

Restructuring Prudential Regulation in Light of the Global Financial Crisis

Charles W. Calomiris

Brookings Institution

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Financial Repression or Real Reform?

- That really is the choice.
- Large global universal banks do play a unique and productive role in the global economy.
- Preserving that role is valuable, but not worth the costs under the status quo (illustrated by the recent crisis, but more broadly evident in the past thirty years).
- Problems are fixable if we can combine coherent economics with political leadership and courage.

Are Crises Just Big “Accidents”?

- The last thirty years’ unprecedented costly banking crises reflect the **political bargains that choose to tolerate undercapitalized banking**.
- Any hope of successful reform must build **“incentive-robust” prudential regulations** to overcome market participants’ cleverness and politicians’/regulators’ tolerance for risks.
- The challenge is not just “capture” by bankers, but also politics of directing credit subsidies. The combination makes for a durable and dangerous political coalition in the US and elsewhere (Forthcoming book: Calomiris and Haber, *Fragile By Design*).
- Consider the Canada-US comparison since 1830. Effective regulatory reform may be hopeless in US. If it could occur, what would its program for reform look like?

Ineffective Banking and IB Regulation

- Once government protects banks, government prudential regulation must be effective.
- Prudential Regulation's failure to measure risk and maintain capital accordingly:
 - Not a leverage arbitrage but **risk mis-measurement**
 - On-balance sheet measurement of risk flawed
 - Off-balance measurement failings.
- March 2008, **too-big-to-fail** protection discouraged proper increases of capital in response to losses, **which were feasible**.
- Failure to recognize losses and replace lost capital.

Incentive Robustness

- The problems of inadequate measurement of risk ex ante and loss ex post reflect two sets of agents incentives to hide information.
- Bankers will pursue regulatory arbitrage (either due to value-maximization or agency), especially with TBTF.
- Supervisors have their jobs at stake, not their own money. They will forebear and permit evergreening, particularly because political equilibrium favors that.
- **An incentive-robust reform is one that works in spite of these two sets of agents' incentive problems.**

Regulation is a continual contest between regulatees and less-well-paid & less-well informed regulators



"These new regulations will fundamentally change the way we get around them."

New Yorker, March 9, 2009, p. 52.

Risk Measurement Improvements

- 1. Use **loan interest rates** in measuring the risk weights applied to loans for purposes of setting minimum capital requirements on those loans. (Ashcraft, Morgan 2003, Argentine experience in 1990s). Would have made a big difference in subprime crisis. This is **not perfect** (risk pricing in 2006), hence need for belt and suspenders approach.
- 2. Reform the use of credit ratings to either eliminate their use or require NRSROs to predict PD, rather than give letter grades, and **hold them accountable for accuracy** using “sit outs.” (Calomiris 2009; Boxer’s failed amendment to Dodd-Frank)

Ratings Shopping

- Incentive to inflate ratings from **buy side**, due to regulatory use of ratings.
- Congress: Eliminated automatic relationship between regulation and ratings. Better approach: Failed Boxer amendment, lobbied against by buy side.
- **Proposed Rule:** For each class of rated debt (e.g., credit card securitized debts) BBB is defined as an estimate of a 2% 5-year PD, and A as an estimate of a 1% 5-year PD. If a 5-year moving average of actual PD for the rated BBB instruments in this class exceeds 4%, then the NRSRO will have a six-month “sit out” in rating that class of debts. (2% ceiling for A-rated)

CoCos (Calomiris and Herring 2011)

- 3. Establish a **minimum uninsured CoCo requirement** for large banks (a specially designed class of debt called contingent capital), which improves risk management and capital raising incentives. (Calomiris, Herring 2011)
- If designed properly (with sufficient conversion dilution risk), CoCos would incentivize **timely recapitalization** of bank to avoid dilutive conversion of CoCos.
- **Key point:** A combination of common equity and CoCo requirement **can achieve more** than a common equity requirement alone, and at a lower social cost.

Prompt Issuance Objective

- **Set trigger high** (issuance is not occurring near failure point)
- **Conversion should be dilutive** (to encourage alternative of voluntary issuance)
- Make required **amount of CoCos large** (to encourage alternative of voluntary issuance)
- Timely (costly) replacement of lost capital will not only protect against insolvency ex post, it will **incentivize good risk management** ex ante.

