

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

Summary of Model

- ▶ Entrepreneurs invest sequentially in technology (“*Old*” or “*New*”)
- ▶ Fixed cost κ 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 $A(\text{New} = \text{Bad}) = A(\text{Old})$

Summary of Model, cont'ed

- ▶ 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
⇒ Cascades less likely
- ▶ Entrepreneur idiosyncratic shocks
 - ▶ Reduces correlation between signals and actions
⇒ 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
⇒ Cascades less likely

Relevance for policy?

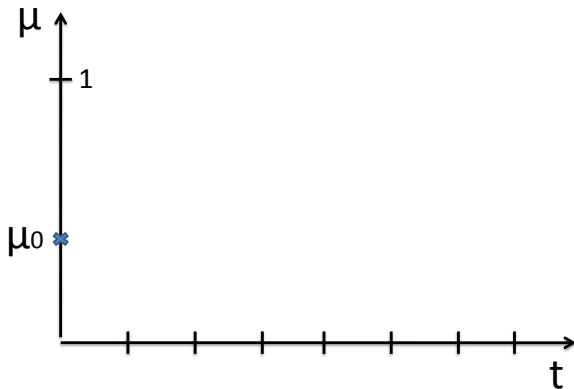
- ▶ Another tradeoff: Spill-over effect of monetary policy
 - ▶ Consider 2 sector model
 - ▶ High bubble in one sector and no bubble in the other
 - ▶ Should intervene?
 - ▶ High bubble in one sector and low bubble in the other
 - ▶ Can monetary policy do anything?
- ▶ Is monetary policy really the best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

Behavior of Stock Market

- ▶ 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

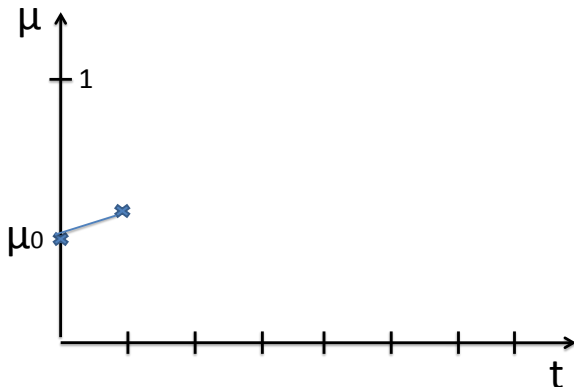
Dynamics of Stock Market

Suppose N is large



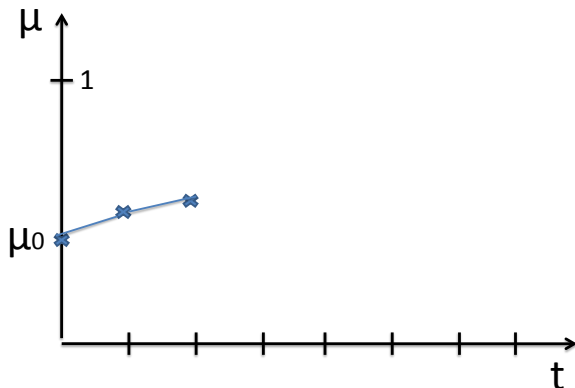
Dynamics of Stock Market, cont'ed

Suppose N is large



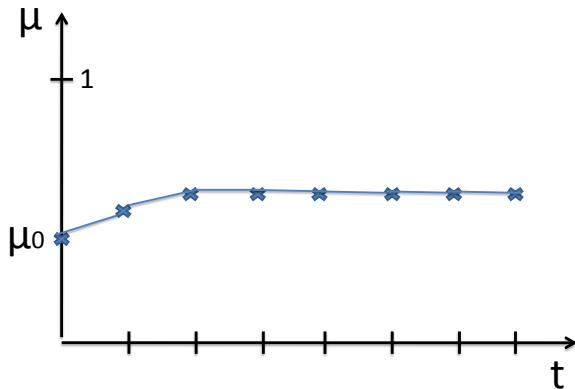
Dynamics of Stock Market, cont'ed

Suppose N is large



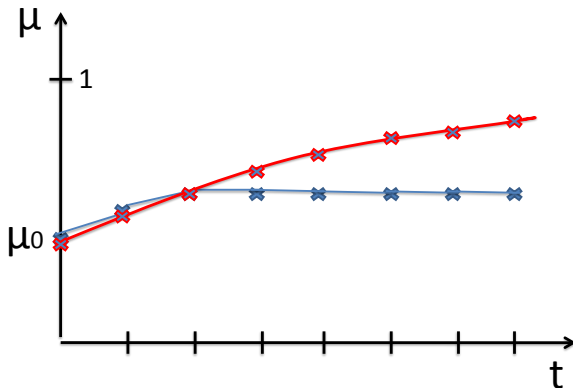
Dynamics of Stock Market, cont'ed

Suppose N is large



Dynamics of Stock Market, cont'ed

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