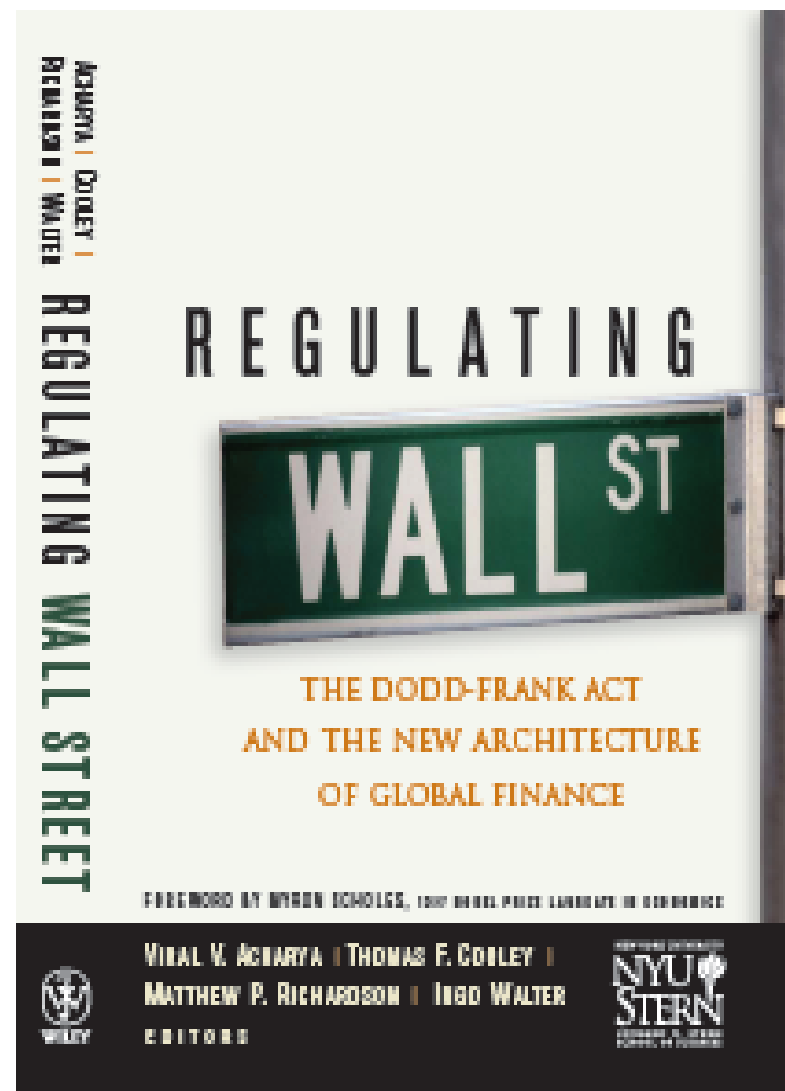




Regulating Wall Street:

The Dodd-Frank Act and
the New Architecture of
Global Finance

November 2010



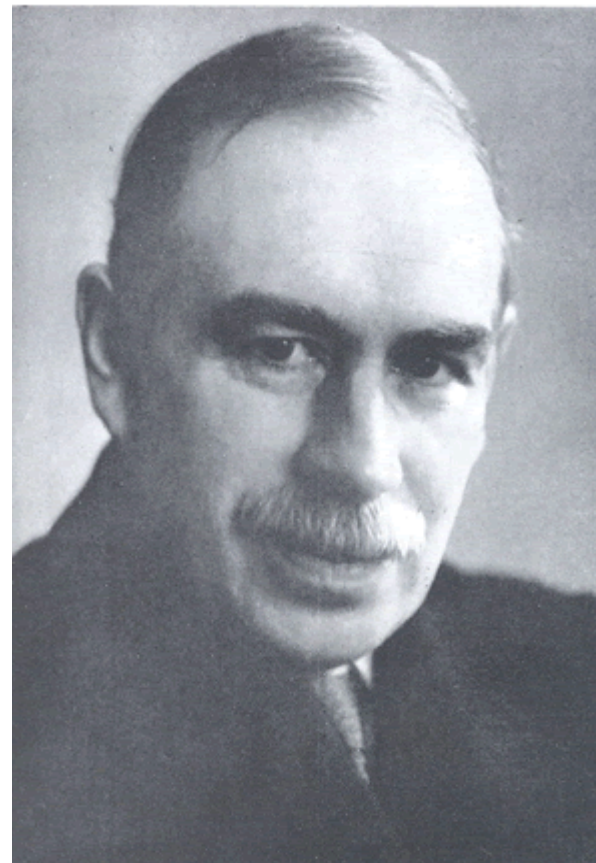
Idea behind the book

- Joint effort of 40 faculty members and students at NYU Stern
- Edited by Viral V Acharya, Thomas Cooley, Matthew Richardson and Ingo Walter
 - Following up on NYU-Stern's earlier effort "*Restoring Financial Stability: How to Repair a Failed System*", John Wiley & Sons, Mar 2009
- Four parts of the presentation
 - Encore: Causes of the financial crisis of 2007-09
 - Assessment of the Dodd-Frank Act from first principles
 - Comparative evaluation relative to financial reforms of the 1930's
 - What-if analysis for the Dodd-Frank Act during 2003-2008

One-line assessment of Dodd-Frank

“The difficulty lies, not in the new ideas, but in escaping from the old ones...”

- John Maynard Keynes in *The General Theory of Employment, Interest and Money* (1936)





