Discussion of "Credit Growth and the Financial Crisis: A New Narrative" by Stefania Albanesi, Giacomo DeGiorgi, Jaromir Nosal

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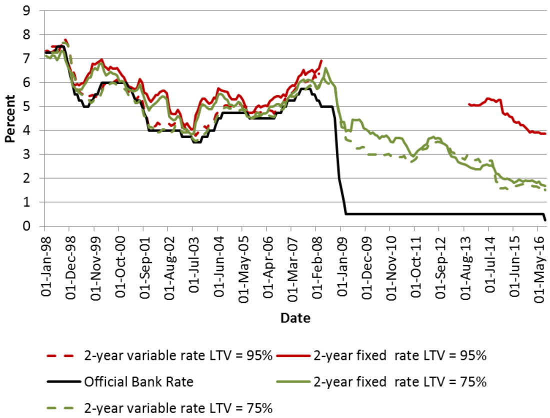
Outline of the discussion

- Motivation and importance of the question
- Main results
- Relation to the literature
- Comments and suggestions
- Conclusion

Motivation and importance of the question

- What explains the 2001-2006 credit boom and the 2007-2009 U.S. financial crisis? Mian and Sufi (2009, 2011, 2016), Mian, Rao and Suffi (2013):
  - Large increase in mortgage lending to low income and low credit quality borrowers.
  - During 2001-2006 growth in mortgage credit for home purchases became negatively correlated with income growth (measured at the ZIP code level). Particularly so in areas with strong house price growth.
  - Large increases in delinquencies and defaults among subprime borrowers during the crisis. That contributed to a decline in house prices and exarcebated the effects of the crisis.
  - Role of the financial industry in providing credit to low income and high credit risk borrowers.
- This view of the origins of the financial crisis are challenged by the authors.
  - Focus on the role of the "demand for credit."
- It is important to note that what we observe in the data is the equilibrium outcome of the supply and demand for credit:
  - Investors must have been willing to extend credit.
  - Are there credit cycles in investors' willingness to extend credit and the compensation that they require for credit risk?

Some evidence from the United Kingdom:



Data source: Bank of England.

Main results:

- Main results:
  - Data: New Yord Fed's Consumer Credit Panel/Equifax Data.
  - Credit growth in the 2001-2006 period concentrated in the *prime* segment.
  - Rise in mortgage defaults during the crisis concentrated in the middle of the credit score distribution and among real estate investors (those with more than one first mortgage).
  - No strong evidence of a relation at the ZIP code level between the severity of the 2007-2009 recession and the prevalence of subprime borrowers.
- Why the different results?
  - Low credit score individuals are disproportionally young.
  - If classify borrowers using their 1996 credit score, life-cycle effects confounded with credit score.
  - Individuals who are young exhibit subsequent growth in income, debt and credit scores.
  - Credit score and debt growth for young/low credit score in 1999 occurs primarily for those who have high income in 2009. Positive correlation between debt growth and income growth.
  - High incidence of young, low education, minority individuals in zip codes with high fraction of subprime.

Related literature

- "Loan Originations and Defaults in the Mortgage Crisis: The Role of the Middle Class," Adelino, Schoar, Severino (2016)
  - Data: Home Mortgage Disclosure Act (HMDA) mortgage data, income data from the Internal Revenue Service, Loan Performance data.
  - Mortgage originations increased for borrowers across all income levels and FICO scores.
  - The relation between individual mortgage growth and income growth remained positive throughout the pre-2007 period.
  - Middle-income, high-income and prime borrowers all increased their share of delinquencies during the crisis
- Main additional results in Albanesi et al (Different data set):
  - Effects of age and the age distribution in different ZIP codes. Age is closely related to income growth.
  - The role of investors for delinquencies and foreclosures.
  - Relation between prime and subprime borowers (geographical area).

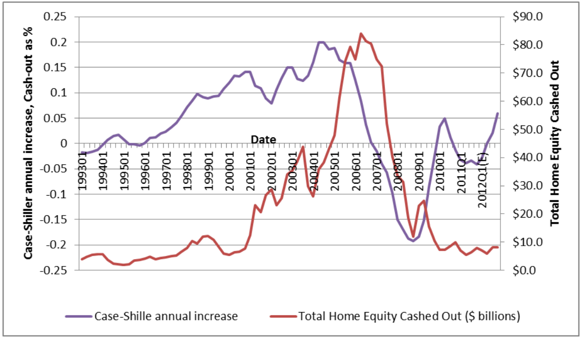
Questions/suggestions:

- In section 4, the role of age is analyzed by regressing the Equifax Risk Score in each quarter on age fixed effects, time effects, and state fixed effects.
  - To what extent is there collinearity between time and age fixed effects?
  - And to what extent does an individual in the 25-34 age group in 1999 behave in the same way as an individual in the 25-34 age group in 2006?
  - This matters for the interpretation of the counterfactuals.
  - Later on consider the interaction of age and time fixed effects.
- Relation between income, credit score and borrowing.
  - Explain the debt and credit score evolution from 1999 to 2009, by 2009 total labor income and 1999 age.
  - Why not test whether mortgage debt predicts future income growth?
  - Income availability for years other than 2009? Evolution until 2006 and during 2007-2009?

Questions/suggestions (continued):

- Several groups studied in the paper at different points:
  - Age groups: at the beginning of the sample and at the time of borrowing.
  - Investors/non-investors: those with two or more first mortgages.
  - Prime/subprime: at the beginning of the sample and eight quarters before the loan.
  - Geographical areas.
  - Not always clear how much overlap is there among these groups. Are we looking at different evidence?
- What is the role of mortgage refinancing for the results? And for the crisis?
  - By the different groups of individuals?

Cash-out refinancing in the U.S.:



Data source: Freddie Mac Cash-Out Refinance Report.

Additional important questions (not necessarily for this paper):

- What are the links between prime and subprime borrowers:
  - Adelino et al: "It is also possible that defaults by subprime or low-income borrowers had contagion effects on middle income and middle credit score borrowers."
  - Albanesi et al: "The positive correlation between credit growth during the boom and the depth of the recession may be due to other characteristics at the zip code level such as the prevalence of young, minority, or low education workers."
- Mistakes in the classification of borrowers into prime and subprime?
- Role and drivers of house prices? Of house price and income expectations?
  - Need a model to quantify the effects (Berger, Guerrieri, Lorenzoni, Vavra, 2017, Kaplan, Mitman, and Violante, 2017).
- Role of credit availability and house prices?
  - Landvoigt, Piazzesi, Schneider (2015), "The Housing Markets of San Diego," cheaper credit for poor households was a major driver of prices, especially at the low end of the market.

Conclusion:

- Very interesting paper.
- Novel evidence that shifts the focus to the role of the demand for credit.
- Role of macro prudential policies in preventing booms and busts:
  - Restrict lending to middle and high income individuals?
  - Restrict lending to buy to let investors?

THANK YOU