Imperfect Competition in the Inter-Bank Market for Liquidity as a Rationale for Central Banking
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Discussion by

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Comments

• Mechanism of the Model

• Intuition

• Comment 1: Model

• Comment 2: Loan commitments

• Comment 3: Policy implications

• Additional comments
Mechanism of the Model

• Two banks
  • Distressed bank (A) needs liquidity (funds)
  • Well-capitalized bank (B) has plenty of liquidity

• Limited pledgeability (as in Holmström and Tirole (1998)):
  • Distressed bank cannot pledge more than
    \[ p_H(R - R_b) = p_H\left(R - \frac{b}{\Delta p}\right) \]
    since otherwise not enough at stake to have incentive to monitor.

• Specificity: Assets more valuable in hands of distressed bank
  \[ p_H R > p_B(\theta)R, \quad \forall \theta \]
  and the higher \( \theta \), the less specific/more liquid assets

• Trade-off: Asset sales raise more funds but are inefficient
  \[ p_B(\theta)R > p_H(R - R_b), \quad \forall \theta \]
Mechanism of the Model (Cont’d)

- Well-capitalized bank has market power ex post
  - Model has 3 rounds of offers: (i) distressed bank makes offer, then (ii) well-capitalized bank, then (iii) distressed bank (offer to outsiders or central bank).
  - Can first round be dropped?
  - Well-capitalized bank makes offer to distressed bank given distressed bank’s outside option $X_A$ determined by payoff in negotiation with outsiders/central bank.

- Least cost way of delivering payoff $X_A$ to distressed bank
  - Let them keep least liquid assets (up to $\hat{\theta}_B$) and get rent $\frac{b}{\Delta p}$ from these
    \[
    \int_0^{\hat{\theta}_B} p_H R_b dF(\theta) = X_A
    \]
  - Higher $X_A \Rightarrow$ higher $\hat{\theta}_B \Rightarrow$ less socially inefficient liquidation.
Mechanism of the Model (Cont’d)

• **Outsiders**
  - Less efficient still \( p_H > p_B(\theta) > p_o(\theta) \), \( \forall \theta \), and (weakly) worse monitoring \( (b_o \geq b) \).
  - Distressed bank again retains least liquid assets \( (\theta \leq \hat{\theta}_o) \).
  - Better monitoring by outsiders improves distressed bank’s outside option.

• **Central bank** (alternative to outsiders)
  - Without monitoring advantage or willingness to make loss, no role!
  - With willingness to make loss (out of equilibrium), improves distressed bank’s outside option.
  - With monitoring advantage (“supervision” \( b_o \geq b^{CB} \geq b \)), again improvement.
Intuition: “Price gouging rationale for central banking”

• Argument:
  • Market power of well-capitalized bank leads to inefficient liquidation to extract funds from distressed bank.
  • Central bank can improve outside option and hence reduce market power and liquidation.

• “Price gouging”
  • ... distressed bank keeps to few of its assets.
  • ... by offering an outside option central bank reduces price gouging
Comment 1: Model

- Very nice model of trade-off between reallocation of funds and reallocation of assets
  - Many models have reallocation of funds: e.g., Holmström and Tirole (1997).
- Link between supervisory role and lender of last resort role.
Comment 2: Loan Commitments

• Why not line up financing for liquidity needs **ex ante**?
  
  • Without market power **ex ante**, this would solve the problem here (since there is no aggregate liquidity shortage) (see Holmström and Tirole (1997)).
  
  • In practice, such credit facilities exist.

• Other limitations

  • Exogenous liquidity need
  
  • Exogenous distribution of liquidity (particularly important for policy implications)
  
  • Total transfer of liquid funds \( T = \int_{0}^{\hat{\theta}} \rho dF(\theta) \) determined, but split between price of assets and loan indeterminate.
    
Comment 3: Policy Implications

• Model’s policy implication:
  • Central bank strengthens distressed banks bargaining position by providing attractive outside option.

• Bans on “price gouging” lead to stock-outs!
  • Ex ante effect on liquidity provision.
  • High returns on liquid funds ex post are reward for the prudent who keep funds available (presumably at lower returns).
  • Citadel, Virgin Capital, Dubai International Capital, others ... provide capital to E-Trade, Northern Rock, Citigroup, UBS ...

• Even ex post, outsiders might be crowded out by the central bank.
  • Suppose cost of joining bargaining; more efficient outsiders might not join negotiations if they expect central bank to out-bid them (due to willingness to take loss).
  • Northern Rock?
  • Could be addressed by considering case with both outsiders and central bank.
Additional Comments

• Comment 4: When is there imperfect competition in inter-bank market?
  • “public provision of liquidity ... even when ... no aggregate shortage of liquidity.”
  • Does this imply that the central bank should always intervene in inter-bank market?

• Comment 5: Historical evidence
  • Interesting; how do we know that rates exceed competitive level during these episodes?

• Comment 6: Correlation of loan payoffs
  • Holmström and Tirole (1998) need to assume all loans are perfectly correlated; is there similar implicit assumption here?
Conclusion

• Interesting model of trade off between lending and asset sales.

• Is market power the most important issue determining liquidity provision in inter-bank market?

• Caution with policy implications
  • Ex ante effects might dominate!