Causes of the Financial Crisis

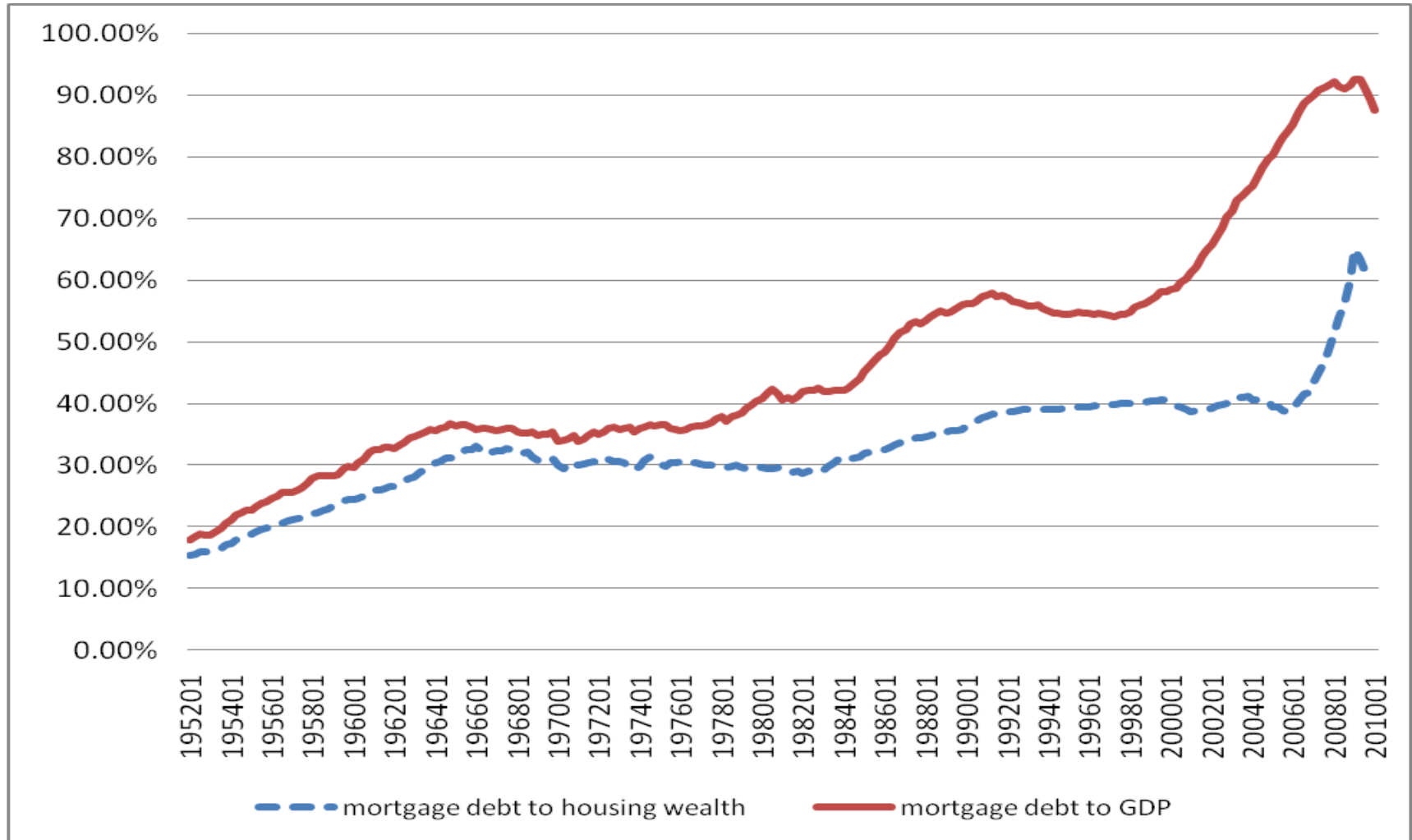
Causes of the Financial Crisis

- Popular explanations for the economic crisis
 - Lot of bad loans were made: Design of subprime mortgages
 - Rating agencies rubber stamp of AAA-tranches of securitization
 - “Great Moderation”, “Black Swan”, once in a century shock to real estate...
 - Low interest rates due to expansionary monetary policy
 - Global imbalances

Causes of the Financial Crisis (cont'd)

- But financial sector did not transfer credit risk down the line
- It was manufacturing tail risk, i.e., synthesizing “carry trades” at lowest possible capitalization, often through regulatory arbitrage
 1. ABCP conduits and SIV's
 2. Changing economic role played by short-term debt and repos
 3. AAA tranches of subprime mortgages
 4. CDS protection and guarantees from AIG FP and monolines

The Household Credit Boom in the U.S. (Source: Flow of Funds)



Old Model: Banks as Delegated Monitors

Bank Balance Sheet

Assets	Liabilities
Loans	Deposits
	Capital/Equity

New Model: Securitization

Bank Balance Sheet

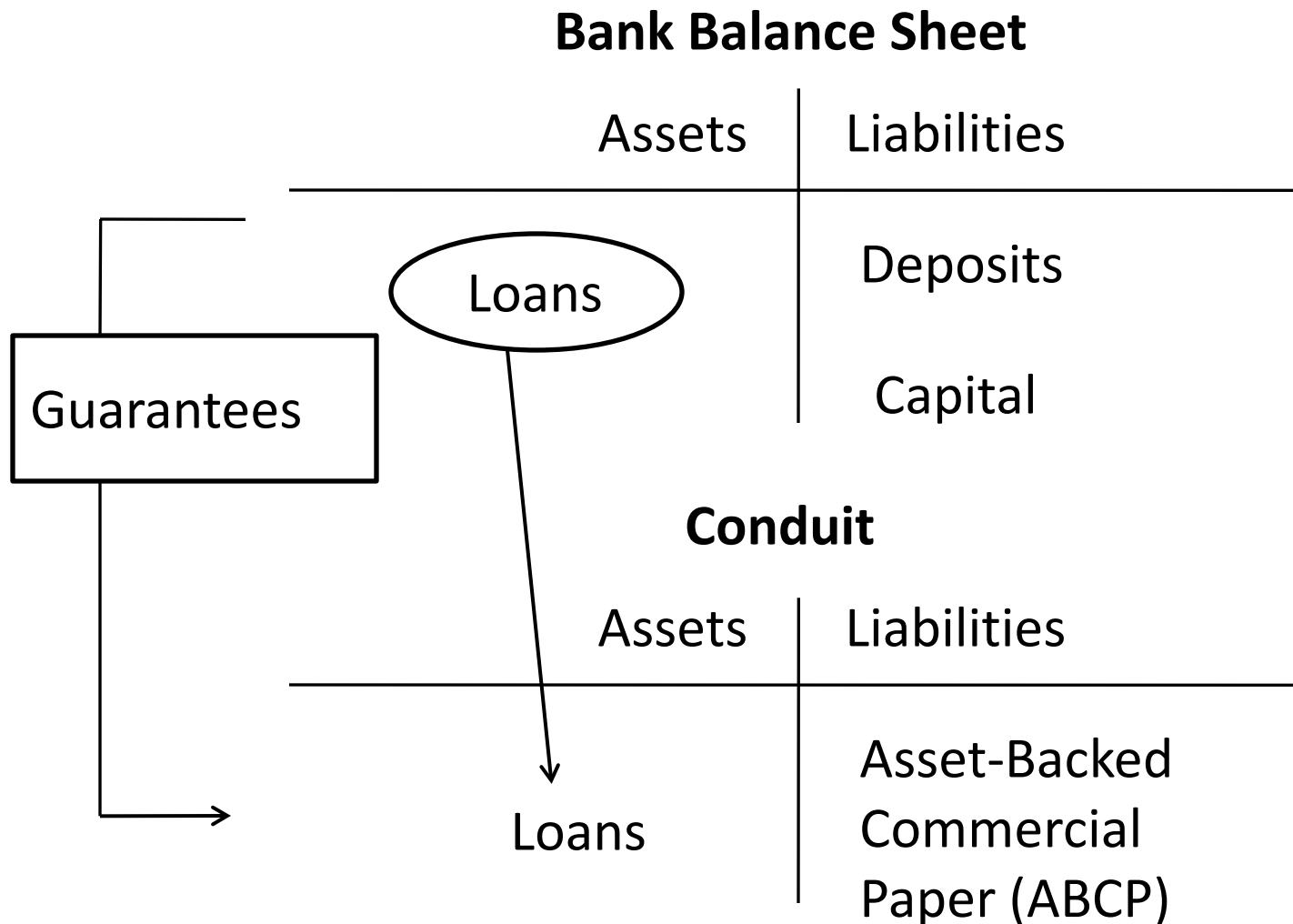
Assets	Liabilities
Loans	Deposits
	Capital

