Discussion of "Consumption and House Prices in the Great Recession" by Kaplan, Mitman and Violante

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THIS PAPER

1. What explains the recent boom/bust episode in house prices?
   - **Answer:** belief shocks important; financial liberalization less so

2. Did HAMP and HARP stabilize the economy?
   - **Answer:** big effects on foreclosures, little effect on house prices and consumption

3. How much of aggregate consumption changes were caused by boom/bust in housing prices?
   - **Answer:** about half

Methodology

- ► Ambitious exercise with serious quantitative model

- ► Overlapping generations model with heterogenous agents, multiple aggregate shocks and endogenous house prices

- ► **What's new?** Takes seriously important features of housing market:
  1. Combine housing features previously studied separately: long term mortgage debt, default, HELOCs and rental market
  2. Belief shocks are news shocks about future tastes for housing
  3. Nice connection with cross-sectional empirical results

OUTLINE OF TALK

- What drove boom/bust in house prices?
    - What do we know from previous lit?
    - Which assumptions matter?
    - Interpretation

- Do housing prices affect consumption?
    - Empirical evidence
    - What do we learn from this quantitative approach?

- Next steps

What drove boom/bust in housing prices?

- What are the candidate "shocks"?
  1. Changes in income
  2. Changes in financial conditions
  3. Changes in beliefs
  4. Changes in interest rates

- KMV explore first three primarily
  - belief shocks not financial conditions chief driver

- Huge and growing literature

Conflicting Views

- ▶ interest rate shocks
    - ▶ Kiyotaki, Michaelides and Nikolov (2011), Sommer, Sullivan and Verbrugge (2013)

- ▶ collateral constraints
    - ▶ Landvoigt, Piazzesi and Schneider (2015), Favilukis, Ludvigson and Van Nieuwerburgh (2016), Garriga and Hedlund (2016), Chu (2014). Huo and Rios-Rull (2016)

- ▶ credit supply
    - ▶ Justiniano, Primiceri and Tambalotti (2015)

- ▶ expectation shocks
    - ▶ Garriga, Manuelli and Peralta-Alva (2012), Kaplan, Violante and Mitman (2016). Landvoigt (2015)

Understanding collateral channel result

- Existing papers debate effect of LTV on prices

- Consider a relaxation of LTV constraints

- Small price effects
  - Housing supply very elastic
  - Easy to convert rentals to owner-occupied stock

- Big price effects
  - No rental option and many households constrained
  - Segmented housing markets or inelastic supply
  - There is also a decline in interest rates

- KMV modeling choices put them in small effects camp

Collateral Channel

- ▶ KMV model financial liberalization as a relaxation of LTVs + lowering of HELOC and origination costs

- ▶ These are shocks to mortgage credit demand
  - ▶ But this means we should have seen interest rates increase (Justiniano, Primiceri and Tambalotti, 2015)

- ▶ Suggests increases in credit supply also important
  - ▶ Financial flows from China
  - ▶ Evidence on subprime loans (Mian and Sufi, 2009)

- ▶ **Question 1:** Perhaps important to allow for an endogeous interest rate or shock to credit supply
  - ▶ Will make your financial liberalization shock more realistic
  - ▶ Existing lit suggests complentarities with LTV relaxations and interest rate declines
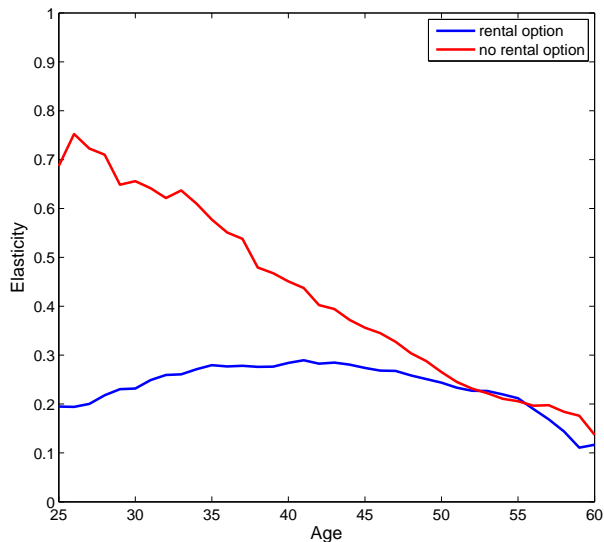
IMPORTANCE OF RENTAL MARKETS

- ▶ KMV are right that modeling rental markets is crucial
  - ▶ Only 66% own

- ▶ Important for understanding consumption responses
  - ▶ Most constrained choose to rent
  - ▶ $\implies$ less responsiveness to LTV constraints
  - ▶ $\implies$ smaller MPCs to shocks

Consumption elasticity to house prices

▶ Results from Berger, Guerrieri, Lorenzoni and Vavra (2015)

Rental Markets

- ▶ KMV find little spillovers from foreclosures to house prices
  - ▶ Seems at odds with empirical evidence in Campbell, Giglio and Pathak (2011)

- ▶ They assume partially segmented housing and rental stock

- ▶ Consider defaulting households
  - ▶ Most are young and in small homes because of upward sloping income profile and curvature in utility function
  - ▶ They become renters and rental companies buy the foreclosed homes
  - ▶ These households then choose to rent "same" home
  - ▶ Little shift in housing demand
  - ▶ ⟹ little effect on prices

