MACROECONOMICS AND FINANCIAL MARKETS

Veronica Guerrieri and Harald Uhlig

Discussion by
Luigi Bocola
Northwestern University and FRB Minneapolis

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INTRODUCTION

1 Macroeconomics and Financial Markets
   - Business Cycles
   - Financial Crises
   - Financial markets provide information

2 Huge interest in their interactions

3 This paper focuses on booms and busts in housing and credit markets
   - Motivated by U.S. financial crisis
Overview of the Chapter

• Survey approaches in the literature that analyze housing-credit booms and busts separately. **Goal:** try to connect them

• It does so by developing several simple models and numerical examples
  
  • A stark model to study the interactions
  
  • A model of the credit boom-bust
  
  • A model of the house price boom-bust

• No aggregate ripercussions (huge literature, surveyed in other chapters)
1 Some motivating evidence for housing-credit interactions

2 Suggest alternative stark model, borrowing from Model 2

3 Some remarks and suggestions
Why Housing-Credit Booms and Busts?

- Efforts in collecting long time series for advanced economies (survey by Bordo and Meissner, this volume)

- Can we detect common patterns across financial crises?

- Use Schularick and Taylor (2012) data-set augmented with house prices
  - 14 advanced economies, data on output, credit, stock prices and house prices (post 1975)
  - Focus on 19 “crisis events” (1975-2013)

- Two experiments
  - What does the typical crisis look like?
  - What do the “top 5” crises by house prices drop look like?
**Event Study**

Top 5 crises by house-price drops: credit busts and more pronounced effects
THE CHAPTER

• Booms-busts in housing and credit markets associated to severe crises

• The stark model intended to explore the connections

  1 Credit boom-bust $\Rightarrow$ House price boom-bust

  2 House price boom-bust $\Rightarrow$ Credit boom-bust

• Subsequent sections explores mechanisms in isolation

• Nice structure. It would be nice to blend together the different models

Next: alternative version of stark model, borrowing elements from Model 2
HOUSEHOLDS

- Households live 2 periods. $U(c_{t+1}, h_t) = c_{t+1} + \gamma_t h_t$

- Receive $y_{t+1}$ in period 2. They borrow at $R_t^l$ from “bankers" to buy a house in period 1. House price is $p_t$

$$c_{t+1} + R_t^l l_t \leq y_{t+1} + p_{t+1} h_t$$

- (Non-strategic) default:

$$\delta_{t+1} = \max \left\{ 0, \frac{l_t - p_{t+1} - y_{t+1}}{l_t} \right\}$$

- House prices satisfy

$$p_t = \frac{\gamma_t + \mathbb{E}_t[p_{t+1}]}{R_t^l}$$
**Bankers**

- Borrow $b_t$ at rate $R$. They have net worth $n_t$. Give loans to households

$$l_t = n_t + b_t$$

- Net worth tomorrow satisfies

$$n_{t+1} = R^l_t(1 - \delta_{t+1})l_t - Rb_t = [R^l_t(1 - \delta_{t+1}) - R]l_t + Rn_t$$

- They are subject to constraint on leverage

$$l_t \leq \kappa_t n_t \quad \text{with multiplier } \mu_t$$

- They maximize expected value of net worth

- Euler equation

$$R^l_t = \frac{R + \mu_t}{1 - \mathbb{E}_t[\delta_{t+1}]}$$
1 Credit bust $\implies$ Housing bust: $\gamma_t$ fixed, lower $\kappa_t$.

- Constraints more likely to bind ($\mu_t \uparrow$)
- Interest rate on mortgages increases ($R_t^l \uparrow$)
- House prices drop ($p_t \downarrow$)

2 Housing bust $\implies$ Credit bust: $\kappa_t$ fixed, $\gamma_t$ declines.

- Default rate increases ($\delta_t \uparrow$)
- Net worth drops ($n_t \downarrow$)
- Less credit to households ($l_t \downarrow$)
Some Remarks

Some pros:

- Very simple set up to study interactions
- Can study effects of news (E.g. news about $\gamma_t$)
- Multiple equilibria?

Some cons:

- Mechanism asymmetric. It may be difficult to get booms
- Stark predictions on comovement of housing and other asset prices
- No role for risk premia (Campbell et al. 2009; Favilukis, Ludvigson and Van Nieuwerburgh, 2013)
Rest of the Chapter

- Think deeper about determinants of $\kappa_t$ and $\gamma_t$

- Credit booms-busts $\Rightarrow$ Adverse selection and multiple equilibria

- House prices booms-busts $\Rightarrow$ House price bubbles

- Difficulties of getting these trajectories in single equilibrium rational expectation models $\Rightarrow$ Precautionary behavior

- Other routes?
  - Pecuniary externalities (Lorenzoni, 2008; Bianchi and Mendoza, 2012).
  - Time-varying risk and risk aversion (Gourio, 2012; Bocola, 2014)
  - ...
**CONCLUSION**

- Very important chapter

- Exposing these complicated ideas using simple stripped down models is of great service to the profession, and it will guide future research

- Suggestions:
  - Establish an empirical benchmark, maybe via event studies
  - Good to connect the three models if possible
  - Ideally, one would like to see these models “in action"