The Marketability of Bank Assets and Managerial Rents: Implications for Financial Stability

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1 Introduction

• the current crisis poses a puzzle: preceded by changes in the financial system which *per se* should have made banks more stable

• financial innovation (e.g., securitization techniques) and greater information availability (e.g., through ratings) have made traditional assets more "marketable" (=how easy is it to sell an asset or its risk to outsiders)
  – makes it easier for banks to shift risk from their balance sheets, they should thus end up less risky (if risk shifted to less fragile institutions)
  – makes also bank assets less opaque, hence banks should become less susceptible to panic runs
  – makes it easier to liquidate their portfolios when in troubles, which should benefit stability

• this is not what happened: banks seem to have ended up less stable

• the leading explanation for this apparent contradiction:
  – risk transfer innovations have undermined banks’ incentives (e.g., Morrison, 2005)
  – can explain reduced efficiency but difficult to explain higher instability:
    * the shifting of loans should make (originating) banks less risky
    * risk buyers (if rational) should anticipate any reduction in quality and should thus require adequate remuneration

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some alternative explanations:
   – increased liquidity of their assets makes a crisis less costly for banks (but not necessarily for society)
     ∗ gives banks an incentive to take on an amount of new risks which more than overcompensates the beneficial effect of higher liquidity (Wagner, 2007a)
   – bank managers value opacity as it makes it more difficult to discipline them
     ∗ thus if traditional assets (loans) become more liquid, they have an incentive to substitute them for still opaque, but inefficient activities (Wagner, 2007b)
     ∗ may explain the creation of overly complex (opaque) securitization structures

this paper complements these explanations:
   – starting point: higher marketability of bank assets makes it easier for bank owners to replace bank managers
   – increases managerial discipline
   – it becomes less desirable to have a fragile capital structure, hence banks become more stable
   – however: if managers can be more easily replaced, the rents they can extract will decline
   – this, in turn, lessens their incentives to exert effort and reduces stability

there are hence two counteracting effects of higher marketability and the net-effect can be negative for stability
2 The Model

- banking literature has emphasized opacity of bank assets and the resulting need to discipline bank managers
- deposits (short term debt) can reduce help to discipline bank managers: Calomiris and Kahn (1991), Flannery (1994) and Diamond and Rajan (2000, 2001a, 20001b)
- follow here Diamond and Rajan (2000) where deposits serve to reduce a renegotiation problem

2.1 Setup

- economy with bank managers and investors
- one period
- \( t = 1 \)
  - a bank manager raises funds from investors, decides how much raised through deposits \((d)\)
  - invests in an asset which matures at date 2
  - choose effort \((e = L, H)\) which affects the interval over which returns are distributed: \([X(e), \bar{X}(e)]\)
- \( t = 1.5 \)
  - uncertainty about asset return is revealed
  - bank manager may renegotiate his compensation
– depositors may run and bank may be liquidated

• $t = 2$
  – asset return $X$ materializes if not previously liquidated
  – all agents consume

• renegotiation at $t = 1.5$
  – bank owners (equity) can get only $\beta X$ ($\beta < 1$) from asset if they replace the banker
  – thus banker could extract rents of $(1 - \beta)X$ through renegotiation
  – but: banker always has to pay $d$ to depositors, otherwise run
    * overall payout is thus: $\max[\beta X, D] = \hat{X} = D/\beta$
  – disadvantage of deposits: cause runs if $X < D$
    * liquidation proceeds are then $\Gamma$ (disorderly liquidation)
• total expected return for bank investors is (pledgeable return)

\[ W(e) = \int_{X(e)}^{D} \Gamma \phi(X) dX + \int_{D}^{D/\beta} D\phi(X) dX + \int_{D/\beta}^{X(e)} \beta X \phi(X) dX \]  

\[ R(e) = \int_{D^*}^{D^*/\beta} (X - D^*) \phi dX + \int_{D^*/\beta}^{X(e)} (1 - \beta) X \phi dX \]
3 The Impact of Higher Asset Marketability

- consider (exogenous) increase in $\beta$ (value of bank asset to outsiders)

- for given effort
  - equity can extract more from bank manager
  - thus less need for deposits because range in which they discipline manager falls
  \[
  \frac{dW}{dD} = \int_{D/\beta}^{D} \phi(X) dX - (D - \Gamma)\phi(D)
  \]
  - hence stability of banks is enhanced

- impact on effort
  - managerial rents decline
  - if they fall sufficiently enough, high effort can no longer be induced
  - expected bank returns fall, which lowers the stability of banks

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Figure 2: The probability of default as a function of asset marketability
• impact of higher marketability on stability can be seen from the figure
  – $\beta < \hat{\beta}$: equity threat very low and thus not relevant
  – $\hat{\beta} < \beta < \beta_0$: equity can extract more from managers, less need to use deposits and stability increases
  – $\beta = \beta_0$: effort can no longer be induced $\Rightarrow$ stability falls
  – $\beta_0 < \beta < \hat{\beta}$: as in previous region (but now for low effort): equity can extract more from bank manager, thus less deposits and more stability

• note: discrete effort choice
  – if continuous effort choice, then impact of marketability on stability is ambiguous at any point!
4 Summary

- paper provides an explanation for why financial development may make banks more risky (and less efficient) in equilibrium
- based on reduced managerial incentives due to lower rents
- alternative to the "risk-transfer moral hazard" explanation (=knowing that risk is transferred, manager has less incentives to exert effort)
- empirical predictions?
  - for the risk transfer explanation it is important that the risk is actually transferred (e.g., securitization)
  - by contrast, here it is the possibility that assets can be sold which matters