BANK CAPITAL:
A DISCUSSION OF
BECK, CHEN, LI, AND NARAYANAMOORTHY
PENNACCHI AND TCHISTYI
AND
GROPP, MOSK, ONGENA AND WIX

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The Bank Capital Problem

- A group of small gamblers come into a casino to play craps
  - When sevens come up too often and wipe out their initial stakes, they hit the ATM or they leave
- A group of high rollers comes in and places bigger bets
  - Besides cash on hand, they have casino credit
  - When they also lose their stake, they can use the ATM, go home or get more credit to keep rolling the dice
  - An efficient casino would not extend credit unless they were sure the high roller has capital to repay them
- If the small gamblers are community banks, the casino is the FDIC and it does a good job of requiring capital to play
- The high rollers are like TBTF banks. The casino (Fed) wants them to keep rolling the dice, but only with their own money. But they might shun the ATM in favor of risky credit.

The Bank Capital Problem

- How do regulators make sure that only solvent banks operate?
  - In a downturn, the government does not know which, if any, banks are solvent.
    - Small banks are easier to understand and less likely to get outside capital, so they be forced out of the lending game.
    - Larger banks have many tricks for masking loan losses.
  - If a large bank is failing, regulators prefer not to say so.
  - If they shut down a large insolvent bank, lending declines.
    - Even requiring a large bank to recapitalize may cause a substantial decline in lending, especially if many banks are in need of capital.
  - Insolvent large banks continue to have access to the capital markets
    - Lenders are unaware that they are insolvent.
    - Lenders expect a bail out for creditors.

Regulation and Capital

- Hurdles in determining if banks meet capital regulations:
  - Assets are opaque and hard to value. So is equity.
    - Discretion in LLPs adds to the problem.
    - Cherrypicking also obfuscates true condition.
    - Regulators may prefer that we do not know.
- Even when insolvency is apparent, TBTF and other forbearance policies are chosen
  - Fear of a drop in lending if capital regs enforced
- Could contingent capital instruments (CoCos) be a solution for TBTF banks?
    - Design challenges related to trigger (stock price, book equity, rating agencies, at the whim of the regulator)

Beck, Chen, Li and Narayanamoorthy

- Bank discretion in accounting related to LLPs could be a good or a bad thing
  - Bad if discretion is abused
  - Good if LLPs are informative
    - Does information to the stock market help financial stability?
    - Informative to regulators?
- Tests of value of discretionary LLPs:
  - Regression of quarterly stock returns on total and discretionary LLPs – contaminating events?
  - Determine if TARP application and approval related to discretionary and total LLPs
  - Discretionary LLPs are residual in a regression of total LLPs on contemporaneous charge-offs and other vars

Beck, Chen, Li and Narayanamoorthy

- Do discretionary LLPs really measure future expected losses?
  - Residual from regression is affected by RHS variables, which include contemporaneous variables that are also subject to discretion
    - When does a bank charge-off a loan? Think 80s Latin America.
- Impact of discretionary LLPs hard to isolate in a crisis
  - Use the three-day window typical of an event study?
  - Separate out weakly capitalized banks in tests.
- Define discretionary LLPs in relation to more objective measures of losses?
  - David Einhorn's May 2008 speech ("Accounting Ingenuity") questioned how Lehman's level 3 assets gained $1 billion in a quarter when the S&P fell more than 10%.

Pennacchi and Tchistyi

- Market's view of a bank's health is closest to the truth.
  - Book equity overstates health in a crisis.
  - Regulators are slow to acknowledge bank weakness.
- Could use market price as a way to force recapitalization.

  (Deutsche Bank market cap is down to about $20 billion)
- Sundaresan and Wang (2015) say CoCo conversion triggered by stock price decline does not work
  - No equilibrium price
    - Leading to unnecessary stock volatility or market failure?
- This paper shows that market price trigger can work if the CoCo has an infinite maturity
  - Also shows a mistake in Sundaresan and Wang

Pennacchi and Tchistyi

How realistic are the assumptions?

