Discussion of Loisel, Pommeret & Portier: “Monetary Policy and Herd Behavior in New-Tech Investment”

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The Question

“Should monetary policy react to perceived asset-price bubbles?”
- Suggested answer: YES

Provide framework where
1. Easy to detect bubble, given publicly available info.
2. Easy to burst bubble

Interesting paper:
- Question important and relevant
- Thought provoking and clear, simple, model
Entrepreneurs invest sequentially in technology ("Old" or "New")

Fixed cost \( \kappa \) gives prod. fn. \( Y = f(A, L) \)
  \( \kappa(\text{New}) > \kappa(\text{Old}) \)

TFP
  \( A(\text{Old}) \): given
  \( A(\text{New}) \): aggregate uncertainty
    Two states: "Good" or "Bad"
    \( A(\text{New} = \text{Good}) > A(\text{Old}) \) and \( A(\text{New} = \text{Bad}) = A(\text{Old}) \)
Each entrepreneur receives a private binary signal
  ▶ Sequential, observable, decisions imply informational cascades (Banerjee 1992; Bikhchandani et al. 1992)
  ▶ Stock market prices based only on publicly available information
    ▶ Definition: Bubble $\iff$ Cascade

To invest, entrepreneur first needs to borrow from households

Monetary friction
  $\implies$ Central Bank can determine real interest rate
Monetary policy can improve welfare

- For instance: Assume high cascade is unravelling
- Easy to detect
  - Implies sequence of entrepreneurs investing in new-tech
  - Actions observable
    ⇒ Cascade is easily identifiable by Central Bank
- Easy to burst
  - Central bank can increase real interest rate
  - Increase the cost of borrowed funds
  - Make each entrepreneur invest based on private signal
- Authors identify conditions in which welfare ↑
Some Remarks

Fragility of cascades

- Richer action space
  - Continuous action space as in Lee 1993
    \[ \implies \text{Cascades less likely} \]
- Entrepreneur idiosyncratic shocks
  - Reduces correlation between signals and actions
    \[ \implies \text{Cascades less likely} \]
- Endogenous cost of New technology
  as in Avery & Zemsky 1998
  - Here exogenous
  - What if supply of New Technology is upward slopping
  - \( \kappa(\text{New}) \)
    \( \) increases in high cascade
    \( \) decreases in low cascade
    \[ \implies \text{Cascades less likely} \]
Relevance for policy?

▶ Another tradeoff: Spill-over effect of monetary policy
  ▶ Consider 2 sector model
  ▶ High bubble in one sector and no bubble in the other
    ▶ Should intervene?
  ▶ High bubble in one sector and low bubble in the other
    ▶ Can monetary policy do anything?

▶ Is monetary policy really the best instrument?
  ▶ Why not tax New Technology directly
  ▶ Avoids spill-over effects in the economy

▶ Easy to detect?
  ▶ Enrich info. structure: for instance, idiosyncratic shocks, or noise traders
  ▶ Can we be sure there is a cascade/bubble?
In the model, entrepreneurs do not have access to stock market

Avoids all sorts of tricky issues

For instance: their information is not revealed on the price
  - But this also leads to particular dynamics of prices
Dynamics of Stock Market

Suppose $N$ is large
Dynamics of Stock Market, cont’ed

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Suppose $N$ is large
Suppose $N$ is large
In red: no bubble, average beliefs when private signals observable, high state
Conclusion

Thought provoking paper

- Interesting mechanism: in bubble information gets hidden
- Policy can make it costlier to imitate
  Private information can be revealed and welfare increased
- For this, really need stock market? Not really
- But, probably can use model with dynamic inefficiency
  - to generate bubble that grows over time
  - and information gets hidden as well