Structured Purpose Vehicle

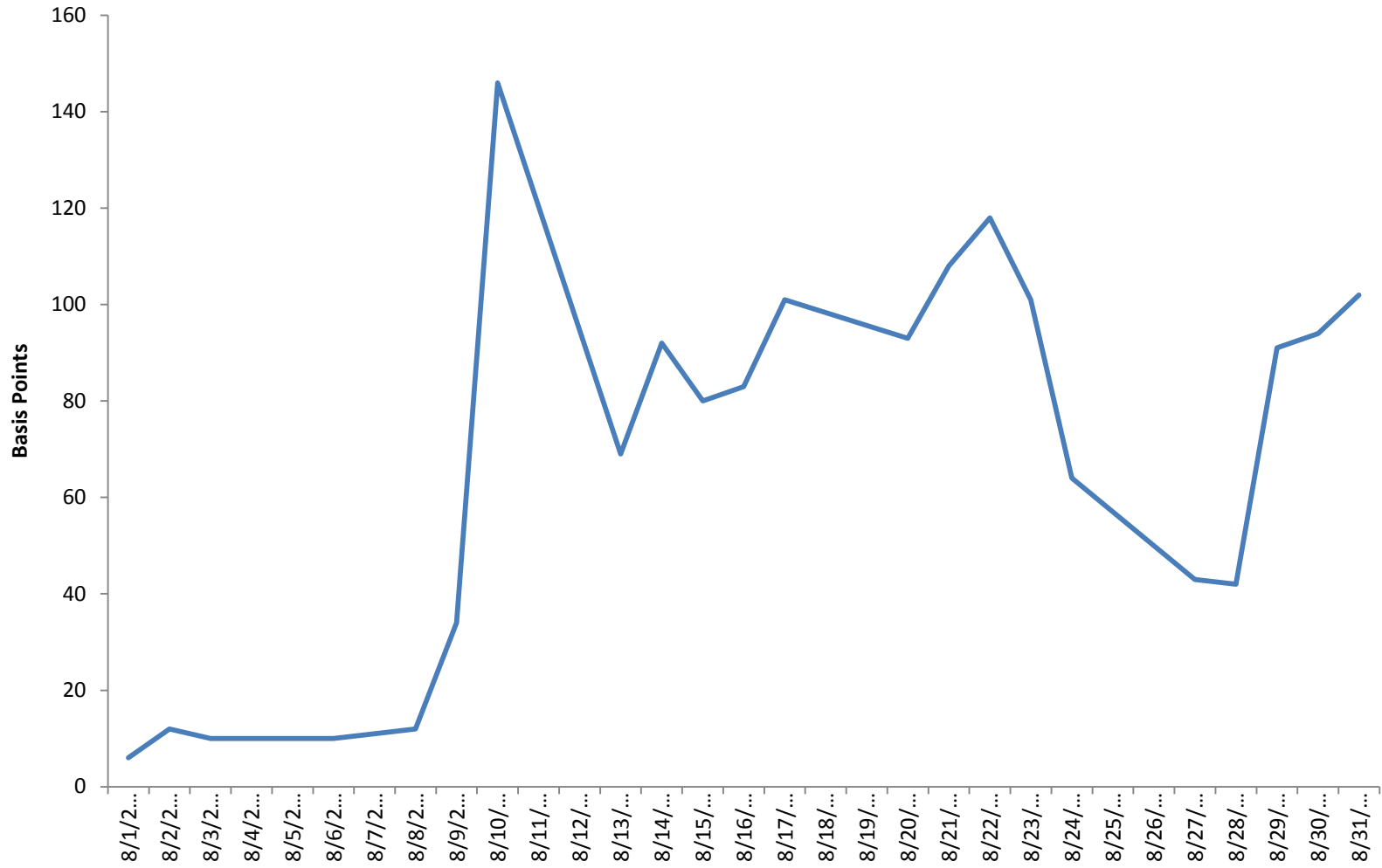
Assets	Liabilities
Loans	Asset-Backed Securities (ABS)
	Investors

I. New Model+

“Securitization without risk transfer”



ABCP spread as the crisis broke out (Source: Acharya, Schnabl, Suarez 2009)