Details of Our Proposal

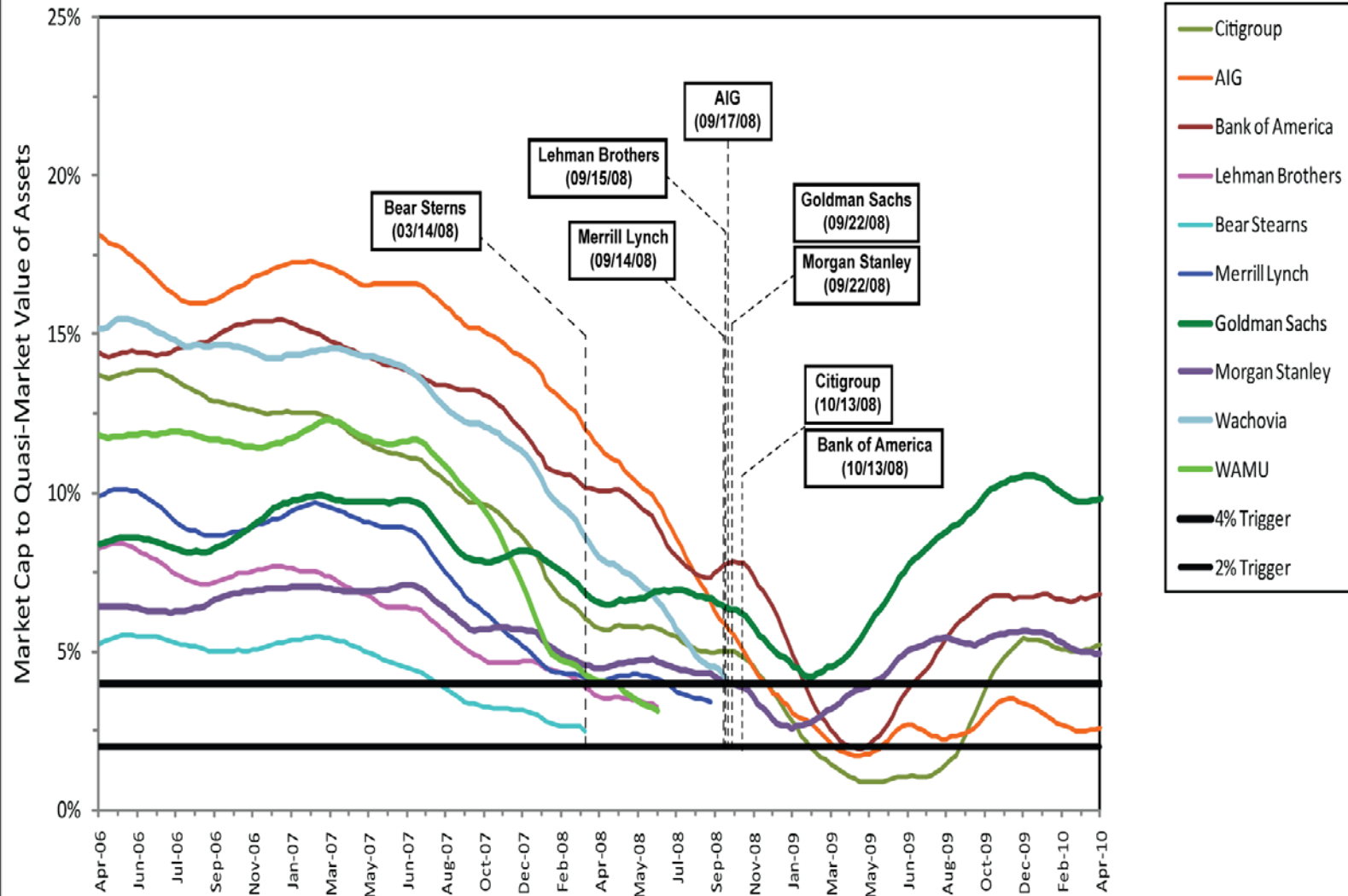
| | |
|------------------|---|
| Primary Goal | Prompt Recapitalization |
| Min Amt of CoCos | 10 percent of risk-weighted assets |
| Trigger | QMVER of 9 percent, using 90-day MA |
| Conversion ratio | 5 percent dilutive of stockholders |
| Conversion amt | All CoCos converted on hitting trigger |
| Holders | Qualified institutions, no shorts |
| PCA trigger | If 10 percent trigger is breached twice |
| Time to replace | If converted, within one year |

Would This Have Prevented Crisis?

