Boom-Busts and the Rich: Saving, Wealth and Inequality

BAS B. BAKKER AND JOSHUA FELMAN
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VIEWS ARE PERSONAL
Re-examining the US crisis

- Do we really understand what caused the crisis and slow recovery?

- Conventional narrative: Leverage cycle of the middle class
Growing Inequality

- **Net Worth of US Households**
  - Billions of US 2009 dollars

- **Disposable Household Income**
  - Billions of 2009 US dollars

Charts show trends over time, with separate lines for the bottom 90% and the top 10% of earners/households.
Middle-class Borrowing

Figure 1.1. United States: The Boom-Bust and the Household Saving Rate, 1990-2012

Median Real Household Income
(Thousands of 2012 dollars)

Household Debt and Saving

- Household debt (percent of disposable income)
- Saving rate
Real Estate Boom and Bust

Real Housing Prices (2006 = 100)

Loan Delinquency Rate: Residential Real Estate Loans
Puzzle 1: Growing Inequality, Falling Saving

Figure 1.2. US: Puzzles about the Saving Rate
Figure 2.2. Household Debt by Income Level, 1989-2012
(Billions of US dollars)

Sources: We calculated the share of debt held by the top 10 and bottom 90 percent for the years 1989, 1992, 1995, 1998, 2001, 2004, 2007 and 2010, using the 2010 version of Federal Reserve Board’s triennial “Survey of Consumer Finances” (http://www.federalreserve.gov/econresdata/surf/surf_2010.htm). We interpolated the shares for intermediate years. We applied these shares to the liabilities in the “Balance Sheet of Households and Nonprofit Organizations” (Table B100) from the Federal Reserve “Financial Accounts of the United States” (http://www.federalreserve.gov/RELEASES/z1/Current/)
Puzzle 3: Counter-cyclical Saving

Two year change in unemployment rate and household saving rate

- Change in unemployment rate
- Change in saving rate

Source: Federal Reserve Board (saving rate); BLS (unemployment);
Two questions

- Why just focus on debt, ignoring assets purchased?
- Why focus on middle class, when bulk of income and wealth gains accrued to rich?
- Perhaps these are the missing keys...
The Rise of Wealth

Household Net Worth: A longer-time perspective

- Net worth
- Five year moving average

Two year changes in Net Worth To Disposable Income Ratio

Graphs showing changes in household net worth and the ratio of net worth to disposable income over time.
Role of Assets

Assets and Liabilities

Breakdown of Assets

- Financial assets
- Non-financial assets
- o/w real estate
Return of the Wealth Effect?
Wealth Effect

\[ C = \alpha + \beta Y + \gamma W \]  \hspace{1cm} (1)

\[ \frac{C}{Y} = \frac{\alpha}{Y} + \beta + \gamma \frac{W}{Y} \]  \hspace{1cm} (4)

Rearranging yields an equation for the saving rate:

\[ \frac{S}{Y} = (1 - \beta) - \gamma \frac{W}{Y} - \frac{\alpha}{Y} \]  \hspace{1cm} (3)
Theory to Empirics

Estimating the consumption rate function

\[
\frac{C}{Y} = \frac{\alpha}{Y} + \beta + \gamma \frac{W}{Y}
\]

(4)

35. We dropped the \(\frac{\alpha}{Y}\) part as the coefficient turned out to be statistically insignificant, and finally estimated the following equation:

\[
\frac{C}{Y} = \beta + \gamma \frac{W}{Y}
\]

(5)
Simple Model, Good Fit

Table 1. Estimation Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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<tr>
<td>Constant</td>
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<td>1.723420</td>
<td>44.16744</td>
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<td>R-squared</td>
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<td>Adjusted R-squared</td>
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<td>S.D. dependent var</td>
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<td>S.E. of regression</td>
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<td>Sum squared resid</td>
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<td>Hannan-Quinn criterion</td>
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<tr>
<td>F-statistic</td>
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<td>Durbin-Watson stat</td>
<td>1.042050</td>
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<tr>
<td>Prob(F-statistic)</td>
<td>0.000000</td>
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</tbody>
</table>

Figure 2.7. Consumption rate: actual and fitted

Sources:
Simulated Consumption Growth

Actual and simulated consumption growth (Percent)


Actual
Simulated
Consumption: Key Role of Wealth

Contribution to simulated consumption growth
(Percentage points)

- Total
- Contribution income
- Contribution wealth
Role of the Rich

\[ \frac{C^R}{Y^R} = \beta^R + \gamma^R \frac{W^R}{Y^R} \]  \hspace{1cm} (6A)

\[ \frac{C^M}{Y^M} = \beta^M + \gamma^M \frac{W^M}{Y^M} \]  \hspace{1cm} (6B)

49. As we do not have separate consumption data for the rich and the middle class, we cannot estimate the coefficients directly. We can however calibrate them, and see whether they fit the data. We impose the following restrictions on the coefficients

\[ \theta_Y^R \beta^R + (1 - \theta_Y^R) \beta^M = \beta \]  \hspace{1cm} (7A)

\[ \theta_W^R \gamma^R + (1 - \theta_W^R) \gamma^M = \gamma \]  \hspace{1cm} (7B)

where \( \theta_W^R \) is the wealth share of the rich; \( \theta_Y^R \) the income share. These restrictions ensure that the overall behavior of the consumption rate mimics that of equation 5. We assume that \( \theta_W^R = 2/3 \) and \( \theta_Y^R = 1/2 \).
Calibration

- MPC out of income: 0.65 (rich); 0.85 (middle class)
- MPC out of wealth: 0.027
Consumption: Key Role of Rich

Contribution Top 10 and Bottom 90 to Simulated Consumption Growth
(Percentage points)

Change in Consumption from 1993
(Billions of US 2009 dollars)
Explaining Role of the Rich

Real income growth (Percent)

Real net wealth gains and losses (percent of previous year income)
What just happened?

- Used textbook model, reasonable calibration

- We reversed the conventional narrative!

- Real story of the boom and bust lies not with middle class and its debt but rather in the rich, and their net assets!
Resolving the Puzzles

- Why did saving fall as income distribution shifted toward high-saving rich?
  - Because the wealth of the rich boomed, reducing their incentive to save

- How did households increase saving when their incomes were falling?
  - Because it was the rich who scaled back consumption when wealth fell; it was easy for them
Implications of Two Narratives

• How busts end
  ○ Debt narrative: when households pay down debts or housing prices recover
  ○ Wealth narrative: when wealth is restored, perhaps because stock prices recover

• Role of monetary policy
  ○ Debt narrative: largely ineffective.
  ○ Wealth narrative: important, because it can affect asset prices
Figure 2.1 US: Household Net Worth and Debt
(Percent of disposable income)

Sources: Federal Reserve Board
• THANK YOU!