Investors return loans to bank

Bank Balance Sheet

Assets	Liabilities
Loans	Deposits
	Capital

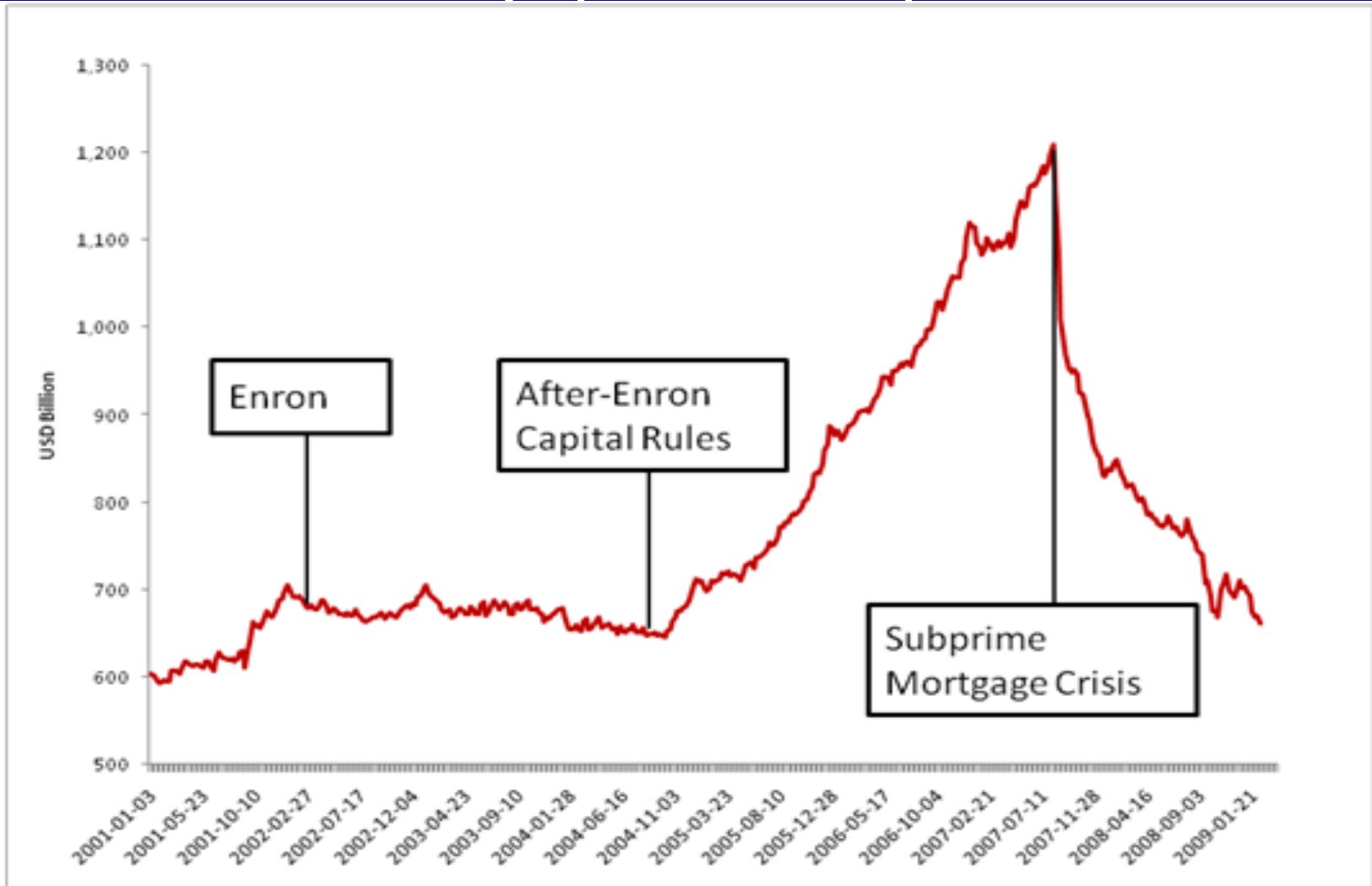
Conduit

Assets	Liabilities
Loans	ABCP

Investors

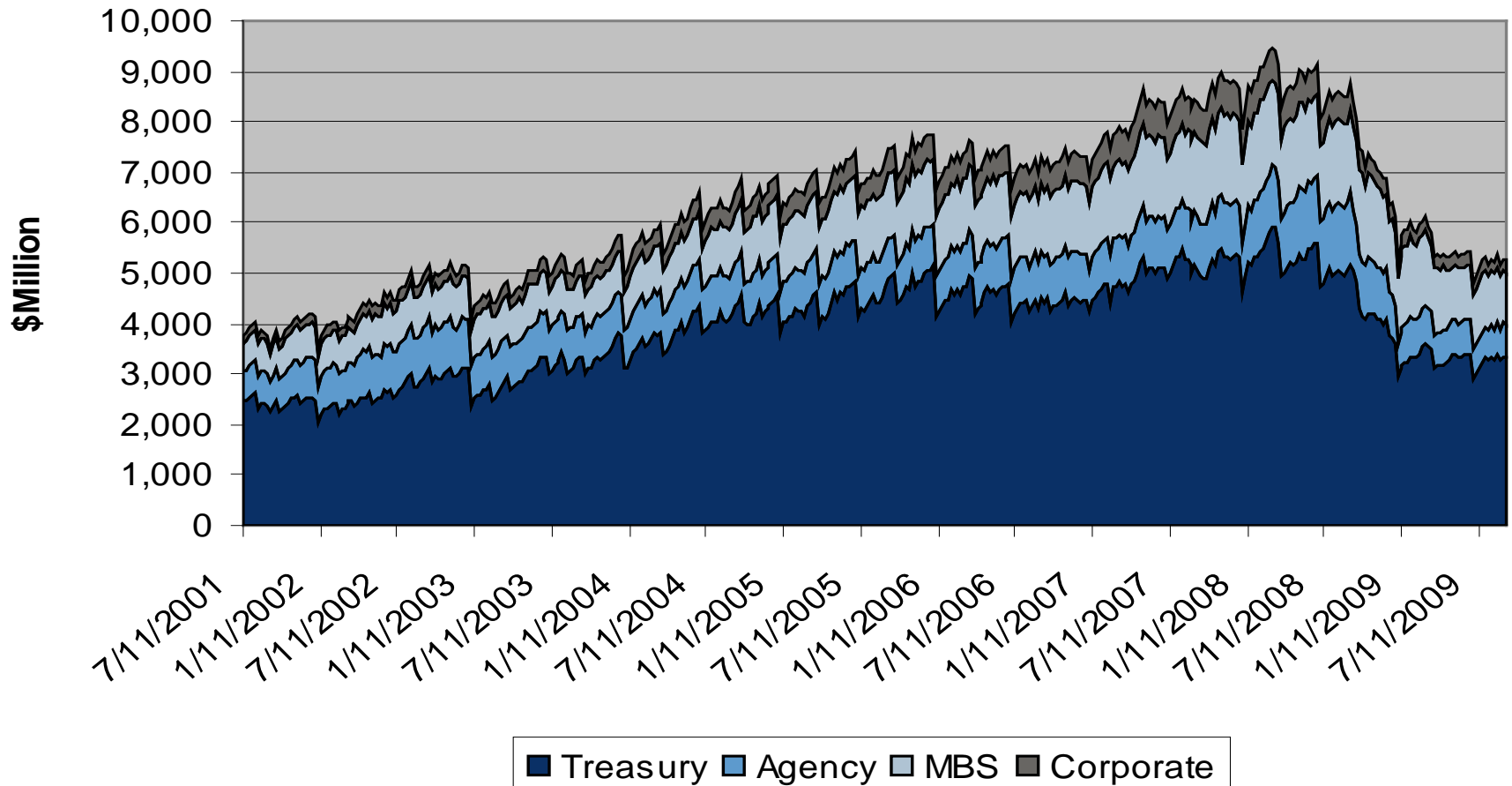
ABCP Growth: Jan 2001 - Feb 2009

(Source: Acharya, Schnabl, Suarez 2009)