- Crisis did not occur overnight; losses accumulated over long time and were visible in declining market values of bank equity, but not fully recognized (Citi's 11.8%).
- Lots of moments of calm in which capital could have been raised (fall-winter 2007, April-August 2008).
- Equity market was wide open to banks (\$450 billion was raised prior to September 2008).
- Institutions limited offering because of dilution (my breakfast with senior manager).

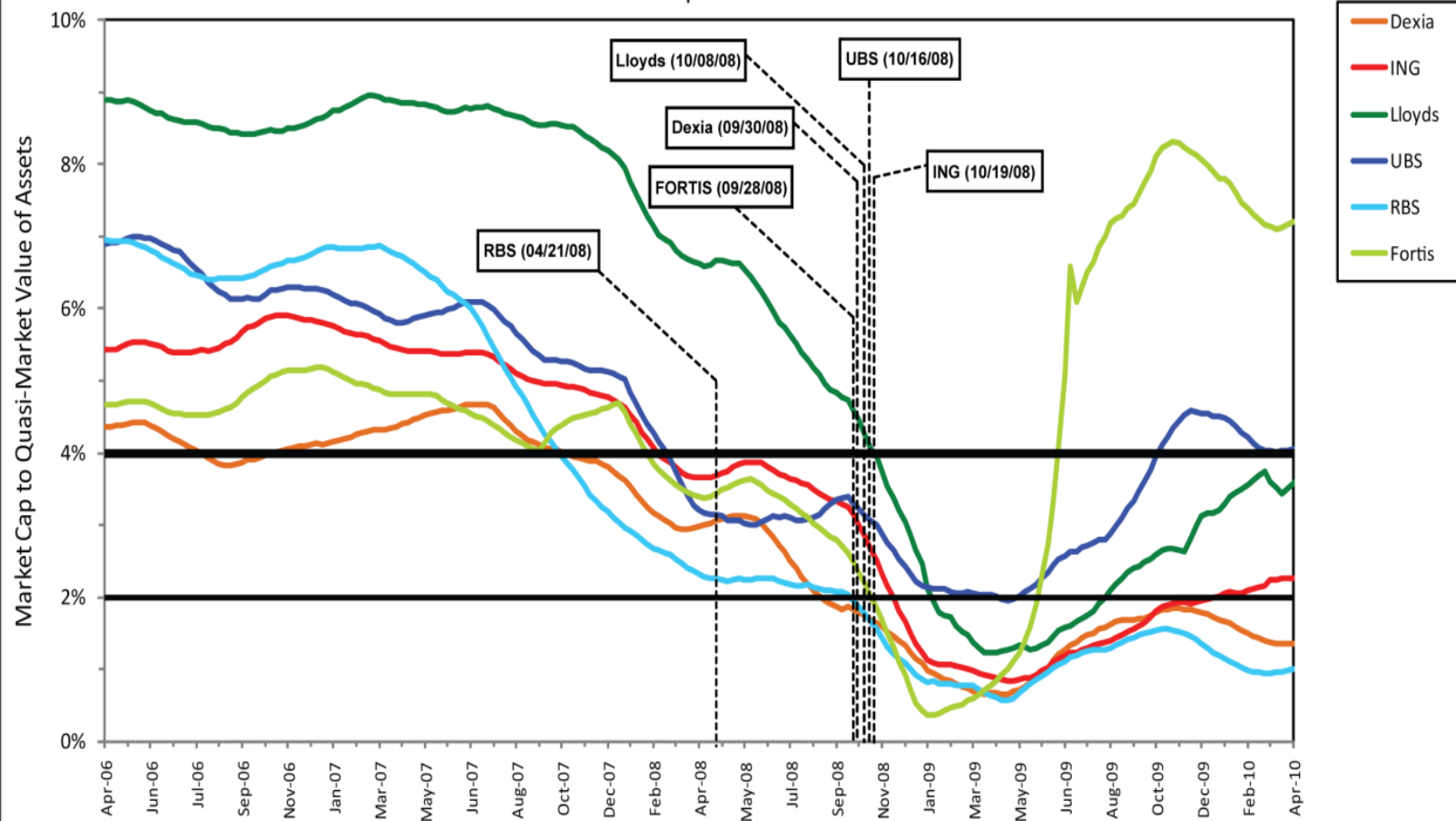
90 Day Rolling Market Cap to Quasi Market Value of Assets

