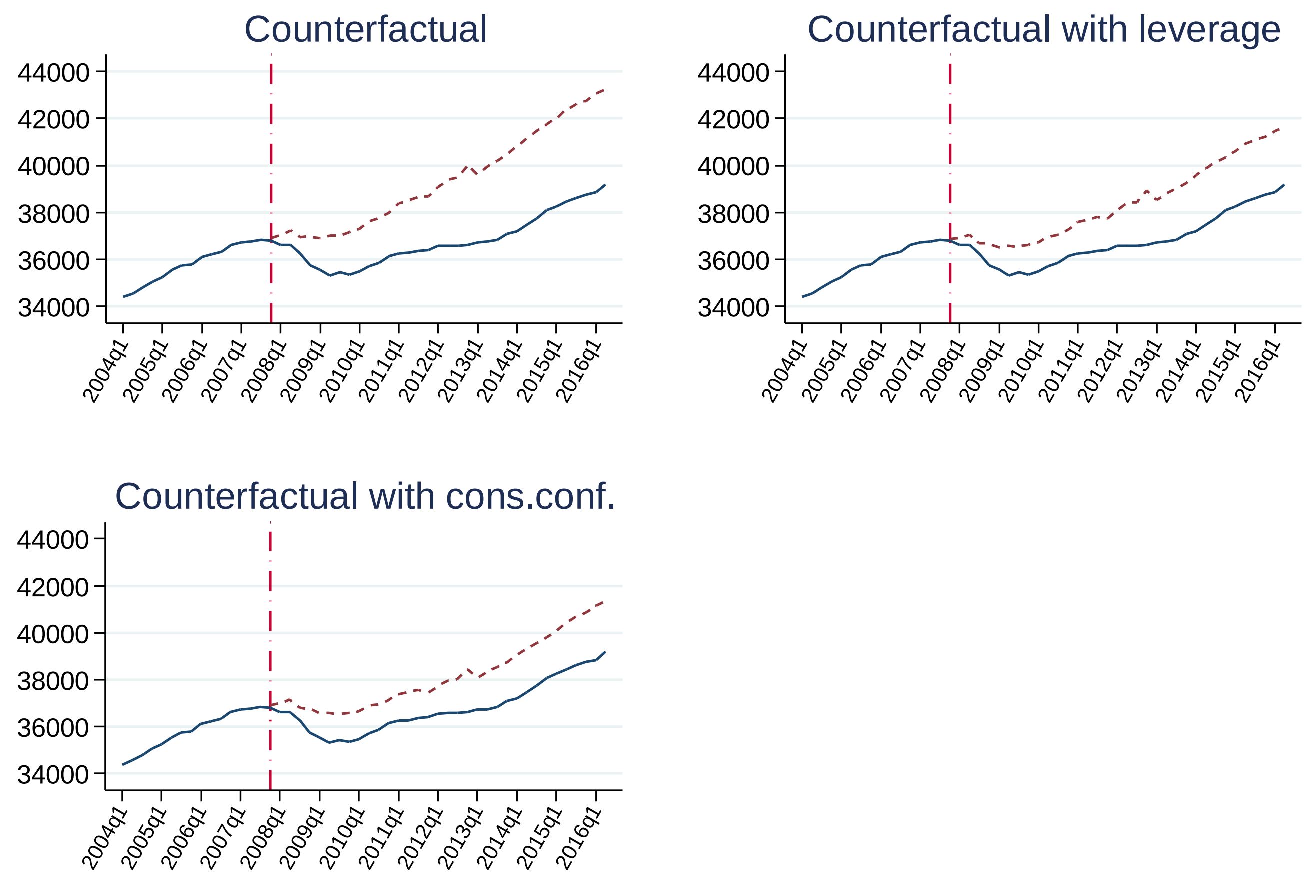

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