II. Too-safe-to-fail assets (AAA) and liabilities (repos)

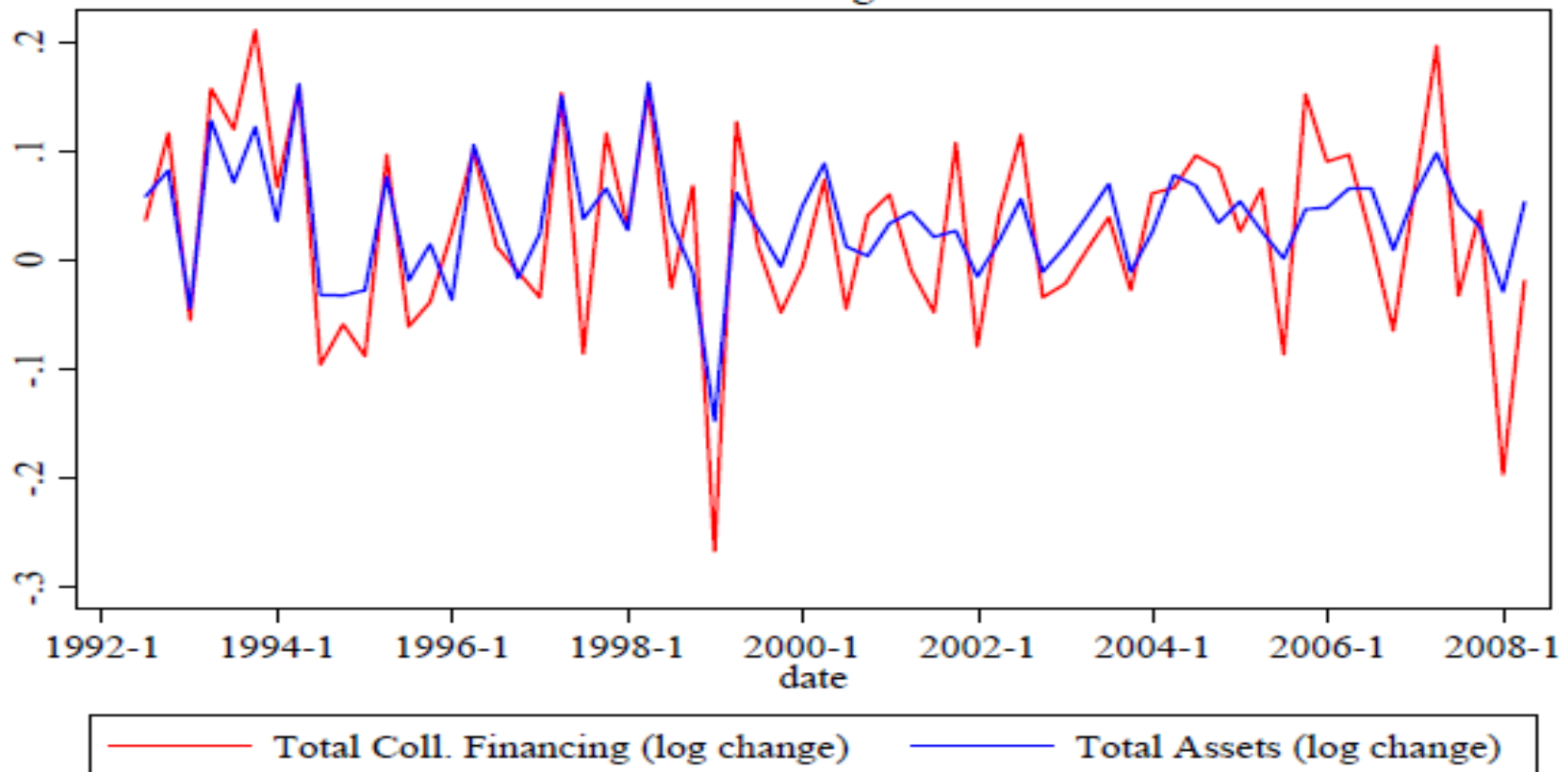
**Composition of Repo collaterals by primary dealers
(gross volume)**



Adrian and Shin (2008)

- Compelling evidence that asset growth is primarily funded through repo financing

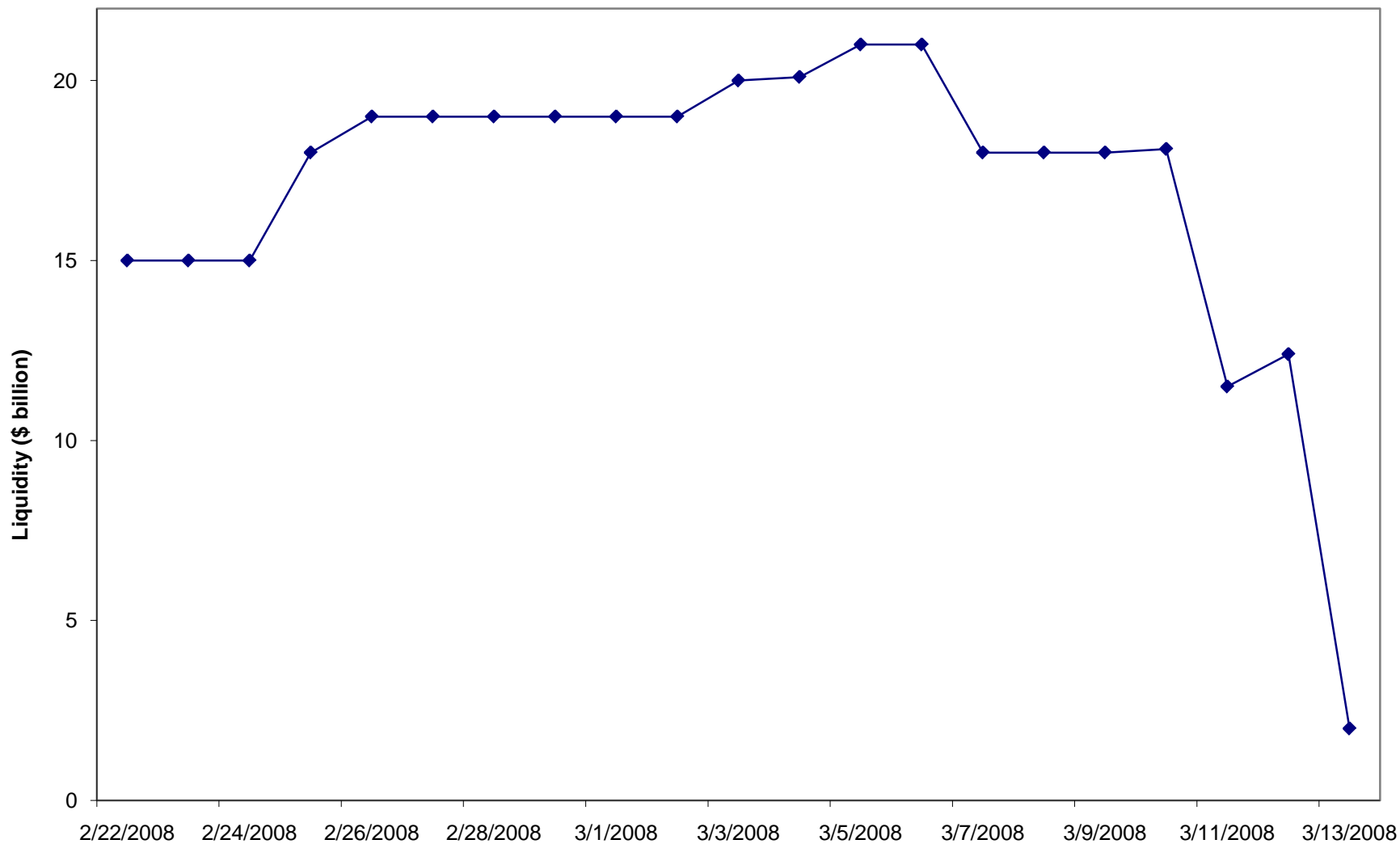
Total Assets Growth and Collateralized Financing Growth
Asset weighted