U.S. SIFIs that Failed, Were Forced into Mergers or Received Major SCAP Infusions



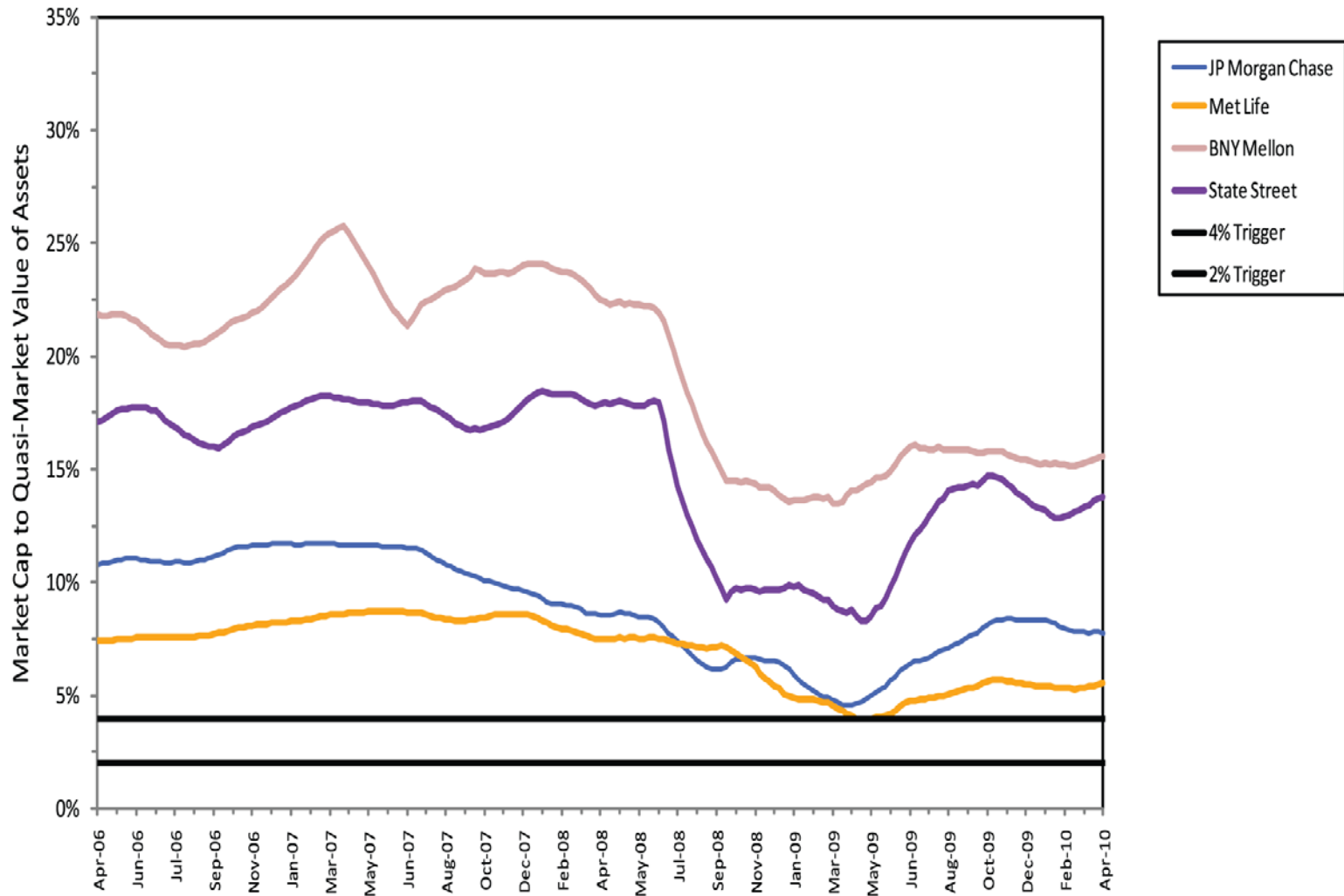
90 Day Rolling Market Cap to Quasi-Market Value of Assets