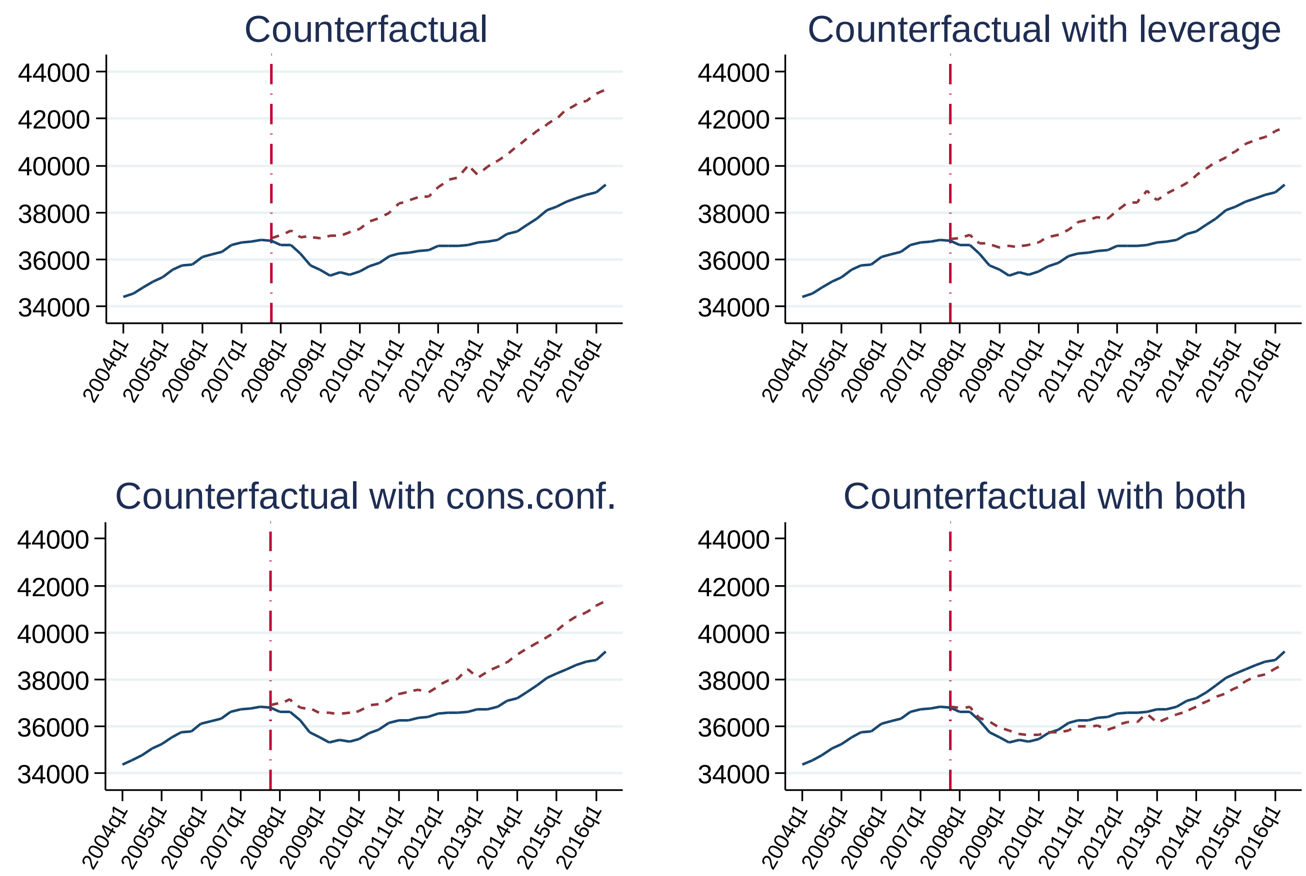
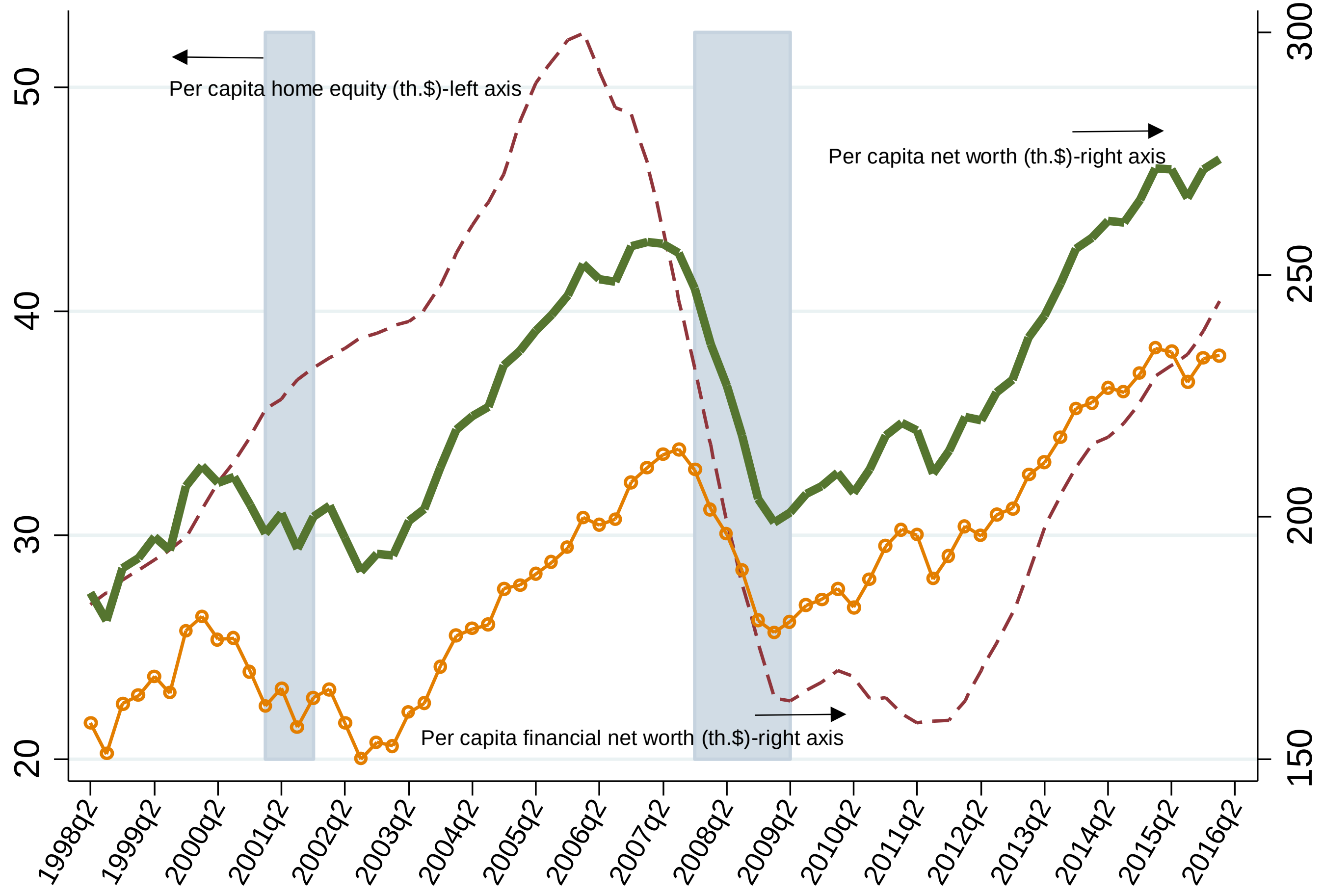