Bear Stearn's collapse

- Monday, March 10, 2008: rumors spread about liquidity problems at Bear Stearns and continue through the week
- Counterparties unwilling to make even secured funding available on customary terms
- The holding company liquidity pool declines from \$18.1 billion to \$11.5 billion on Tuesday, fell sharply on Thursday and continued to fall on Friday
- Bear Stearns' capital was “adequate” throughout March 10-17 and, at the time of its sale to JP Morgan Chase, the capital ratio was in excess of 10%, the Fed's “well capitalized” standard

Bear Stearn's liquidity pool



Rollover risk and repo freeze

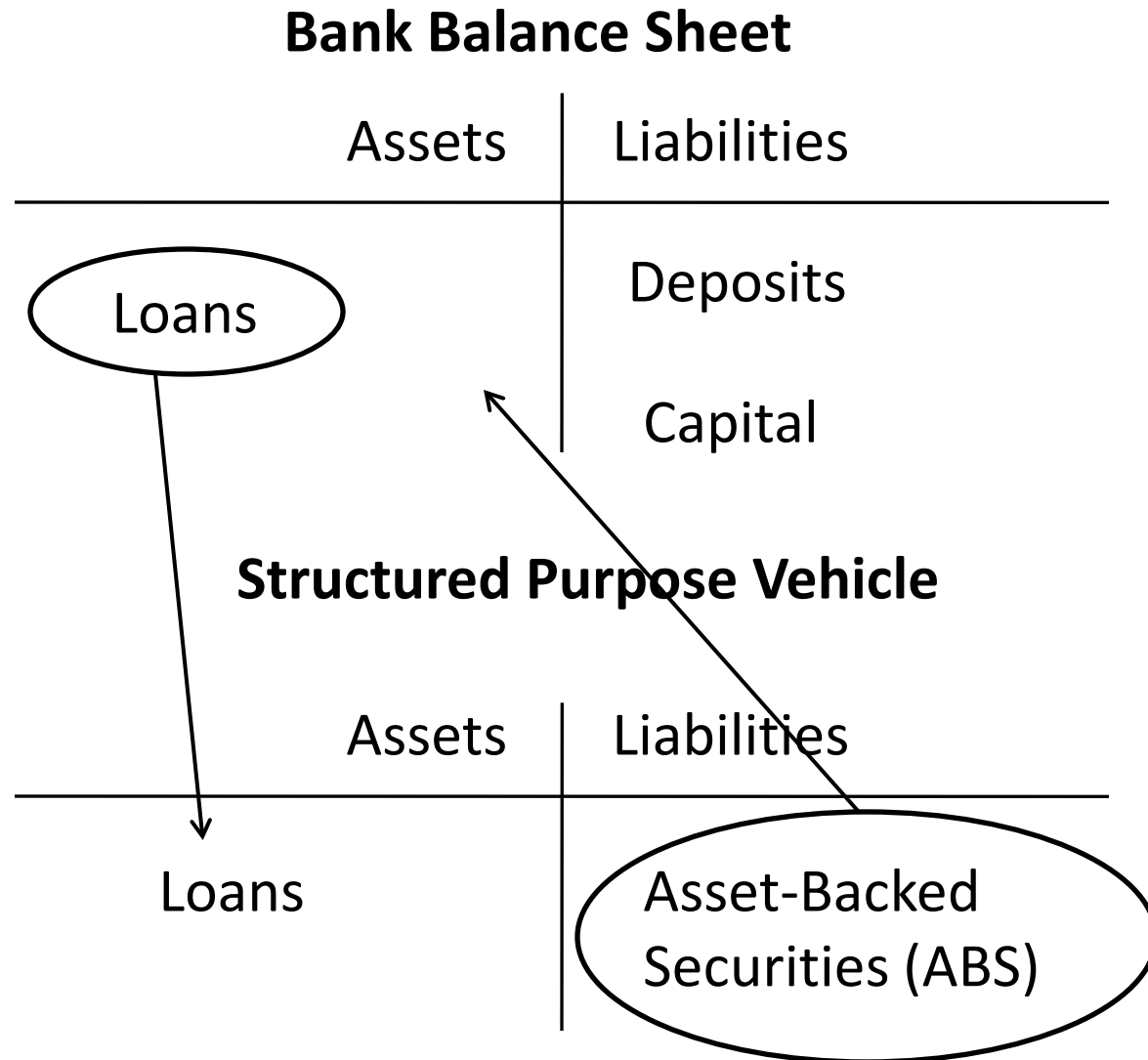
- *“[U]ntil recently, short-term repos had always been regarded as virtually risk-free instruments and thus largely immune to the type of rollover or withdrawal risks associated with short-term unsecured obligations. ... In March, rapidly unfolding events demonstrated that even repo markets could be severely disrupted when investors believe they might need to sell the underlying collateral in illiquid markets. ... Such forced asset sales can set up a particularly adverse dynamic, in which further substantial price declines fan investor concerns about counterparty credit risk, which then feed back in the form of intensifying funding pressures.”*

– Ben Bernanke in Speech at JFI Conference, May 2008

III. Alternative New Model+ Asset Buy Back

- Move risk off balance sheet using securitization
- Banks buy back AAA-rated Asset-Backed Securities (super-safe tranches)
- Reduce costly capital requirements
- Effectively banks write insurance against economic downturn

