# Regulating Bank Equity Capital

Patrick Bolton

Columbia University

Regulating Financial Intermediaries - Challenges and Constraints
London Business School, January 21-22 2011

# 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**

# Cheap Equity Capital

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

- Bolton and Freixas (2006) "Corporate Finance and the Monetary Transmission Mechanism", *Review of Financial Studies*:
  - 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:**

| | 1/1/2013 | 1/1/2014 | 1/1/2015 |
|---|---|---|---|
| (Common equity)/RWA | 3.5% | 4% | 4.5% |
| (Tier 1 Capital)/RWA | 4.5% | 5.5% | 6.0% |
| (Total Capital)/RWA | 8.0% | 8.0% | 8.0% |
| | | | |

**Far from the 15% recommendation of ADHP**

# Basel III Equity Capital (2)

**Capital Conservation Buffer:**

| Common Equity Tier 1 Ratio | Minimum Capital Conservation Ratios (% of earnings) |
|---|---|
| 4.5-5.125% | 100% |
| 5.125-5.75% | 80% |
| 5.75-6.375% | 60% |
| 6.375-7% | 40% |
| >7% | 0% |

Countercyclical buffer + Leverage ratio +

Liquidity Coverage ratio

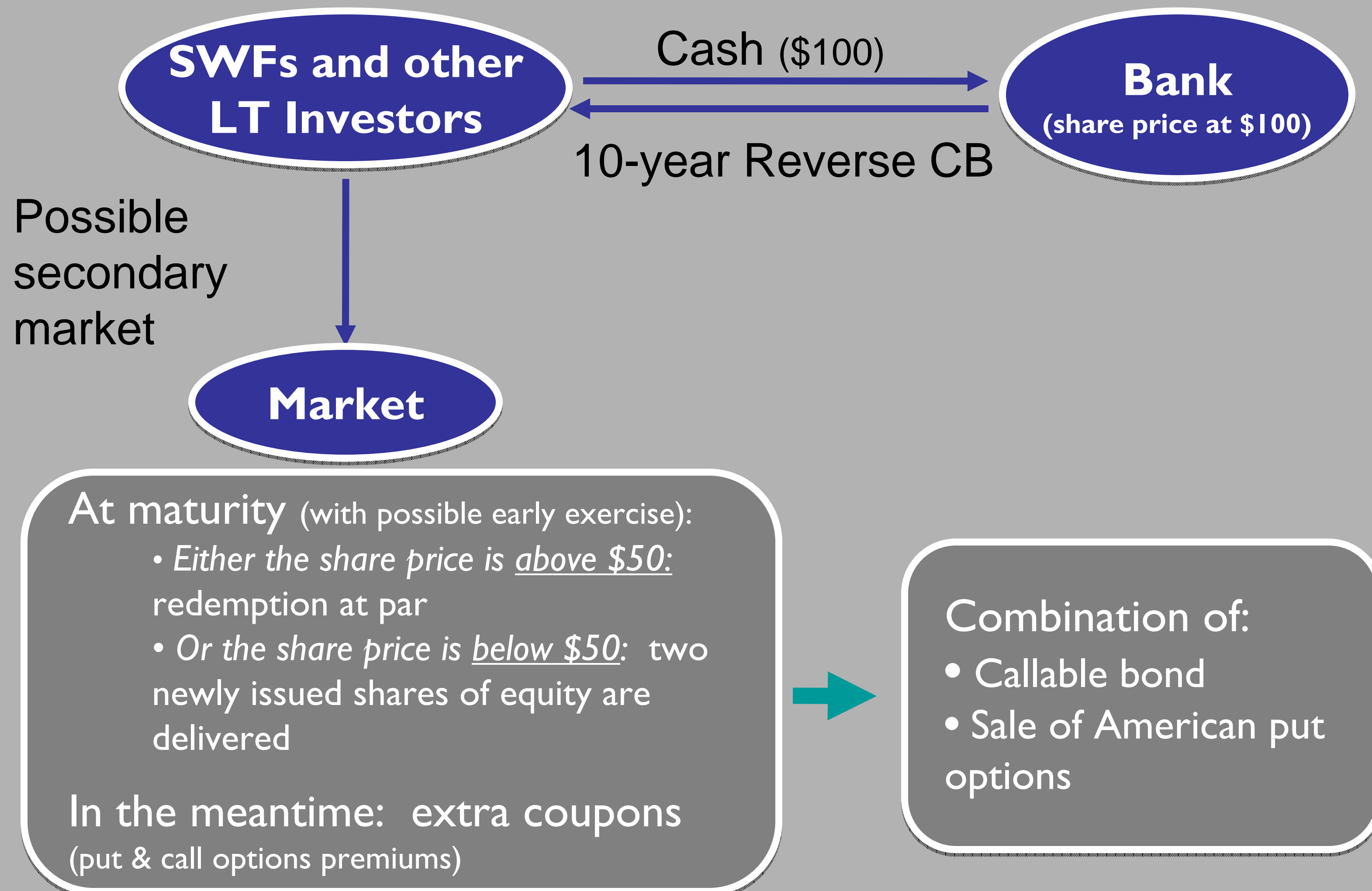
# Contingent Capital

- Insurance is more efficient than self-insurance
- Bolton, Santos and Scheinkman (2011), "Outside and Inside Liquidity", *Quarterly Journal of Economics*
  - 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