Source: BEA, NIPA Tables 2.3.4 & 2.3.5 and own elaboration

Wealth changes

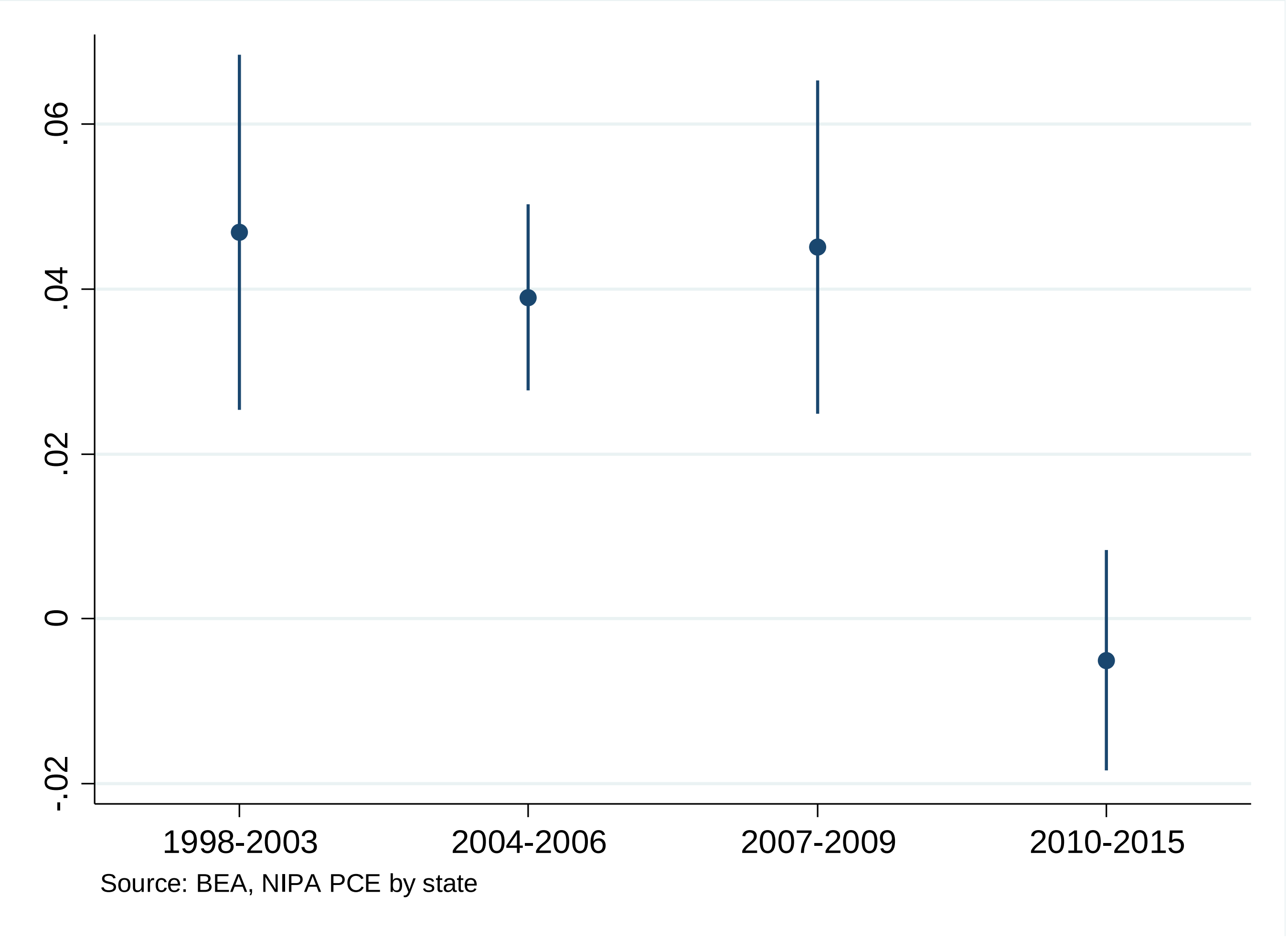


Source: Financial Accounts of the US

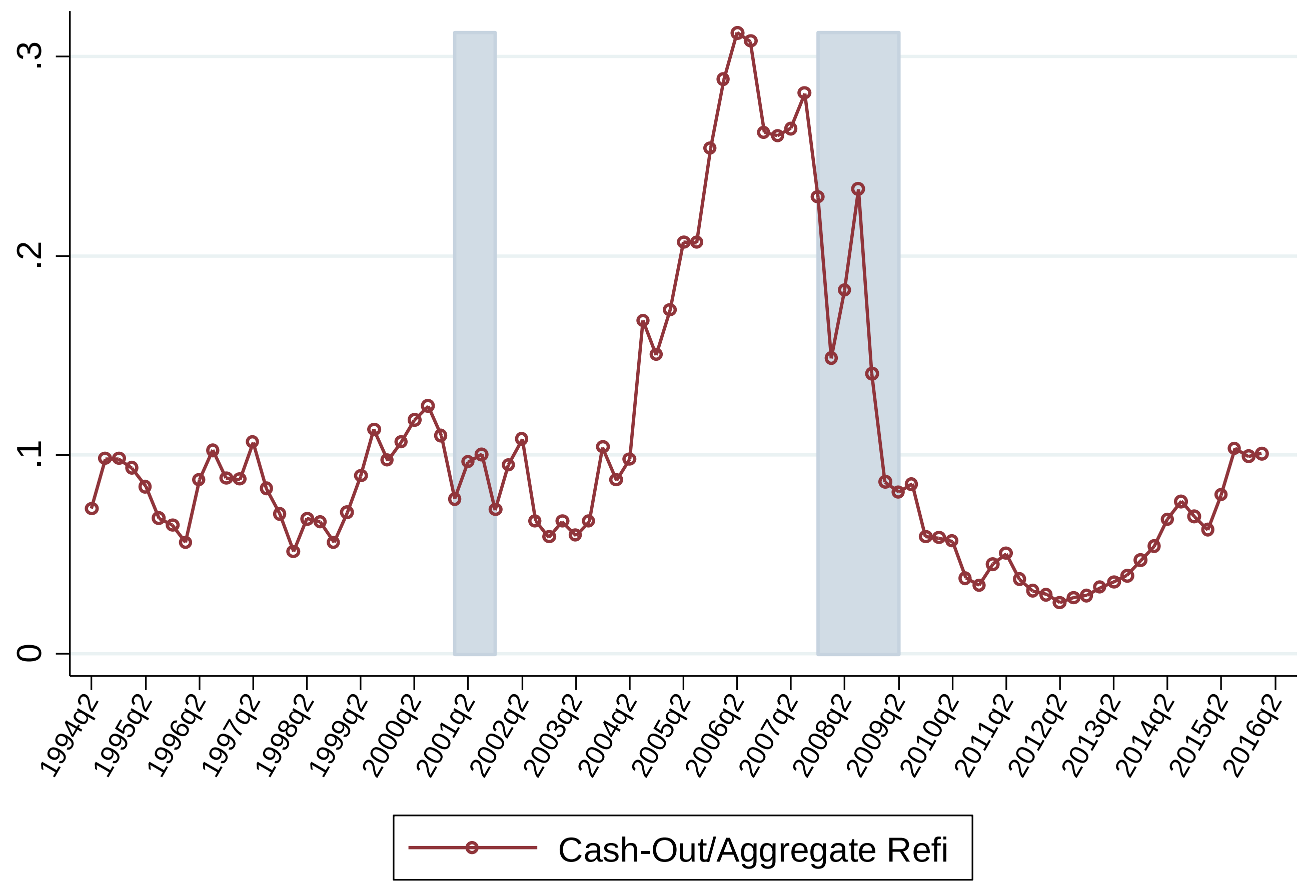
Wealth effects

- Explain consumption boom in the pre-recession period
- Also explain the big fall during the recession
- But there is much subdued consumption response during the recent recovery cycle