For select European financial institutions



90 Day Rolling Market Cap to Quasi-Market Value of Assets

For large American financial institutions that did not receive major subsidies



Why Not Just More Equity?

More Costly and Less Effective

- Equity is costlier than a mix of equity and CoCos because:
 - Adverse selection costs (lots of room for signalling costs even with regulation)
 - Agency costs
 - Taxes
 - Huge literature provides evidence of these costs (bank capital crunches associated with equity scarcity; Aiyar, Calomiris and Wieladek 2012)
- Higher book equity requirement alone, is less effective
 - Book equity losses are not recognized timely
 - Less incentive timely replacement of lost capital
 - Less incentive for risk management

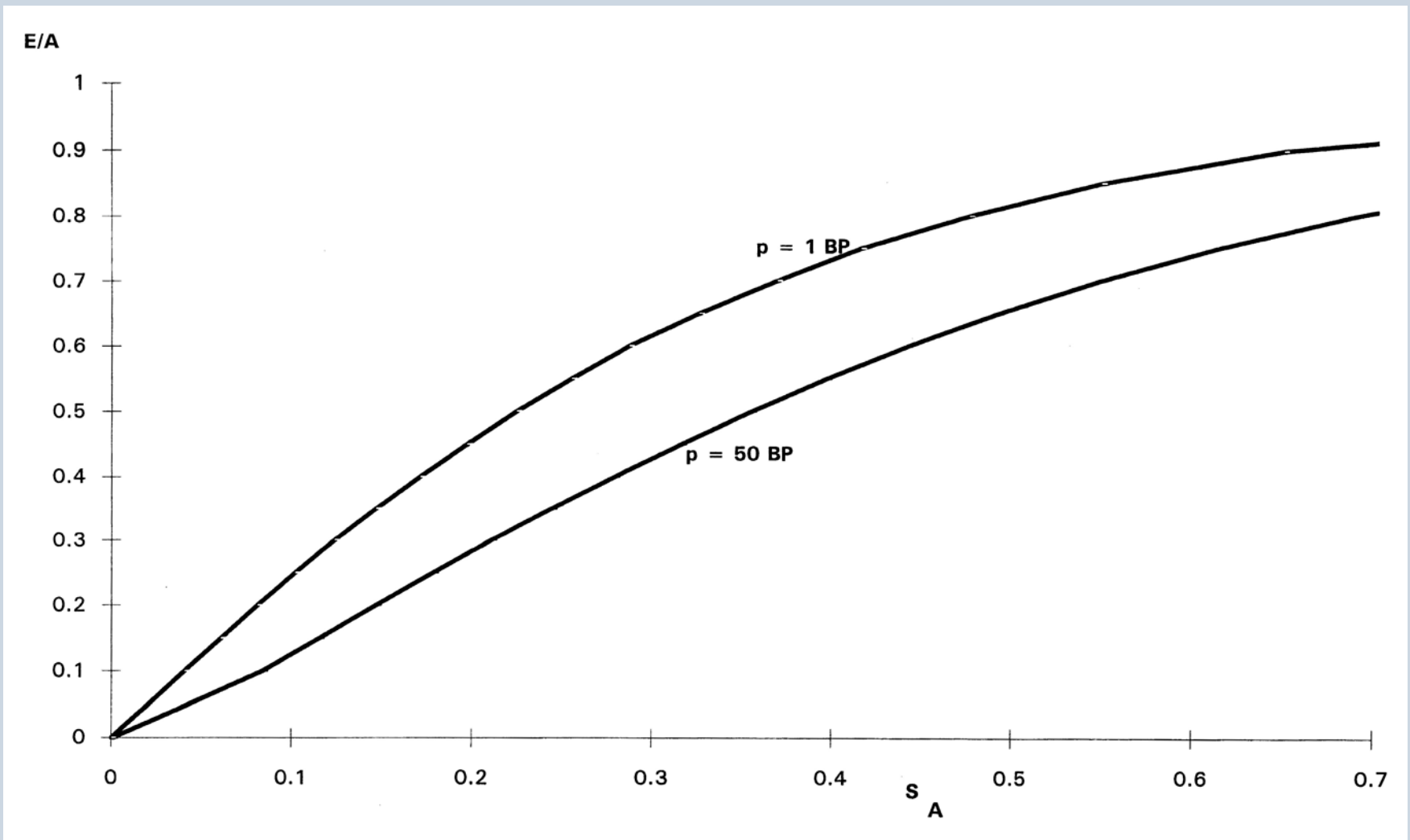
Risk Management Failings

- Cross-sectional evidence shows that there was **not a common crisis experience**.
- Safety net interacted with purposefully bad risk management. (Ellul and Yerramilli 2010 on key role of CRO Centrality; Fahlenbrach, Prilmeier, and Stulz 2011 on 2008 as replay of 1998; Aebi, Sabato and Schmid 2010, Agarwal and Ben-David 2012).
- Creating incentives that reward good risk management (through the various reforms I propose) is part of the solution, and CoCo proposal would push in this direction.

Liquidity Requirements

- **Basel III points to two new liquidity ratios to deal with systemic liquidity risk. But four problems:**
 - Systemic liquidity risk resulted from counterparty **(solvency) risk**. That was, and is, the source of all known banking crises. The focus should be on credible prudential regulation.
 - Banks should create liquidity by issuing short-term debt; it is not desirable to eliminate it from the system!
 - Banque de France worry about treatment of central bank loans
 - We have a lender of last resort, and so long as banks are regulated properly, to limit moral hazard, we should use it to deal with truly exogenous liquidity risk!
