Recovering from recessions: household consumption over the business cycle

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Introduction

- Patterns and Puzzles in Household behaviour

1. Savings behaviour in recessions

2. How does behaviour differ across groups? Split by age, by housing tenure
   - Impact of leverage

3. Durable vs Non-durable Spending Patterns
   - Different speeds of recovery
   - Long-run changes in volatility
Savings Behaviour

Income over the past three recessions

Real disposable income, per capita

Using GDP deflator

Quarters since recession started

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Recovering from Recessions
Savings Behaviour

Expenditure over the past three recessions

Real total expenditure, per capita
Using GDP deflator

Quarters since recession started

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Real total expenditure, per capita
Using GDP deflator

- 2008
- 1990
- 1980
Savings Behaviour
Household Saving Ratio over the past three recessions
Savings Behaviour: Summary

- Spike in savings around start of recession.
- Similar in UK and US
- Negative correlation between savings and growth in GDP
- Puzzling because consumption should be smoothed through shocks

Explanations (Alan, Crossley and Low, 2014)

1. Shocks of recessions are permanent to the individual: \( \Delta PDI \) reflects transitory income, GDP growth permanent
2. Recessions generate uncertainty in permanent income

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Differences across Groups post-2008: Age

Income

Largest income fall for middle-aged, Old recover fastest
Middle-aged and young both cut expenditure
Differences across Groups post-2008: Age

Saving Ratio

![Saving Ratio, 2008 recession By age](image)

Saving of all age groups rises - not just about credit constraints
Differences across Groups post-2008: Age

Summary

- Income fall particularly for middle aged; fast recovery for the old
- Savings increased for all groups; especially for the young

Explanations

1. Suggests supply of credit is not the driver of savings spike
2. Role of uncertainty
3. Wealth effects
Differences across Groups post-2008: Housing Tenure

Expenditure

Sharp fall in expenditure for mortgage holders
Differences across Groups post-2008: Housing Tenure

Saving Ratio

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Renter</th>
<th>Mortgagor</th>
<th>Owner Out.</th>
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<td>2006q1</td>
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<td>2015q1</td>
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Differences across Groups post-2008: Housing Tenure

Summary / Puzzle

- Expenditure falls most for mortgagors

- Sharp spike up in savings

- How large is the wealth shock?
Differences across Groups post-2008: Housing Tenure

Wealth Shocks

- What is the change in net wealth, \( W \), following a house price fall?
  \[
  \frac{\Delta W}{W_t} = \frac{\omega_t}{(1 - L_t)} \pi_t
  \]

  \( L \): Leverage (debt to gross wealth)
  \( \omega \): Exposure (share of housing in gross wealth)
  \( \pi \): Return on housing (percentage change in house price)
Differences across Groups post-2008: Housing Tenure

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  ⇒ Multiplier on house price change: 10
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3. Age 25: on all human and financial wealth - leverage becomes 0.1, exposure 0.11
   ⇒ Multiplier on house price change: 0.13

4. Importance of uncertainty about permanent income
Durables vs Non-Durables

Non-durables have not recovered

Updated from Crossley, Low and O’Dea (2013). Fall after 2008 is particularly in food expenditure.
Durables vs Non-Durables

Durables have recovered quickly

Updated from Crossley, Low and O’Dea (2013)
Durables vs Non-Durables

- How fast do durables recover compared to non-durables?
- Show ratio of quantity of durables to quantity of nondurables in 1980 and 2008
Durables vs Non-Durables

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![Graph showing ratio of durable to nondurable volume over time](image)
Durables vs Non-Durables

Volume Ratios: 1980 and 2008

Difference is mainly in the spike end 2008/2009: VAT cut and Scrappage, Crossley, Low and Sleeman, 2015
Decline in cross-section variability and time-series volatility.
Durables vs Non-Durables: Explanations

1. Decline in volatility of prices
2. Decline in covariance of prices with business cycle
Durables vs Non-Durables: Explanations

1. Decline in volatility of prices
2. Decline in covariance of prices with business cycle
3. Decline in durability / increase in depreciation
4. Durables less luxurious
Conclusions

- Three patterns to understand:
  - Savings spikes
    - Savings spike up in recessions (US and UK)
    - Common for all age groups
    - Role of uncertainty
  - Mortgage holders cut expenditure the most - leverage and exposure
    - Need to account for all wealth in thinking about leverage?
  - Durables
    - Ratio of durable to non-durable spending similar to other recessions
    - Both growing slower than previous recessions
    - Nature of durables has changed: spending less volatile
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