Regulating Bank Equity Capital

Patrick Bolton
Columbia University
Outline

1. Why is Bank Equity Capital ‘expensive’?
   A critique of:
   *Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive* by Admati, DeMarzo, Hellwig and Pfleiderer.

2. Contingent Capital

3. “Bail-ins”

4. Compensation and risk taking
Admati, DeMarzo, Hellwig and Pfleiderer:

• “If a much larger fraction, at least 15%, of banks’ total, non-risk-weighted, assets were funded by equity, the social benefits would be substantial. And the social costs would be minimal, if any.”

• What is the argument?
  – MM: “Using more equity changes how risk and reward are divided between equity holders and debt holders, but does not by itself affect funding costs”
Cheap Equity Capital (2)

– *MM 2:* “Tax codes that provide advantages to debt financing over equity encourage banks to borrow too much; *Debt and equity should at least compete on even terms*”

– “*contingent capital* is complex to design and tricky to implement. Increasing equity requirements is simpler and more effective”
Cheap Equity Capital (3)

- “the transition to much higher equity requirements can be implemented quickly and would not have adverse effects on the economy”

- “the policy goal must be a healthier banking system, rather than high returns for banks’ shareholders and managers, with taxpayers picking up losses and economies suffering the fallout”
Expensive Equity Capital

  - asymmetric information about banks’ net worth adds a cost to outside equity capital,
  - asymmetric information particularly severe in a crisis

Walter Bagehot: “Every Banker knows that if he has to prove that he is worthy of credit, however good may be his arguments, in fact his credit is gone”
Expensive Equity Capital

- model produces multiple equilibria, one of which displays all the features of a *credit crunch*

=>

i) bank lending constrained by equity capital requirements,

ii) constraint is tighter in crisis times
### Basel III Equity Capital

#### Minimum Capital Standards:

<table>
<thead>
<tr>
<th></th>
<th>1/1/2013</th>
<th>1/1/2014</th>
<th>1/1/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Common equity)/RWA</td>
<td>3.5%</td>
<td>4%</td>
<td>4.5%</td>
</tr>
<tr>
<td>(Tier 1 Capital)/RWA</td>
<td>4.5%</td>
<td>5.5%</td>
<td>6.0%</td>
</tr>
<tr>
<td>(Total Capital)/RWA</td>
<td>8.0%</td>
<td>8.0%</td>
<td>8.0%</td>
</tr>
</tbody>
</table>

**Far from the 15% recommendation of ADHP**
### Basel III Equity Capital (2)

#### Capital Conservation Buffer:

<table>
<thead>
<tr>
<th>Common Equity Tier 1 Ratio</th>
<th>Minimum Capital Conservation Ratios (% of earnings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5-5.125%</td>
<td>100%</td>
</tr>
<tr>
<td>5.125-5.75%</td>
<td>80%</td>
</tr>
<tr>
<td>5.75-6.375%</td>
<td>60%</td>
</tr>
<tr>
<td>6.375-7%</td>
<td>40%</td>
</tr>
<tr>
<td>&gt;7%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Countercyclical buffer + Leverage ratio + Liquidity Coverage ratio
Contingent Capital

* Insurance is more efficient than self-insurance
  - Banks have two sources of capital: inside ‘buffers’ & outside capital
  - Efficient to rely on outside capital in the form of a ‘capital line commitment’
  - A bank model of origination & contingent distribution
Contingent Capital (3)

  - Contingent capital as a capital line commitment!
  - Provide capital when it is needed most
  - Commit to terms in advance, before asymmetric information problems get worse
  - Sovereign wealth funds natural holders of contingent capital
  - Counterparty risk, collateralization and ‘reverse convertible bonds’
General Mechanism

SWFs and other LT Investors → Cash ($100) → Bank (share price at $100)

Possible secondary market

Market

At maturity (with possible early exercise):
- Either the share price is above $50: redemption at par
- Or the share price is below $50: two newly issued shares of equity are delivered

In the meantime: extra coupons (put & call options premiums)

Combination of:
- Callable bond
- Sale of American put options
Regulating Financial Intermediaries - Challenges and Constraints
London Business School, January 21-22 2011

Flows in Event of Exercise

SWFs and other LT Investors
- Bond Part
- Put Part

Bank
(initial share price at $100)
- Options/Bond Nominal ($100)
- If No Exercise: Payment of Nominal
- If Exercise: Delivery of two shares

Bond Nominal ($100)
- If No Exercise: Payment of Nominal
- If Exercise: Delivery of two shares

2 Shares

The exercise (or not) of the put options will determine the payment in cash or in shares.
At maturity: depending if the share price is above or below strike price.
Before: depending on the valuation of different instruments.
Contingent Capital (4)

- Existing contingent capital instruments
  - RBC, Lloyd’s, Rabobank, Credit Suisse
    ➔ Too complicated?

- Other possible concerns:
  - Moral Hazard because of ‘softer budget constraint’?
  - Barclays idea ➔ pay employees with contingent capital
Bail-in for SIFI

- **Bail-in**: an automatic debt-equity swap that mimics FDIC closure rules and/or a chapter 11 bankruptcy procedure.
- “gone concern” contingent capital
- A substitute for an *orderly liquidation authority*
- Particularly relevant for SIFI to avoid a repeat of a Lehman scenario
Bail-in for SIFI (2)

- **Bail-in mechanism:**
  - “bailinable” debt = LT subordinated debt (SND)
  - excluded liabilities = swaps, derivatives, repos, deposits
  - automatic or regulatory trigger $\rightarrow$ converts all “bailinable” debt into equity
  - senior class gets all the equity, and
  - junior classes (including common equity) get warrants with exercise price such that senior class(es) are made whole
Bail-in for SIFI (3)

• **Bail-in mechanism (continued):**
  – Replacement of CEO and senior management team
  – Suspension of dividend payments, bonuses…

• **Bail-in issues:**
  1. What should be the trigger? Violation of SND capital requirement?
  2. Debt acceleration & cross-default provisions
  3. DIP financing?
Bail-in issues (continued):

4. ‘ring-fencing’ of foreign operations by foreign regulators
5. What if bail-in is not sufficient to avert default on “non-bailinable” debt? → bailout of “non-bailinable” debt?
6. Pricing of bailinable debt? → complicated
7. Who will invest in bailinable debt? → SWF
Conclusion

- A few words on Compensation and risk taking
  - Need to correct excess risk-taking incentives generated by leverage
  - Deferred compensation (with claw-backs) neither sufficient nor practical
  - Pay bonuses in the form of contingent capital
  - Make bonuses contingent on bank CDS spread (Bolton, Freixas and Shapiro, 2010)

- Contingent Capital whether “going concern” or “gone concern” is a more efficient form of bank capital regulation