Estimated wealth effects shrink considerably post-recession



People have trouble using "housing as ATMs"



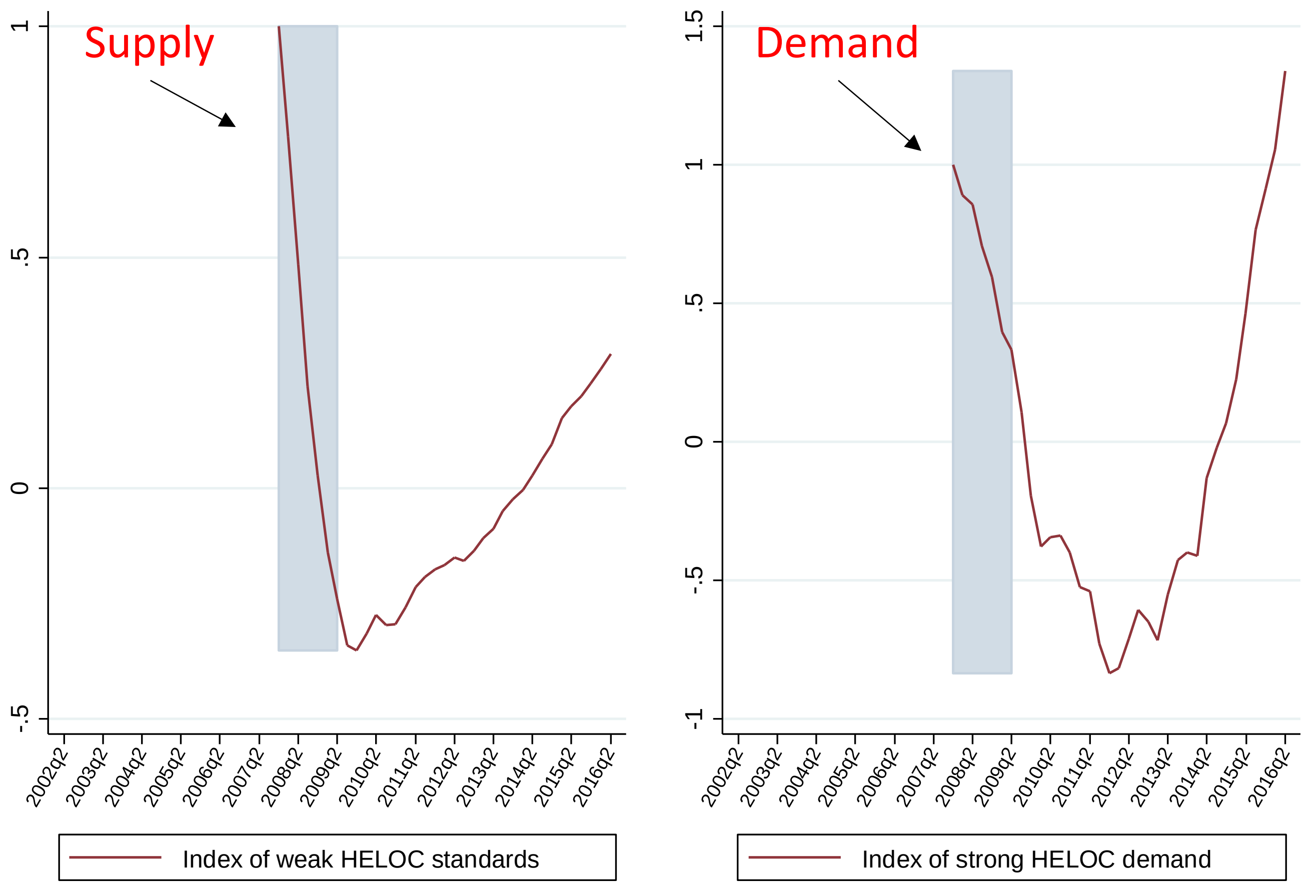
Source: Freddie Mac, Refinance Report

Demand or supply?

- I construct various indicators of “supply constraints”
  - Senior Loan Officer Opinion Survey on Bank Lending Practices
  - Home Mortgage Disclosure Act
  - Survey of Consumer Finances
  - Survey of Consumer Expectations – NY FED

- Reading of evidence
  - After financial crisis, credit market frictions came back to be potential constraints on household consumption choices
  - In recent times financial frictions have eased, but not uniformly
  - In particular, some market segments (sub-prime borrowers; home equity lines) are still below pre-recession levels