Blackstone-Owned Homes in Charlotte, North Carolina
Source: US Census Bureau: 2011 ACS Data, Mecklenburg County Land Records
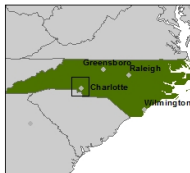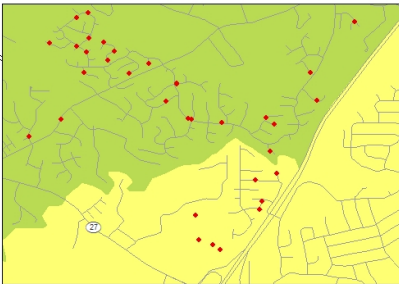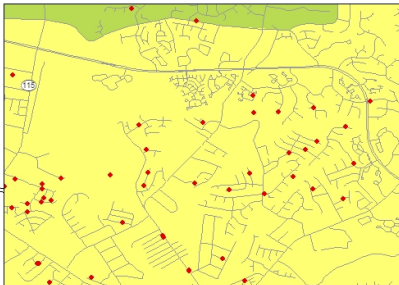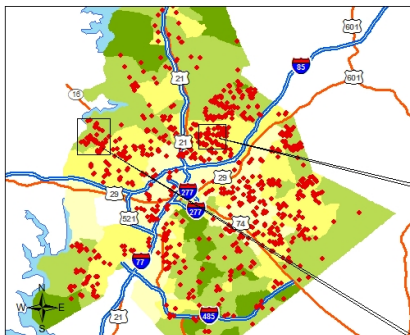
Legend

- ◆ Blackstone - Owned Property
- — Local Streets

Median Household Income

- $13,001 - $41,000
- $41,001 - $65,000
- $65,001 - $100,000
- $100,001 - $216,324

Maps Prepared by Anthony Giancatarino, Data Collected by Symone New

Segmentation seems to be important

- Guren and McQuade (2016):
  - Use ACS microdata to show owners move into smaller rentals
  - $\implies$ fall in housing demand

- Landvoigt, Piazzesi and Schneider (2015):
  - Lots of quality segments (different markets)
  - Difference in house price growth in low vs. high quality areas

- Importance of endogenous liquidity contraints
  - When LTVs tighten less possible to refinance or extract equity
  - Only option is to sell
  - more inventory overhang, time to sell increases, prices fall and foreclosures increase

Policy conclusions

- **Question 2:** Model has big implications for policy. How seriously should we take the recommendations?

- Policy experiment in model: what is the effect of HAMP
  - Large effect on foreclosure rates
  - Very small effect on house prices

- Agarwal et. al (2016) found:
  - Similar qualitative effects: HAMP lowered the rate of foreclosures and increased house prices
  - But different relative effects: in data, foreclosure effect 3 times bigger than price effect; in model multiple is much higher

- Go farther! be like Kaplan and Violante (2014) and match well-identified micro studies directly

EXPECTATIONS

- **Comment 3:** Changes in house price expectations seem important in both data and in models

- Whose beliefs?
    - Paper does a great job exploring which agent's beliefs matter
    - Acts as endogenous credit supply shock

- About what?
    - Could be either about supply or demand

- More work should be done to understand the formation and propogation of beliefs

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    - Burnside, Eichenbaum, and Rebelo (2015), Fuster, Laibson and Mendel (2010), Glaeser and Nathanson (2015), Barberis, Greenwood, Jin, and Shleifer (2016), Bailey, Cao, Kuchler and Stroebel (2016), Fuster and Zafar (2015), Pancrazi and Pietrunti (2016), Case, Shiller, and Thompson (2012)

Consumption and house prices

- What is the effect of house prices on consumption?

- Two approaches:

1. What explains the correlation in consumption and house prices

    - Useful for understanding which structural shocks are most important in explaining joint dynamics of C and HP in GE

2. What is the causal effect of a change in house prices on consumption and through what channels?

    - Are housing prices important to pay attention to?

    - Do house price changes cause propagation?

Consumption and house prices

- Large empirical literature focusing on identification, trying to measure causal effect

- KMV speaks to correlations between house prices and C but not causal effect of house prices on C

- Why?

    - Structural shocks move house prices but also directly move C
    - Hard to then tell what C movements come from including housing in model and what come directly from shocks

- KVM: house prices very useful for identifying structural shocks. But should we also care about their direct causal effect on C?

- BGLV (2015) argue yes

    - Sufficient statistic for causal effect
    - Realistic calibrations $\implies$ large value, in line with empirical lit

Consumption and house prices

- The two approaches are complementary

- KMV show:

    - House price shocks explain around $1/2$ the movements in consumption

    - That our formula works well in their model because belief shocks chief driver

        - These shocks have little direct effect on C, only the effects which work through house prices

- **Comment 4:**

    - KMV explain which structural shocks most important

    - BGLV explain why consumption responded so much

Next steps

- ▶ Evolving view that housing is central to the monetary transmission mechanism

  - ▶ Di Maggio, Kermani and Ramcharan (2015), Keys, Piskorski, Seru, and Yao (2015), Auclert (2015) Wong (2016), Greenwald (2016)

- ▶ Also, lots of evidence of evidence people fail to refinance optimally (Keys, Pope and Pope, 2014)

- ▶ A model with the features you have: long-term mortgage debt, refinancing, default and HELOCs can speak to these issues!

- ▶ Would be great to match moments from these micro studies

Conclusion

▶ Important question and impressive paper

▶ We learn something about what structural shocks are needed to explain the data

    ▶ Am convinced beliefs are important driver of housing prices

    ▶ Also think financial shocks are important

    ▶ Matching cross-sectional facts is potentially helpful

▶ More work needs to be done before fully believing policy conclusions

    ▶ Market segmentation and search frictions may be important

    ▶ Love the connection with micro data but go further!

Thanks!