 - Basel III is missing a key point: Cash is uniquely valuable as a prudential device, and we need to restore a substantial minimum cash ratio requirement.
- **4. Simple 20% of risk weighted assets cash reserves requirement, remunerated, held at central bank.**

Two Ways to Skin the Cat of Target Default Risk of Banks



Irrelevance of Cash Requirements in a Frictionless World

$$s_A = (L/A) \times (s_L)$$

In a frictionless world we can observe the value of L and s_L and so we can always observe asset value and risk, and set capital requirements accordingly.

But we don't live in that world! This explains why cash ratio requirements were traditionally the **primary tool of prudential regulation prior to 1981!**

The politics of zero-interest reserve requirements as a tax led to their disuse and replacement with capital ratios requirements. We need both.

Liquidity Requirement? Theory

- Why restore liquidity requirements' importance?
 - **Observability of cash and its risklessness (1) creates a credible and observable buffer (unlike book equity) and also (2) incentivizes good risk management, especially after unrecognized losses** (Calomiris-Heider-Hoerova 2012). Intuition: by raising the lower bound of portfolio value that goes to senior claimant in a resolution cash reduces moral hazard problem in bank risk management.

(Also, lack of substitutability of debt capacity for cash during times of need due to financing frictions associated with asymmetric information. This is especially true of banks (ABCP, repos, Libor)! But if regulation works properly, endogenous liquidity problems won't arise. So need to put greatest weight on above two objectives.)

Table 2: NYC Banks' Loans/Cash, Risk, Equity, Dividends

| | Loans/(R+T) | Ass.Risk | Equity/Ass. | p | Dividends |
|------|-------------|----------|-------------|------|-----------|
| 1923 | 2.2 | 1.9 | 0.20 | 0.0 | |
| 1929 | 3.3 | 17.5 | 0.33 | 33.5 | \$392m |
| 1933 | 1.0 | 6.1 | 0.15 | 41.7 | |
| 1936 | 0.6 | 4.3 | 0.17 | 1.3 | |
| 1940 | 0.3 | 2.0 | 0.10 | 2.1 | \$162m |

Source: Calomiris and Wilson (2004).