Senior Loan Officer Opinion Survey on Bank Lending Practices



Source: Senior Loan Officer Survey

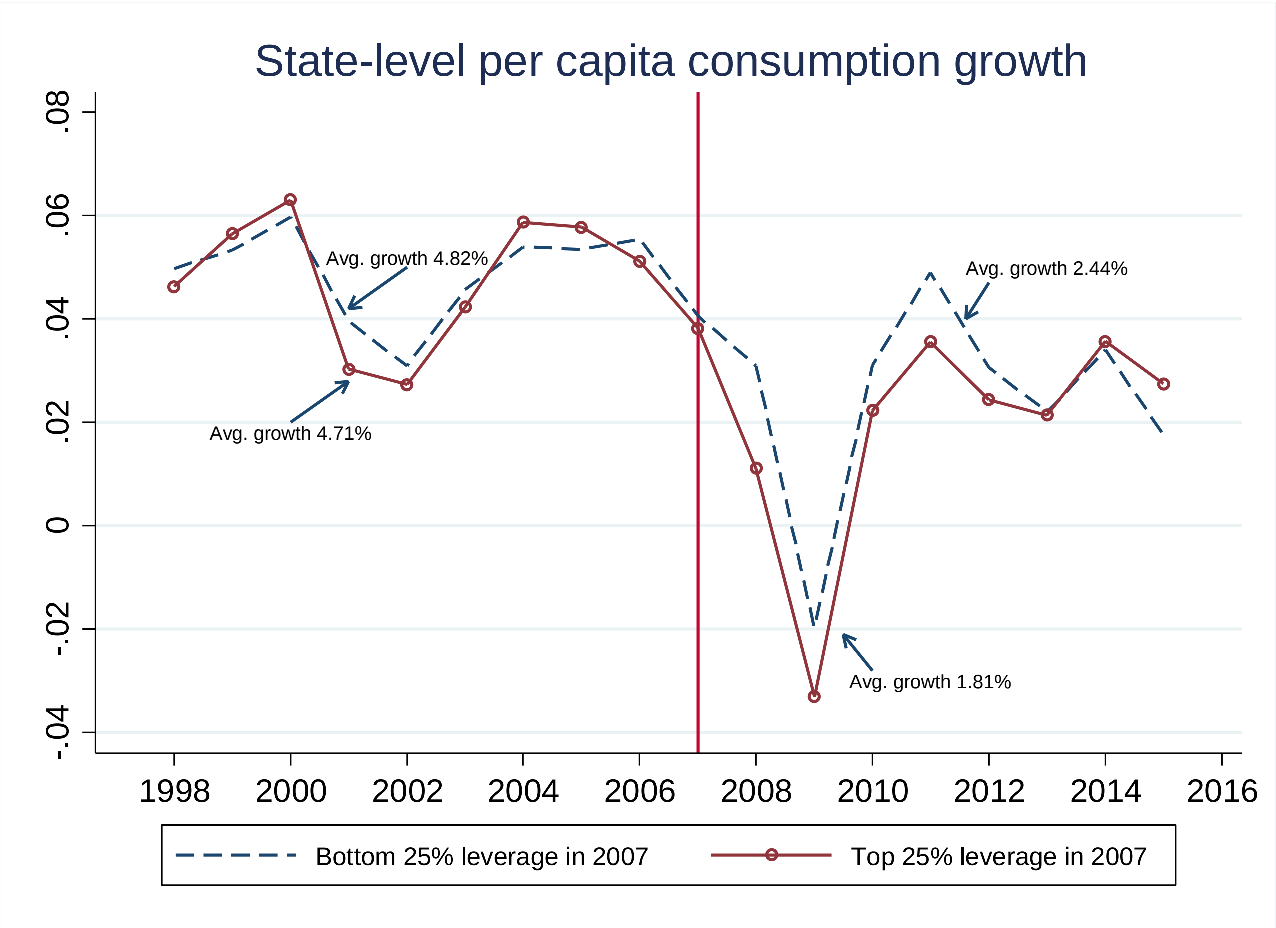
Debt overhang

- Debt exerts a role on consumption growth over and above wealth effects.

- Highly-leveraged households need a long time to go back to the optimal debt/asset ratio following large shocks to their asset values

- In general equilibrium, the reduction in the demand for borrowing reduces the interest rate, but the ZLB trap leaves aggregate demand depressed.

State-level data

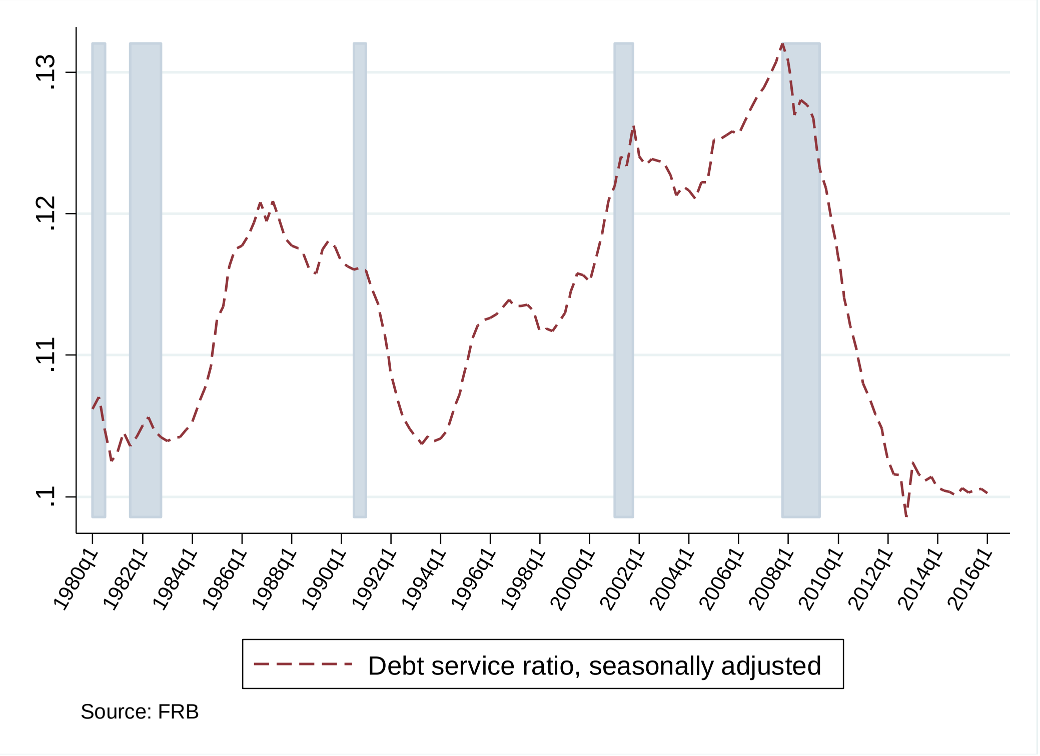


- Test of equal growth rates
  - *Before* the GR: p-value 49.5%
  - *After* the GR: p-value 2.8%

Is deleveraging over?

