

Measurement and Incentive-Robust Regulatory Reform

Charles W. Calomiris

Chicago Fed

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Two Key Measurement Problems

- 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.**

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)

CoCos (Calomiris and Herring 2011)

- 3. Establish a **minimum uninsured CoCo requirement** for large banks (a specially designed class of 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 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

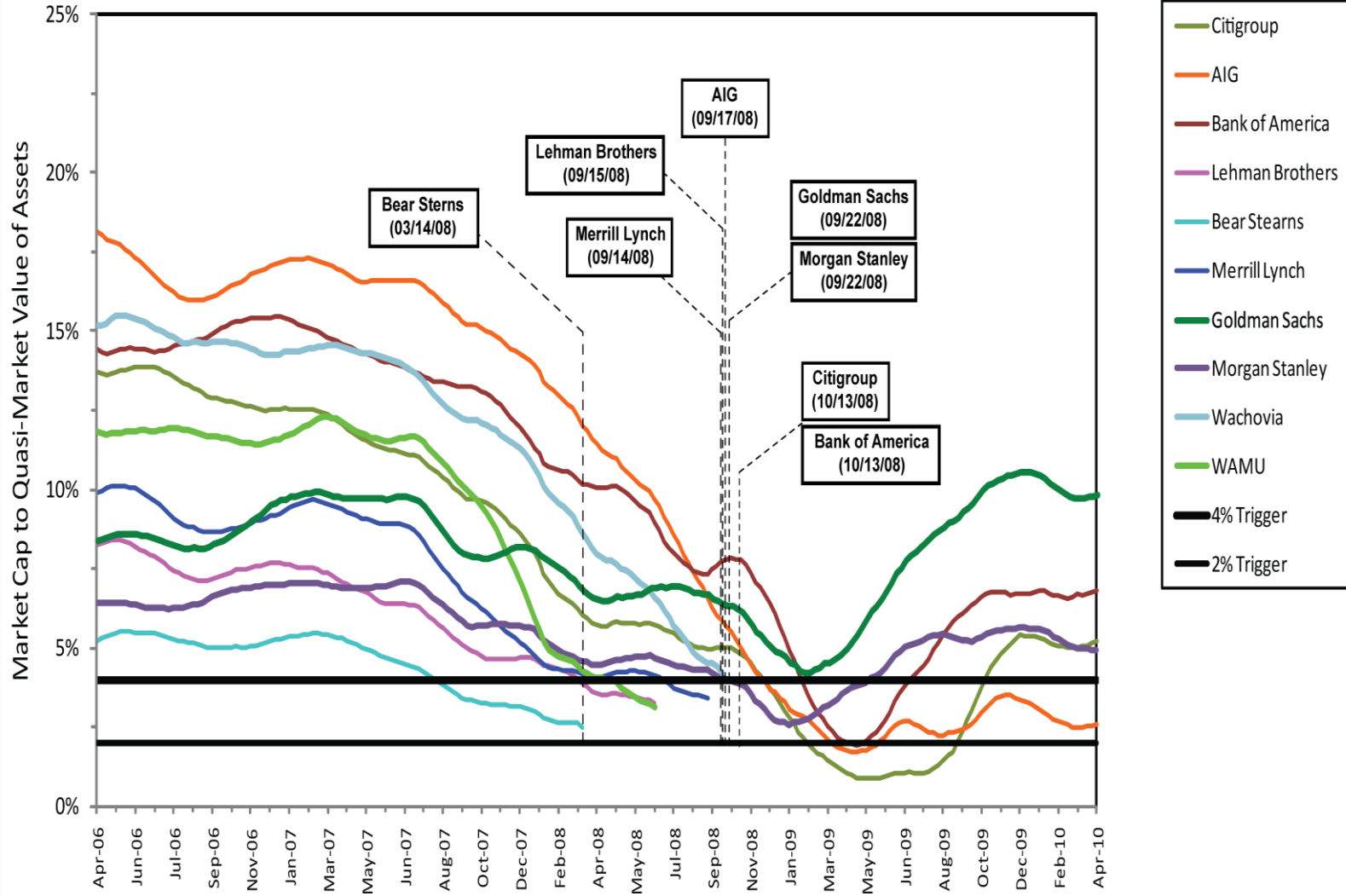
Primary Goal	Prompt Recapitalization
Min Amt of CoCos	10 percent of risk-weighted assets
Trigger	QMVER of 9 percent, using 90-day MA
Conversion ratio	5 percent dilutive of stockholders
Conversion amt	All CoCos converted on hitting trigger
Holder	Qualified institutions, no shorts
PCA trigger	If 9 percent 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.
- 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).

