

The Long and the Short of Household Formation

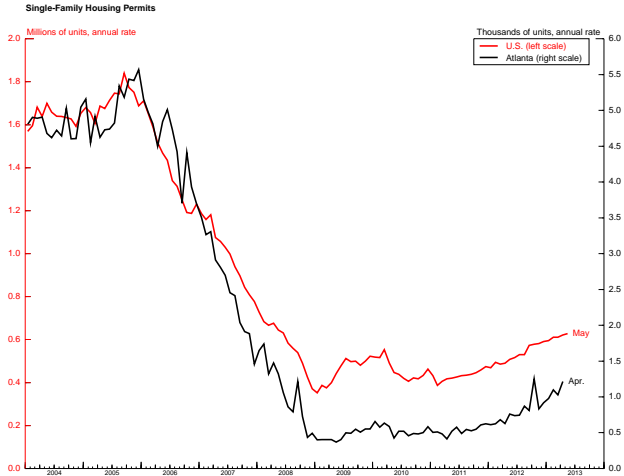
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Board of Governors of the Federal Reserve System

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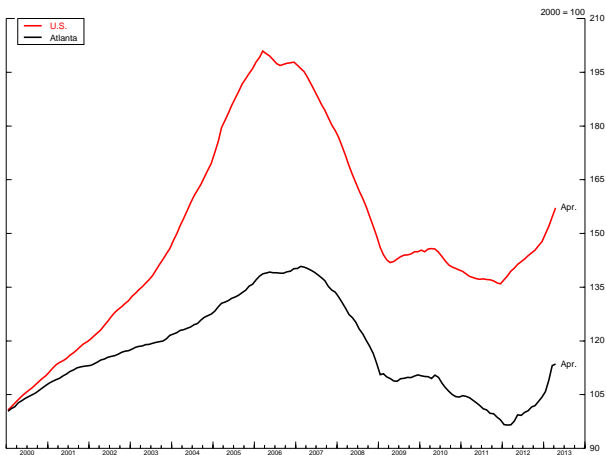
Housing Construction



Supply

Why has residential construction been so low for so long?

CoreLogic House Price Index



Demand

Why has residential construction been so low for so long?

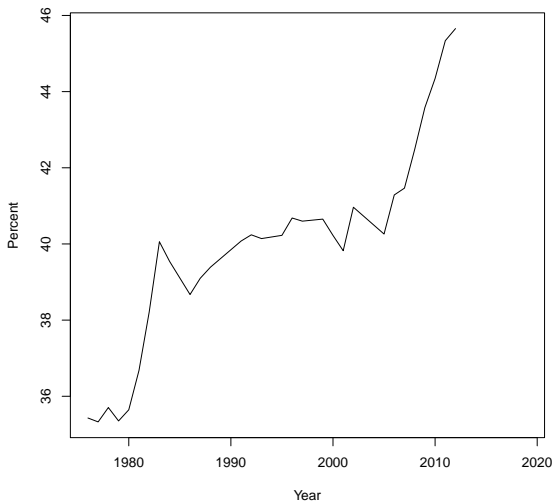
$$\begin{aligned} \text{New Construction} - \Delta(\text{Vacant Units}) - \text{Scrapped Units} \\ = \text{Household Formation} \end{aligned}$$

Motivation

- Rate of (net) new household formation plunged after 2006 and has remained extremely low relative to historical norm
 - 2000-2006: 1.35 million per year
 - 2007-2011: 550,000 per year
 - 2012: About 1 million
- Consequences seem fairly clear:
 - Direct effects: Housing didn't play its usual role in jumpstarting the recovery
 - Indirect effects: House prices, wealth, etc.
- But what are the drivers of household formation itself?

What is Household Formation?

Fraction of Young Adults Living with Older Family Members



What is Household Formation?

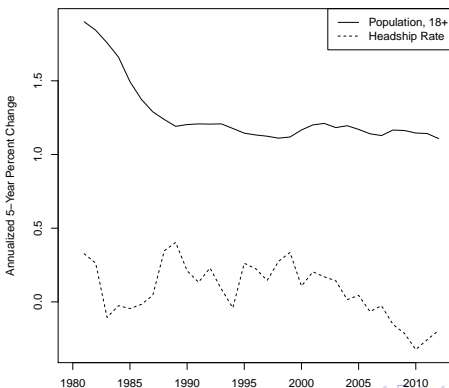
- Individuals choose one of four living arrangements:
 - Living with family (parents, e.g.)
 - Living alone
 - Living with a spouse or domestic partner
 - Living with roommates
- For a given population, distribution of individuals across arrangements determines the number of households

The Headship Rate

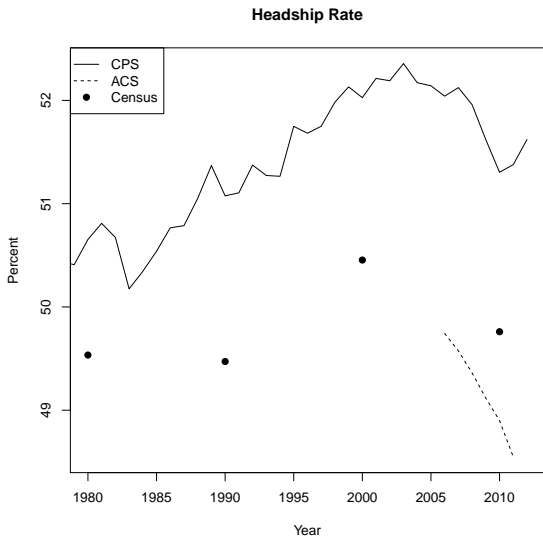
$$\text{Headship Rate} = \frac{\text{Households}}{\text{Population}} \quad (1)$$

$$\% \Delta \text{Households} \approx \% \Delta \text{Population} + \% \Delta \text{Headship Rate} \quad (2)$$