- Most likely

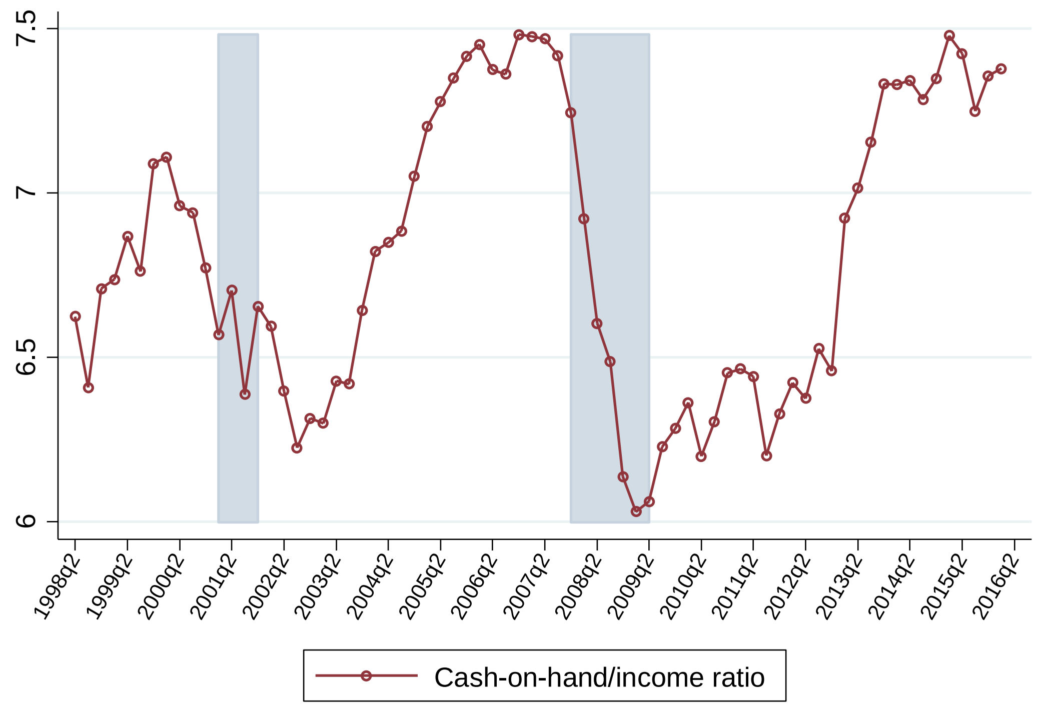
1. The debt-service ratio is at its lowest value since 1980



Is deleveraging over?

- Most likely

2. The cash-on-hand/income ratio is back to pre-GR levels

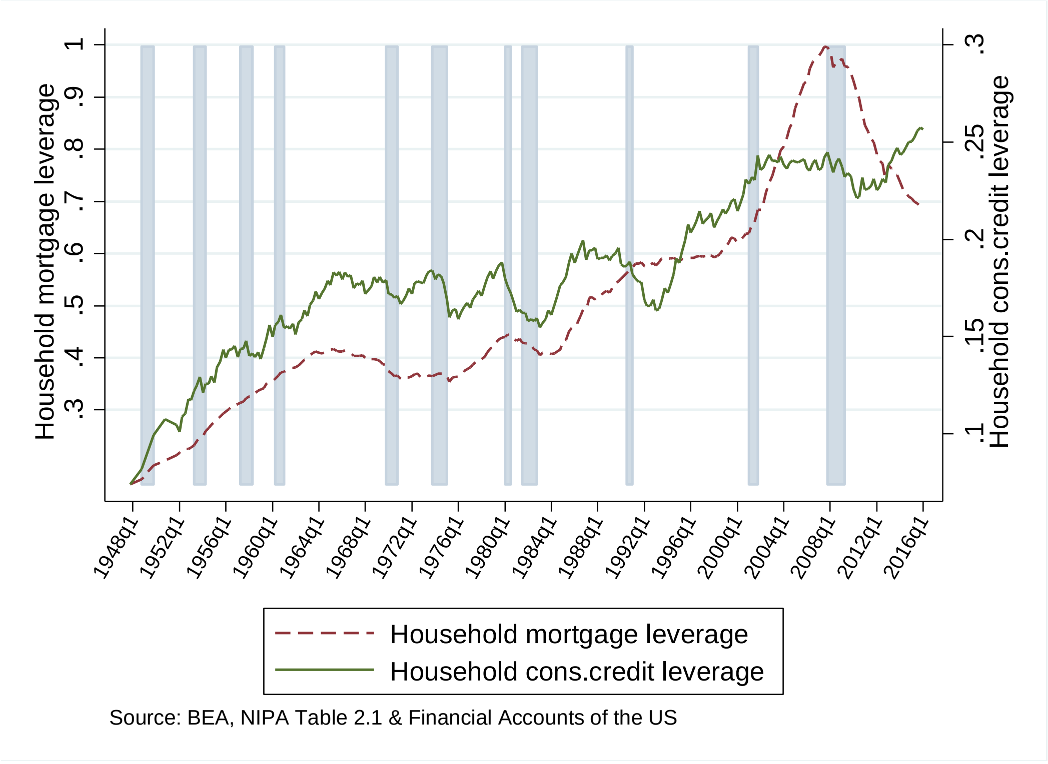


Source: Financial Accounts of the US

Is deleveraging over?

- Most likely

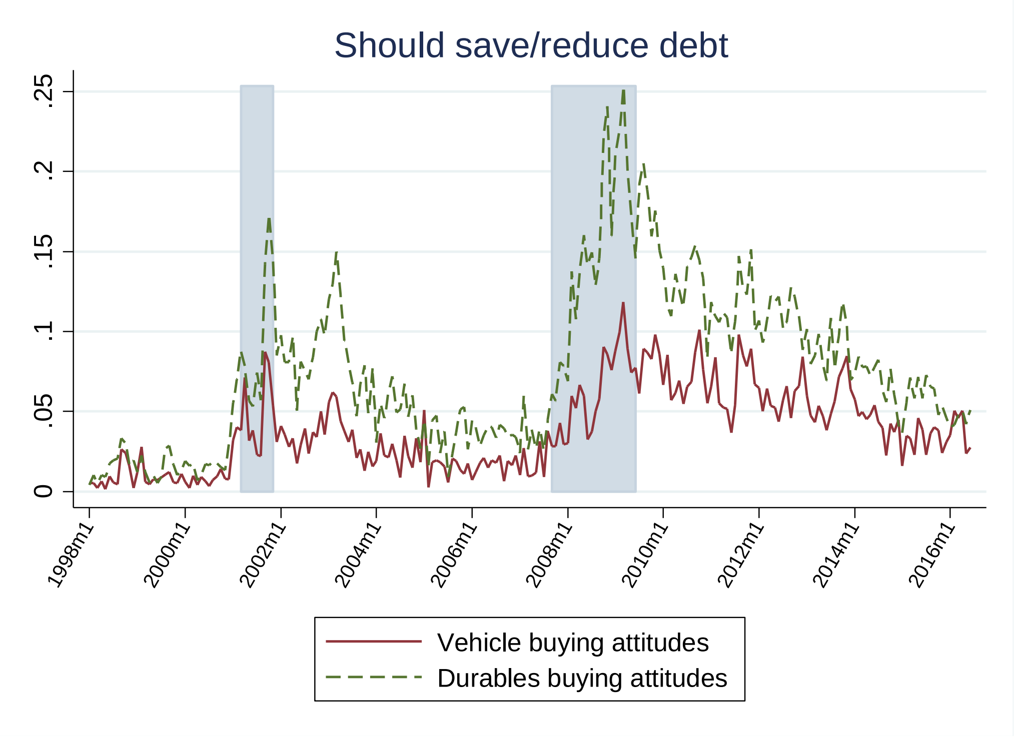
3. Leverage ratios (especially non-mortgage ones) are up again



Is deleveraging over?

