Discussion of:

Liquidity Hoarding

by Gale & Yorulmazer

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The views expressed herein are my own and do not necessarily reflect those of the Federal Reserve Bank of New York or the Federal Reserve System.
The issue

• Much discussion of interbank lending “freezes” and liquidity hoarding during the recent crisis
  – interpreting the evidence is tricky, though

• What is hoarding?
  – how would we identify it?
  – is it necessarily a bad thing?
  – what can/should a central bank do?

• Need a theory to guide us
  – This paper is a useful starting point
My discussion

(1) What causes hoarding?
   – is it really inefficient?
   – go through a related model

(2) A brief comment on policy prescriptions
A different model (or, Of disease and dosage)

- $t = 0, 1, 2, 3$

- Agents have endowments at $t = 3$, are risk neutral

- Each individual may contract a serious disease at $t = 1$ or $t = 2$
  - disease can be cured by a dose of medicine
  - otherwise individual is crippled, loses $R$ at $t = 3$
  - fraction contracting disease in each period is random

- Medicine can be produced at $t = 0$ at utility cost $\rho$ per dose

Q: How much medicine will be produced? How will it be distributed?
• “Hoarding”: unused medicine & sick agent(s) uncured at $t = 1$

• The efficient allocation is straightforward
  – once produced, give medicine to any sick person (no hoarding)
  – production at $t = 0$ satisfies $MC = E[MB]$

• Decentralized economy
  – agents individually decide whether to produce medicine at $t = 0$
  – markets for medicine at $t = 1, 2$; pay with $t = 3$ consumption
• Market outcome: No hoarding
  
  – if hoarding occurs, price of medicine at $t = 1$ will be $R$

  – price at $t = 2$ is at most $R$ (and may be lower)

  ⇒ no incentive to hoard

• Different result from Gale-Yorulmazer
  
  – why?
• Suppose some sick people at $t = 2$ will lose $2R$ at $t = 3$ if not cured
  – develop a particularly nasty version of disease

• Result: hoarding may occur at $t = 1$
  – price at $t = 2$ may be as high as $2R$
  – may be profitable to not sell at $t = 1$, even if price = $R$

• But ... hoarding is not inefficient here
  – larger social value of treating very sick people
Going back to the paper

• Hoarding arises because \( p_2 \) may be large (\( = 1 + p_1 \))
  
  – buyers of illiquid asset in \( t = 1 \) have more to lose at \( t = 2 \)
  
  \( \sim \) being susceptible to the nasty version of the disease

• How do banks end up in this position?
  
  – by *using their liquid asset* in the \( t = 1 \) market

\( \Rightarrow \) The process of transferring liquidity to banks in need at \( t = 1 \) creates banks that are susceptible to a more costly shock at \( t = 2 \)
  
  – the existence of high-value banks create an incentive to hoard
• Is hoarding inefficient here? It depends.

• For their planner, the answer is yes
  
  – the planner can distribute liquid assets without changing the distribution of illiquid assets across banks
  
  – a bank that saved liquidity at \( t = 0 \) may be forced to give it away at \( t = 1 \)
  
  – or, planner could transfer goods at \( t = 3 \) to compensate

• Is this the relevant benchmark for the decentralized economy?
  
  – perhaps, if banks could borrow liquid asset at \( t = 1, 2 \) and repay (with interest) at \( t = 3 \)
  
  – if liquid assets must be purchased on spot market ...
● Could write a different planner’s problem
  
  – transferring liquid assets at \( t = 1 \) requires transferring illiquid assets as well

  – planner faces same constraint as the market economy

  → planner will have to create high-value banks at \( t = 1 \)

● Would the constrained-efficient allocation involve hoarding?
  
  – if so, this would be interesting

● Main point: (in)efficiency of hoarding depends on subtle issues, even in very simple settings
Policy prescriptions: A comment

- In the model, the quantity of liquid assets is fixed at $t = 0$

- Central banks can and do create liquidity during a crisis
  - no discount window in the model

- How should I think about the liquid asset here?
  - is it cash? or something else?
  - matters for the policy prescriptions

- Example: Goal of a minimum liquidity requirement?
  - here: have more liquid assets in the economy
  - in reality: ?
Conclusion

• Much (unstructured) discussion of liquidity, hoarding, etc.
  – need good theory to guide these discussions

• Reading this paper is a good starting point

• Authors argue that hoarding (i) is inefficient, (ii) occurs in equilibrium
  ⇒ role for policy to improve outcomes

• I would like to understand (i) better
  – also relate results more closely to central bank liquidity policy