Alternative New Model+: Asset Buy Back

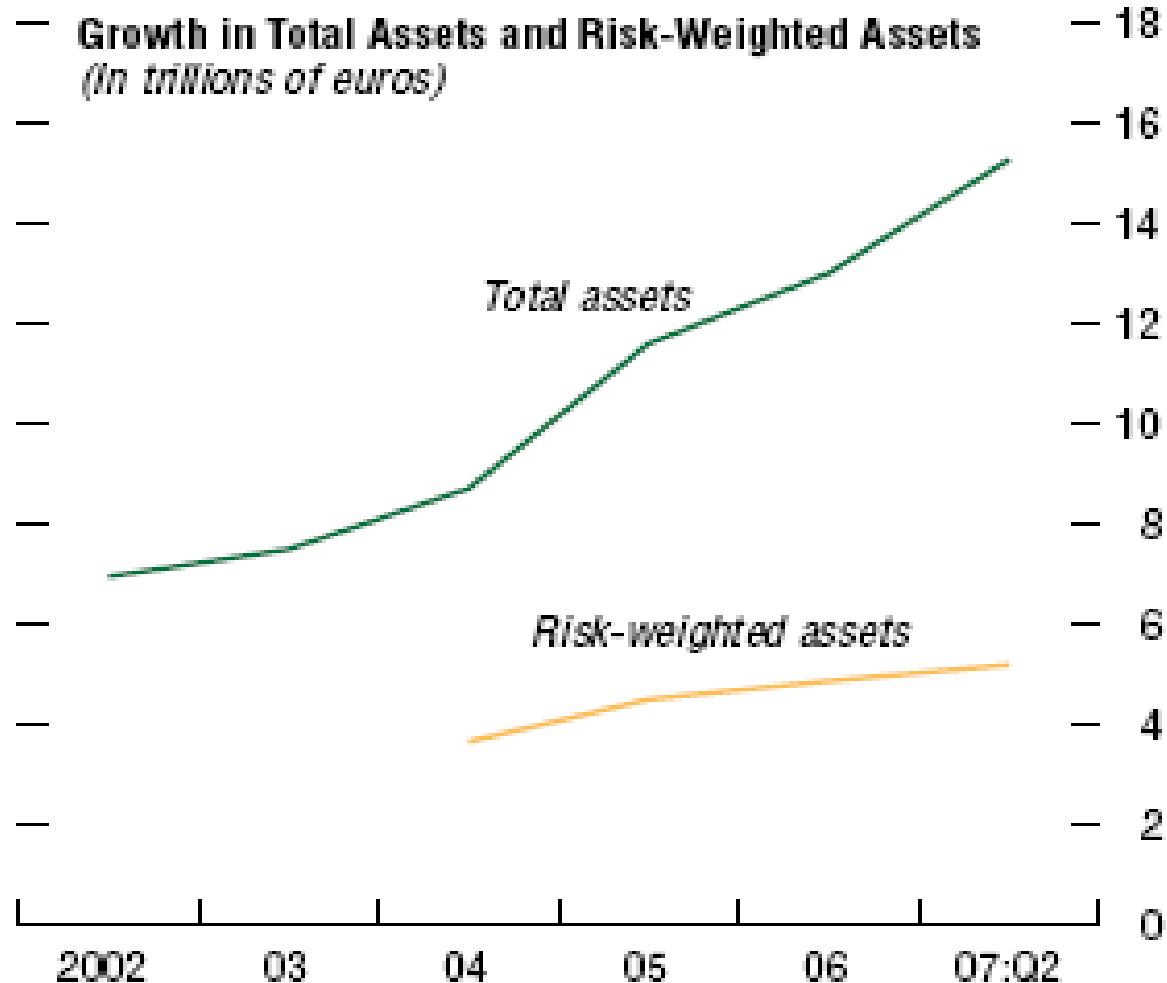


Banks did not transfer credit risk

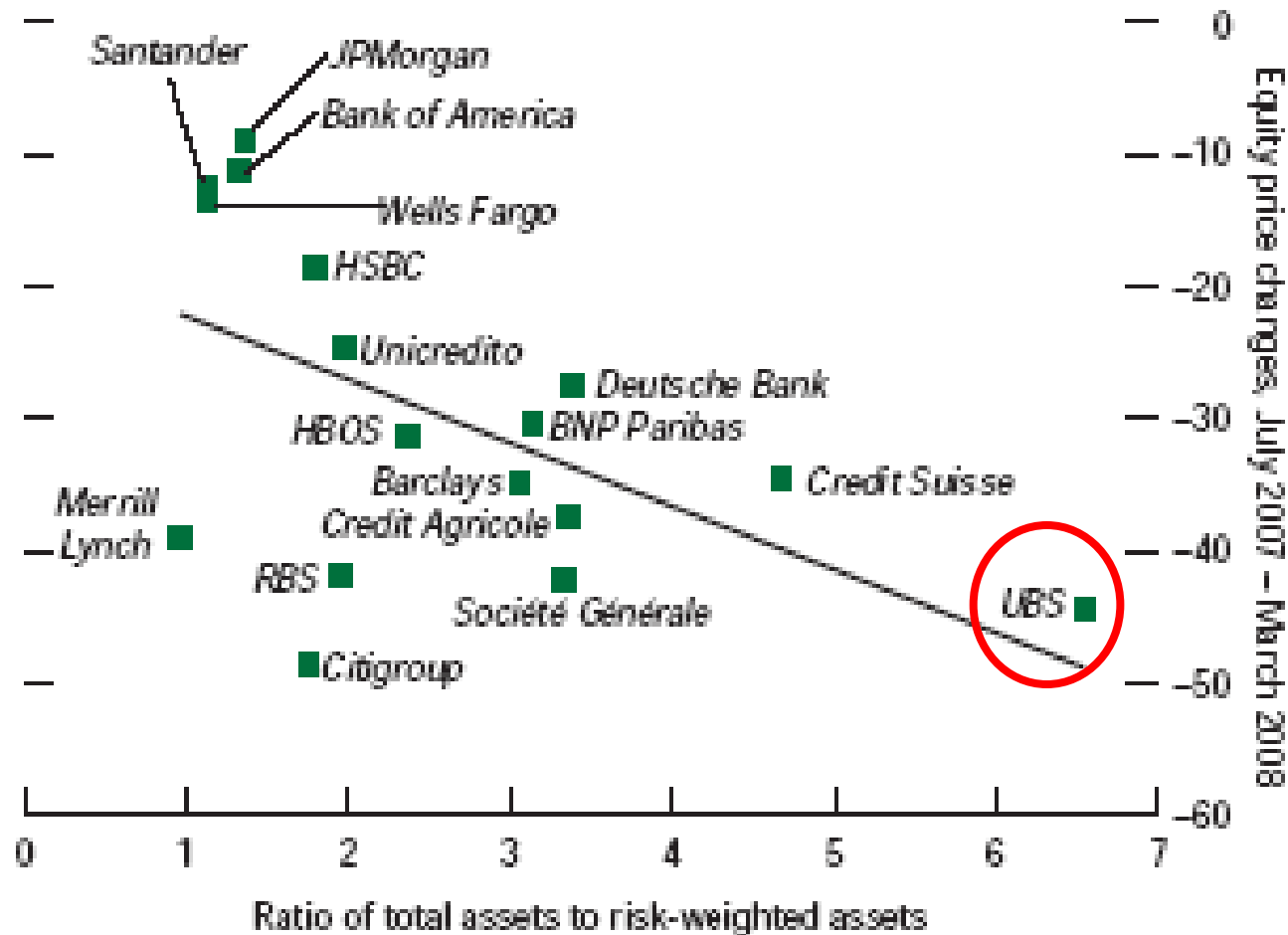
(Source: Lehman Brothers June 2008)

	Loans	HELOC	Agency MBS	Non-Agency AAA	CDO Subord	Non CDO Subord	Total	
Banks & Thrifts	2,020	869	852	383	90		4,212	39%
GSEs & FHLB	444		741	308			1,493	14%
Brokers/dealers			49	100	130	24	303	3%
Financial Guarantors		62			100		162	2%
Insurance Companies			856	125	65	24	1,070	10%
Overseas			689	413	45	24	1,172	11%
Other	461	185	1,175	307	46	49	2,268	21%
Total	2,925	1,116	4,362	1,636	476	121	10,680	
	27%	10%	41%	15%	4%	1%		

Low Growth in Risk-Weighted Assets (Source: IMF GFSR April 2008)