- Most likely

4. In the MSC people report reasons why times are bad for big purchases



Is deleveraging over?

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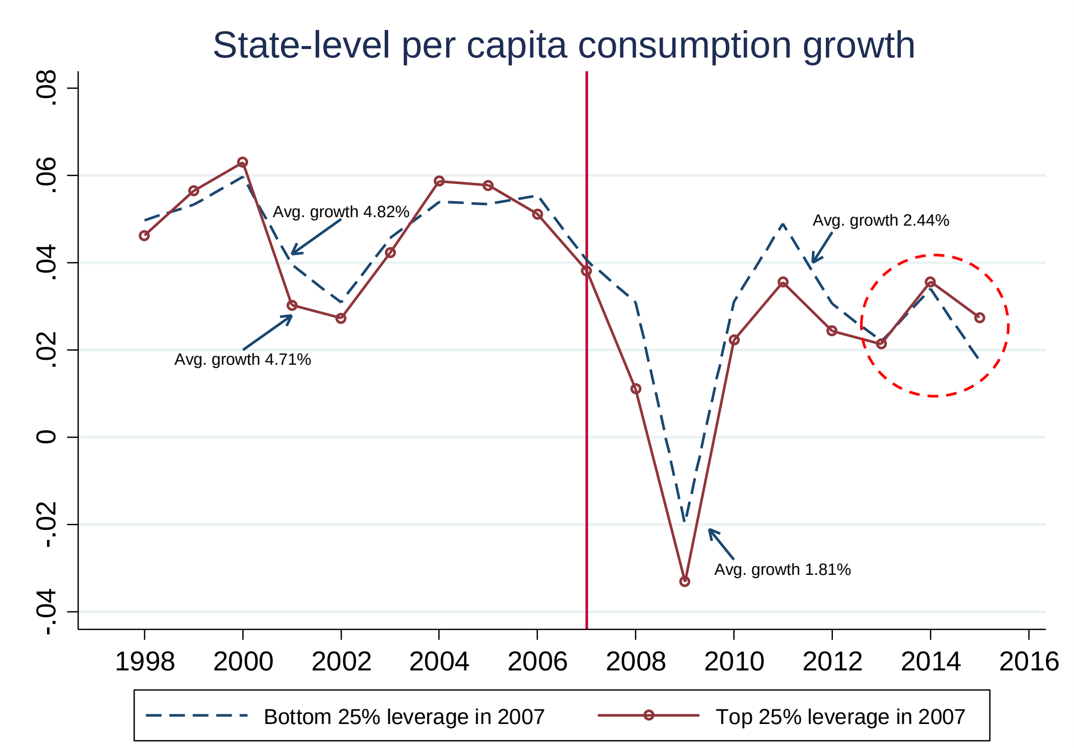
5. Debt doesn't seem to hang over consumption growth anymore



Uncertainty and permanent income shocks

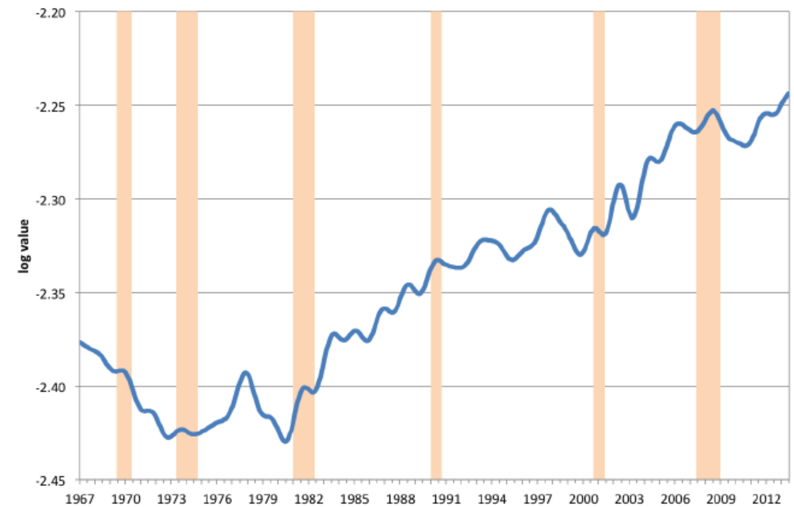
- Recessions induce many types of "wealth effects", not just those related to declines in housing or stock market prices.

- During recessions human wealth (as well as health and social capital) may also be destroyed due to events such as layoffs, displacement, long-lived absences from active employment, etc.

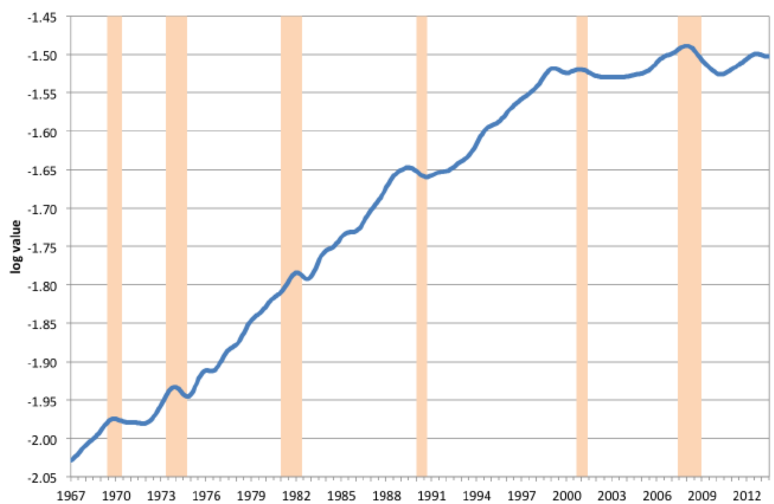
- Such shocks create "scarring“ (persistent effects) and may increase uncertainty.