Proper Design of Requirements

- Remunerative (no reason for a new tax).
- No complex Basel formulas or politicized substitutes for cash (like covered bonds).
- Relaxed by regulator only during crisis.
- Imposed on banks, and perhaps on non-bank intermediaries for whom liquidity risk is high (safe harbor for non-banks that don't rely heavily on repos or CP).

Macro Prudential Regulation

- Act preemptively to deflate credit-driven asset price bubbles, and also, during recessions to relax capital standards to avoid extreme credit crunches.
- The better is micro-prudential regulation, the less this will be needed, but it is good to have it on hand as a belt and suspenders. This is very different from Basel's 2.5 cyclical, which is too disruptive (based on incorrect parameterization of effects), and may undermine monetary policy predictability and accountability.
- Also, we want to focus on observables to make macro-pru predictable and accountable. Finally, the idea of needed to make complex adjustments based on correlations of bank positions, etc. is a fool's errand.
- 5. Vary capital required using **simple dual threshold model of credit growth and asset price growth** (Borio and Drehman 2008, Colombia in 2008), based on an “enforce or explain” mandate => accountability.
- Preserve accountability of monetary policy by keeping objective limited, and making its use rules-based.

Macro Prudential Case Study: Colombia 2008

- Financial system loan growth rose from 10% in Dec 2005 to 27% by Dec 2006. Core CPI rose from 3.5% in Apr 2006 to 4.8% in Apr 2007). Real GDP growth in 2007 8%. Curr acc deficit rose from 1.8% GDP in second half of 2006 to 3.6% GDP in first half of 2007.
- Monetary authority reacted directly to credit growth in real time: Interest rates were increased 400 bps from April 2006 to July 2008. But central bank saw too small a market response to this, so it
 - increased reserve requirements for banks
 - convinced superintendency to raise provisioning and capital reqs
 - imposed measures to raise costs of borrowing short-term from abroad (deposit requirement reactivated), and
 - Limited currency mismatches of banks and other FX exposure in system, and gross currency positions (limiting counterparty risks).
- Credit growth fell to 13%; risk-weighted capital ratio for banks 13.9% first half 2008, 4.9% above first half of 2007.

Incentive Scorecard of Proposed Prudential Reforms

| <u>Proposal</u> | <u>Market Incentives?</u> | <u>Political /S&R Incentives?</u> |
|--|--|--|
| <i>Use loan interest rates to help set capital ratios.</i> | Loan pricing reflects risk, and will continue to do so. | Standards are transparent and rule-based, and therefore, credible. |
| <i>Require NRSROs to use numerical forecasts of PD, with “sit out” penalties for egregious errors.</i> | Rating agencies will have strong incentives to make estimates accurate, and will resist buy-side pressures to inflate ratings. | Avoids micro-managing NRSROs; ensures transparency, accountability of enforcement. |
| <i>Require CoCos with market triggers.</i> | Banks preemptively raise equity. | Automatically convert s before intervention, so will not be bailed out. |
| <i>Remunerative 20% liquid reserve requirement.</i> | Improves risk management. | Clearly observable => enforced. |
| <i>Macro prudential changes based on dual threshold.</i> | Anticipation improves incentives to manage risk. | Easy to enforce => credibly enforced. |

Importance of Simplicity

- Other items on the list: Acharya's ideas about bottom-up margin requirements for prop trading at banks, simplified and decentralized governance structure for bank holding companies, clear ex ante division of responsibilities internationally in resolution, 10% minimum haircuts on unsecured creditors in any Title II bailouts that circumvent a true liquidation process.
- Only simple rules can avoid dependence on regulatory discretion, which is subject to political manipulation.
- Automatically enforced, transparent rules are incentive-robust for regulators.

This is a deeply subversive lecture!

- The problem of reform is not just coming up with reforms that will work; one also must get them passed!
- Governments form coalitions of interests (not just big bankers) whose deals include politicized regulatory discretion. Governments and banks like having control over the measurement of loss, and the measurement of risk, and the enforcement of rules.
- Even though Basel standards have been an abject failure, for governments it is worth preserving because it is THEIR system. Theirs to control and use. Its complexity permits discretionary granting of favors, and acts as a barrier to outsiders' criticisms.