- When possible, the same as Sundaresan and Wang (2015) to show usefulness of market-based trigger
- *Perpetual maturity*:

  Perpetuities owe popularity to AT1 regulations
- *The rate b is not the same as r, though B is riskless*

  By arbitrage, a riskless bond earns the riskfree rate, r, as stated in footnote 10 but not in numerical example
- *Bank regulators close the bank whenever the value of its assets equals the amount owed on regular debt.*

  If A known by regulators and they acted, no need for CoCos. How does this affect logic?
- $\mu^P \leq \theta\sigma$ *(dividends are never negative):*

  Troubled banks send cash out the door regardless of health. See Geske (1977) model.

Pennacchi and Tchistyi

- Thanks to Ken Garbade, I know this clever joke:
  - Q: What's the value of a zero-coupon perpetual bond?
  - A: More than zero, since the bond will be higher than equity when bankruptcy occurs.
  - CoCos have higher priority in bankruptcy than stock.
- Have authors thought enough about incentives of CoCo investors or shareholders to gain value?
  - Trigger is pulled either when it favors CoCo investors or existing shareholders (depends on mL versus cC/r)
    - what determines value of c?
  - CoCo investors might lobby a bankruptcy judge near the trigger or argue a fraudulent conveyance.
  - Will stockholders want very low triggers to make it more likely they will be favored?
  - Is it reasonable to assume that σ is a constant when it affects value to shareholder in conversion?

Pennacchi and Tchistyi

- Even if this plan for CoCos is a better description of how things work than Sundaresan and Wang (2015):
  - is it better than common equity?
  - can you offer a CoCos for dummies explanation?
- Is there an incentive for a hedge fund to push down equity (behavioral factors or technical default)
- Is there a more arm's length market trigger?
  - KBW bank stock index; put option price; CDS premium
- Billions of bank CoCos have not done offered much relief for Europe's banks, so maybe it is time to only count stock trigger CoCos as AT1 capital.

Gropp, Mock, Ongena and Wix

- Suppose a regulator forces a group of large banks to recapitalize in an effort to increase financial stability.
  - Higher capital is imposed as a ratio.
  - Can raise equity or lower assets.
- For greater economic activity, better to raise equity.
- Could shift to risk-weighted assets with lower weights.
- Hard to tell what happens when capital ratios go up
  - Tend to go up after a downturn
  - Downturns are accompanied by lower economic prospects
  - Could get fewer loans when capital up due to change in economy not due solely to capital change
- Thanks to ill-thought-out 2011 EBA Capital Exercise, Gropp et al have a natural experiment to see what happens when regulator forces banks to have higher capital ratios.

Gropp, Mock, Ongena and Wix

- Results of EBA exercise:
  - capital ratios go up by lowering assets
  - assets go down relative to non-EBA banks,
  - risk-weighted assets fall relative to total assets
  - lending falls
  - companies get less money from banks than before
- Consistent with several findings in Boyson, Helwege and Jindra (FM, 2014):
  - Many banks issued equity in crises, but the amount raised was fairly small.
  - Banks divested assets and booked gains (cherrypicking).
  - Cherrypicking lowers denominator and raises equity yet equity on average fell, reflecting greater offset of write-downs

Gropp, Mock, Ongena and Wix

- Results seem very robust. However,
  - sample is fairly small
  - assets do not actually fall on average, so how does ratio go up without equity issuance?
  - risk categories are broad so could be changing asset mix a lot and have same RWA
  - other events excluded? (mergers, capital rule changes)
- Silver lining in findings is that it slightly reduces TBTF.
- Not much equity raising, but when it occurs, where does it come from?
  - Private placements (a la Warren Buffett), public offerings, conversions of preferred or debt into equity, asset sales
  - Regulators cannot make banks issue equity but they can make it cheaper

Conclusion

- Three papers tackle nettlesome issues in bank capital regulation
  - How to make banks get capital in a downturn?
  - How to do it without shutting down access to financing?
  - Is capital really positive? (assets are hard to value)
  - Discretionary LLPs are reflected in stock prices, but maybe not as informative as they could be.
  - Enforcing capital regulations during a downturn will exacerbate the decline in economic activity.
  - Perpetual CoCos with stock price triggers may be worth a try, especially given how regulatory and book equity triggers do not work.