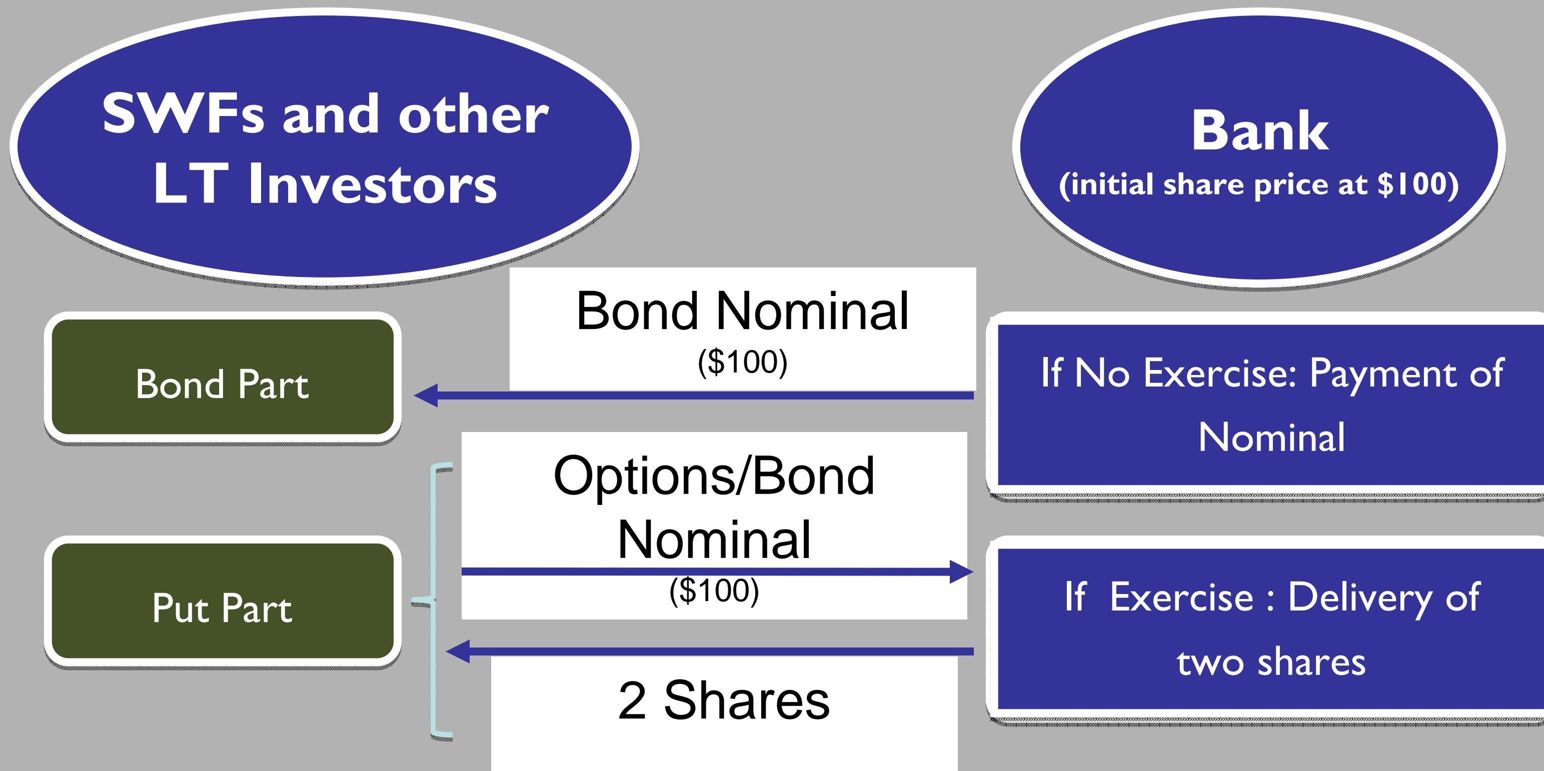
# Contingent Capital (3)

- Bolton and Samama (2010), "Contingent Capital and Long Term Investors: A Natural Match?", *WP Columbia*
  - **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



# Flows in Event of Exercise




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 → 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 for SIFI (4)

- **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**