Why permanent shocks during the GR? - Polarization

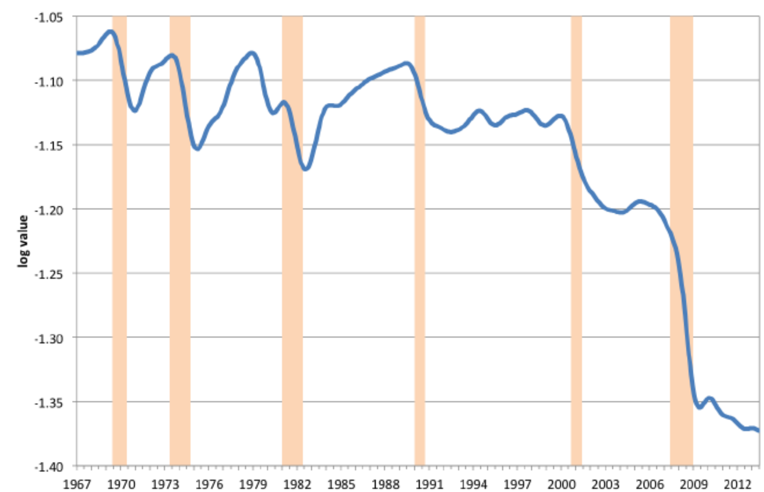
- Jobless recoveries particularly concentrated among *routine* occupations
- Size of shock increasing



Non-routine manual



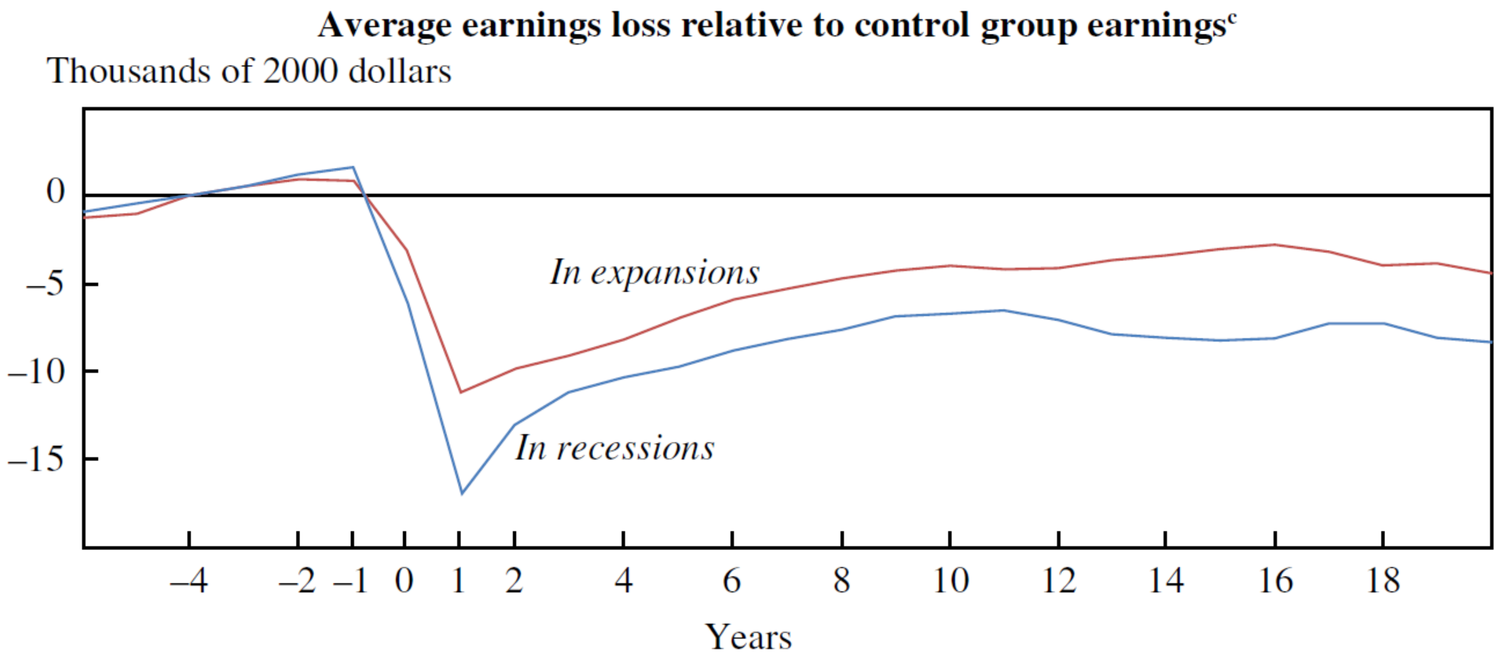
Non-routine cognitive



Routine

Source: Jaimovich and Siu (2012)

Why permanent shocks during the GR? – Scarring effects



Source: Davis and von Wachter (2012)

Did people perceive revisions in permanent income during the GR?

- The Michigan Survey of Consumers elicits individual expectations of long-term changes in well-being
- I can also use the panel component to construct measures of uncertainty

- Great Recession shocks revert to the mean
  - But not for people at the bottom of the income distribution…
  - …who also experience increases in income uncertainty

Distributional issues

- These findings broadly consistent with other facts
  - In the post-recession period both income and wealth inequality have continued to rise
    - 60% of the (before-tax) income gains have accrued to the top 10% of taxpayers
    - Most of the wealth gains have come from stock market wealth, which is notoriously more concentrated than housing wealth

- Did the (continuing) rise in income and wealth inequality contribute to the weakness in consumption?
  - "Concentrated wealth at the top means less of the broad-based consumer spending that drives market economies." (B. Obama, *The Economist* 10/8/2016)

- For rising inequality to matter, MPC heterogeneity is key
  - Typical finding: $cov(MPC, W + Y) < 0$

Does it matter?

- Suppose bottom 90% have a MPS=0
- Infer a MPS=37% for top 10%

- Consider scenario in which income gains had been equally distributed

- Keeping MPCs constant, I calculate that aggregate consumption would have increased by $2,958 b. over the 2009-15 period (instead of $2,437 b.)

Conclusions

- On the positive side:
  - Consumers appear in less vulnerable financial position
  - Recent reports suggest strong gains in wages and salaries, including at the bottom
- Headwinds:
  - Price dynamics
  - Monetary policy constrained by ZLB
  - Fiscal policy mis-timed and constrained by political polarization

- Thank you!

All references in the paper. Programs and data will be made available soon.