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

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Total consumption</td>
<td>3.00%</td>
<td>2.29%</td>
</tr>
<tr>
<td>Durables</td>
<td>5.62%</td>
<td>6.68%</td>
</tr>
<tr>
<td>Nondurables</td>
<td>2.78%</td>
<td>2.12%</td>
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<tr>
<td>Services</td>
<td>2.60%</td>
<td>1.68%</td>
</tr>
</tbody>
</table>

- 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”?

Source: BEA, NIPA Tables 2.3.4 & 2.3.5
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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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

Source: BEA, NIPA PCE by state
People have trouble using “housing as ATMs”
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

Source: FRB
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

Source: BEA, NIPA Table 2.1 & Financial Accounts of the US
Is deleveraging over?

- Most likely

4. In the MSC people report reasons why times are bad for big purchases
Is deleveraging over?

• Most likely

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

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: $\text{cov}(MPC, W + Y) < 0$
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.