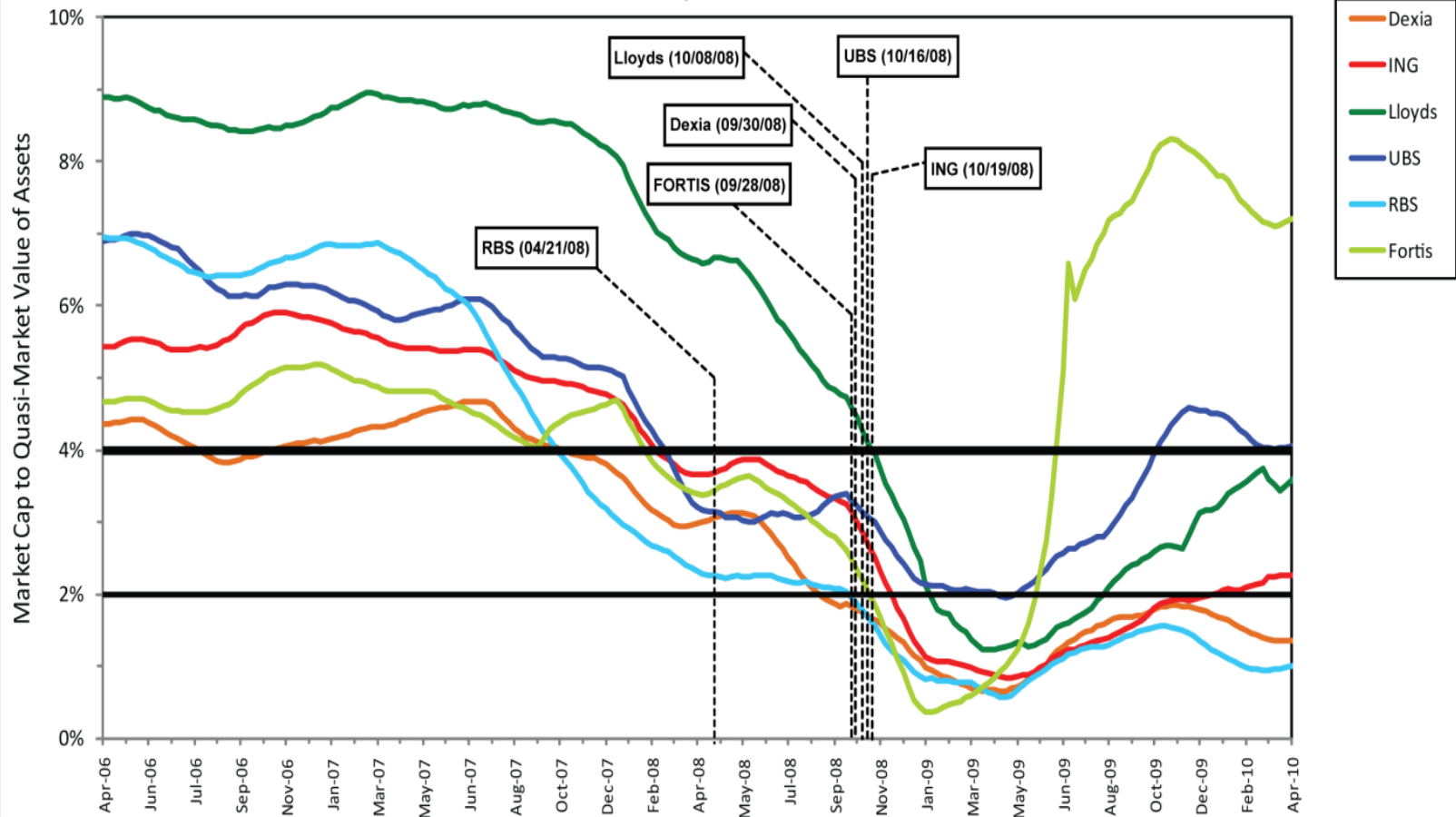
90 Day Rolling Market Cap to Quasi Market Value of Assets