Population and Headship Rate, Growth Rates



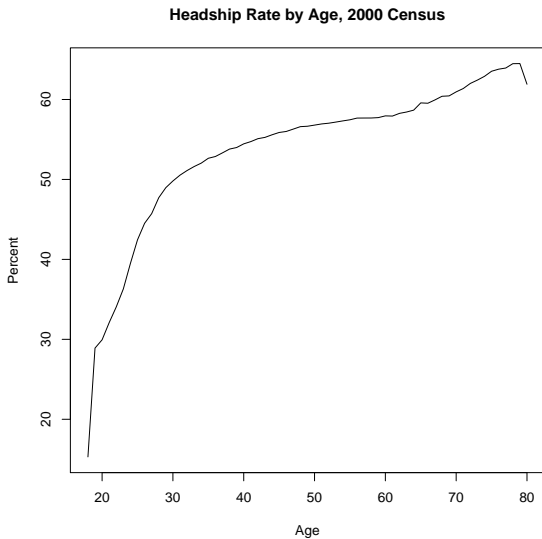
Differing Headship Rate Estimates



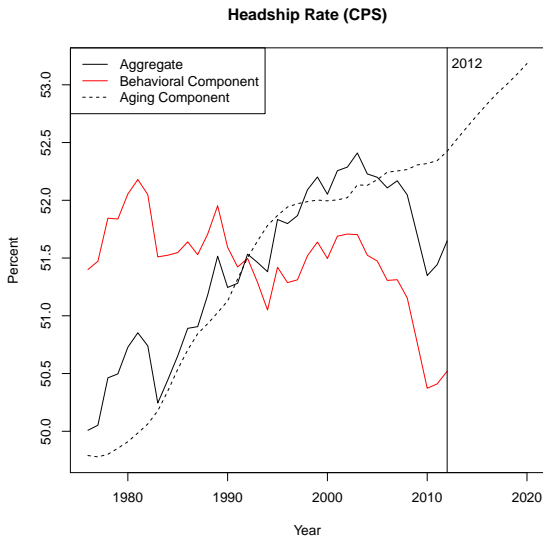
Three Factors Affecting Headship and Household Formation

- Demographics, particularly the aging of the US population
- Longer-run trends in behavior, such as more adult children living at home
- Shorter-run fluctuations related to the state of the economy

Age and the Headship Rate



Decomposing the Headship Rate



Longer-Run Trends, 1980-2000

- Use Census microdata to decompose headship over the longer run
- Demographic changes (mostly aging) pushed up headship rate
- Rising income and education imply higher headship
- But: Rising housing costs have pushed down headship strongly

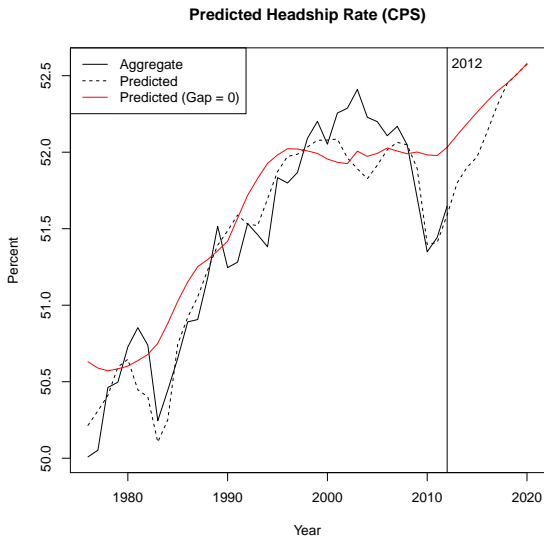
Shorter-Run Fluctuations, 2006-2011

- Use ACS microdata to decompose headship over the shorter run
- Demographics unimportant over this horizon
- Rising rent still matters, even in a depressed housing market
- Most important: Unemployment and income

Modeling Headship

- Given these insights, what can we say about headship and household formation going forward?
- Construct a model of headship that takes into account demographics, trends in behavior, and the effects of the business cycle
- Predict headship using model and Census Bureau population projections through 2020

Model Forecast



Model Forecast

- “Full employment” in 2012 would have implied 1.5 million more households
- Given projected population growth of 2.2 million per year, model predicts household formation of 1.5 to 1.6 million per year, compared with trend of 1.3-ish million

Discussion and Conclusion

- Household formation has been well below trend in recent years
- Pace of formation reflects three underlying factors:
 - Upward push from aging population
 - Downward push from rising housing costs
 - Cyclical component reflecting the state of the labor market
- Trend household formation is roughly 1.3 million, but model suggests that it could hit 1.6 million as labor market improves and headship “catches up” to trend
- Positive impetus for housing demand, house prices, and residential construction
 - But: Lots of caveats and lots of uncertainty!