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



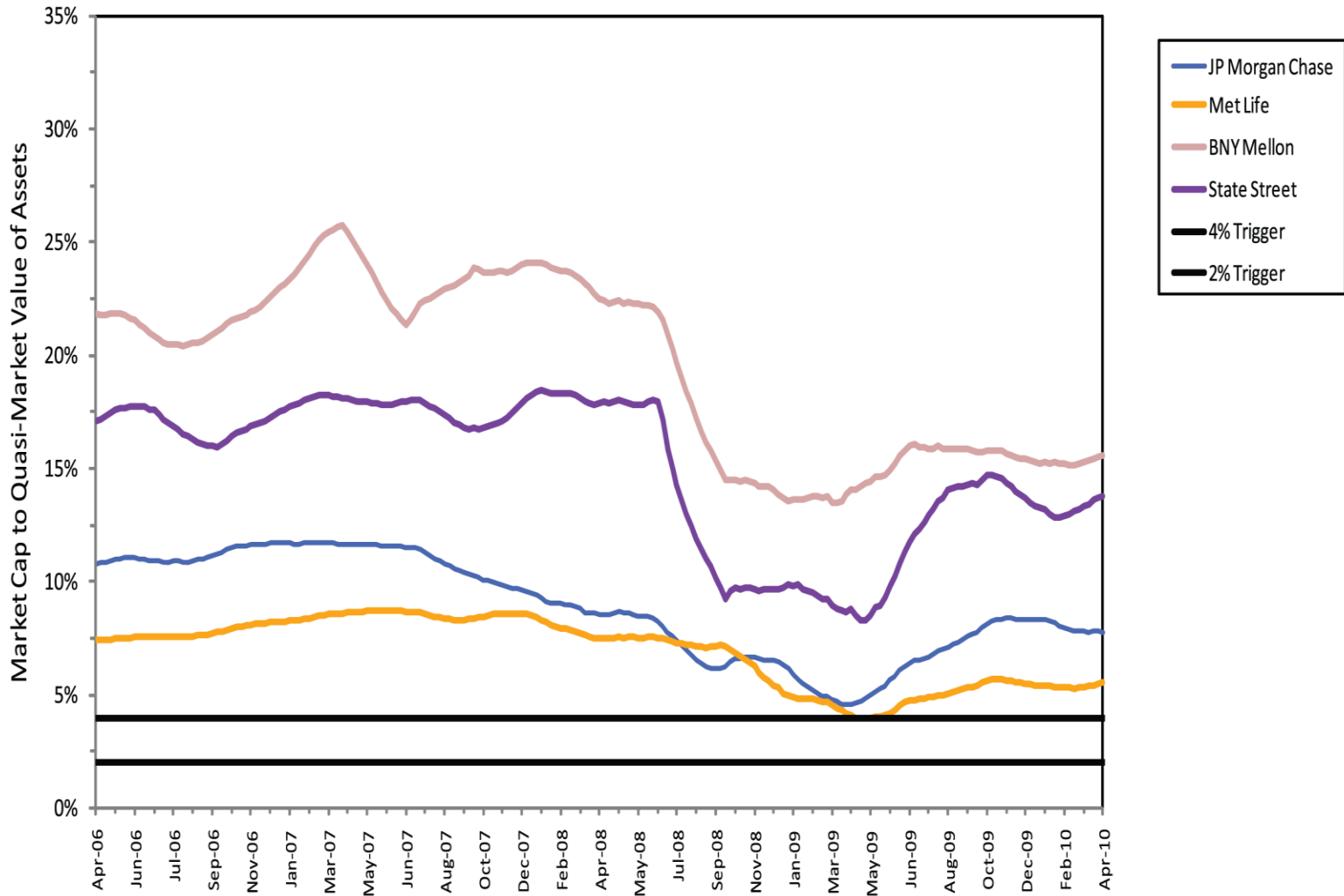
90 Day Rolling Market Cap to Quasi-Market Value of Assets

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?

- 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

Liquidity Requirements

- **Basel III points to two new liquidity ratios to deal with systemic liquidity risk. But three 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; it is not desirable to eliminate it from the system!
 - We have a lender of last resort, and so long as banks are regulated properly, to limit moral hazard, we should use it!
- **4. Simple 20% of risk weighted assets cash reserves requirement.**

Liquidity Requirement? Theory

- Why restore liquidity requirements' importance?
 - **Observability of cash and its risklessness incentivizes good risk management, especially after unrecognized losses** (Calomiris-Heider-Hoerova 2011).
 - **Improvement in risk management incentives for risky asset portfolio** (Calomiris-Heider-Hoerova 2012).
 - **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)!**
 - **Reduce dependence on LOLR** (self-insurance against exogenous liquidity risk).

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 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).

Incentive Scorecard of Proposed Prudential Reforms

Proposal

Use loan interest rates to help set capital ratios.

Require NRSROs to use numerical forecasts of PD, with “sit out” penalties for egregious errors.

Require CoCos with market triggers.

Remunerative 20% liquid reserve requirement.

Market Incentives?

Loan pricing reflects risk, and will continue to do so.

Rating agencies will have strong incentives to make estimates accurate, and will resist buy-side pressures to inflate ratings.

Banks preemptively raise equity.

Improves risk management.

Political /S&R Incentives?

Standards are transparent and rule-based, and therefore, credible.

Avoids micro-managing NRSROs; ensures transparency, accountability of enforcement.

Automatically convert s before intervention, so will not be bailed out.

Clearly observable => enforced.

Importance of Simplicity

- Only simple rules can avoid dependence on regulatory discretion, which is subject to political manipulation.
- Automatically enforced, transparent rules are incentive-robust for regulators.