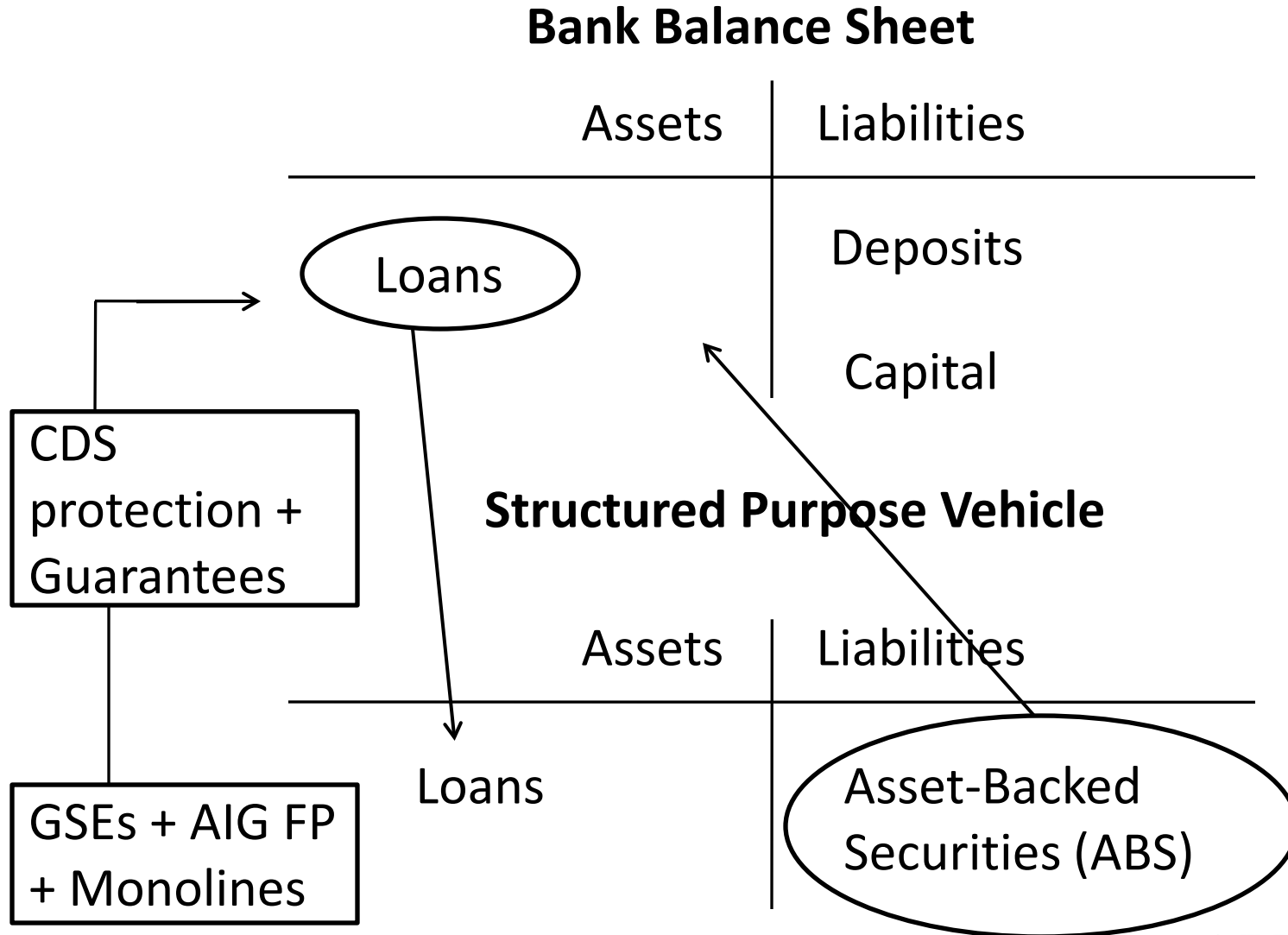


Equity reactions during crisis and regulatory risk exposures



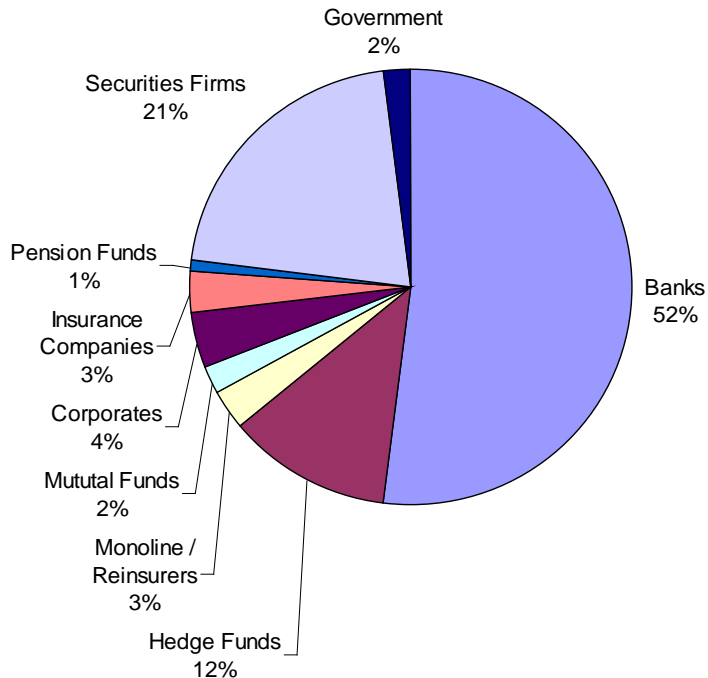
Sources: Bloomberg L.P.; and IMF staff estimates.

IV. Alternative New Model+: Asset Buy Back + Insurance for regulatory capital relief

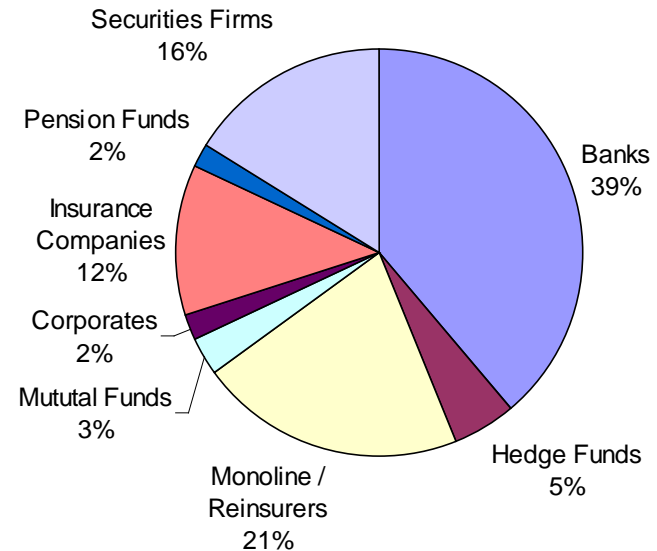


Insurance industry net seller of protection to banks

Buyers of Protection



Sellers of Protection



Source: British Bankers Association 2006

Banks allowed poorly capitalized insurance to grow (Source: AIG Quarterly Filings, February 2008)

At December 31, 2007 the notional amounts and unrealized market valuation loss of the super senior **credit default swap** portfolio by asset classes were as follows:

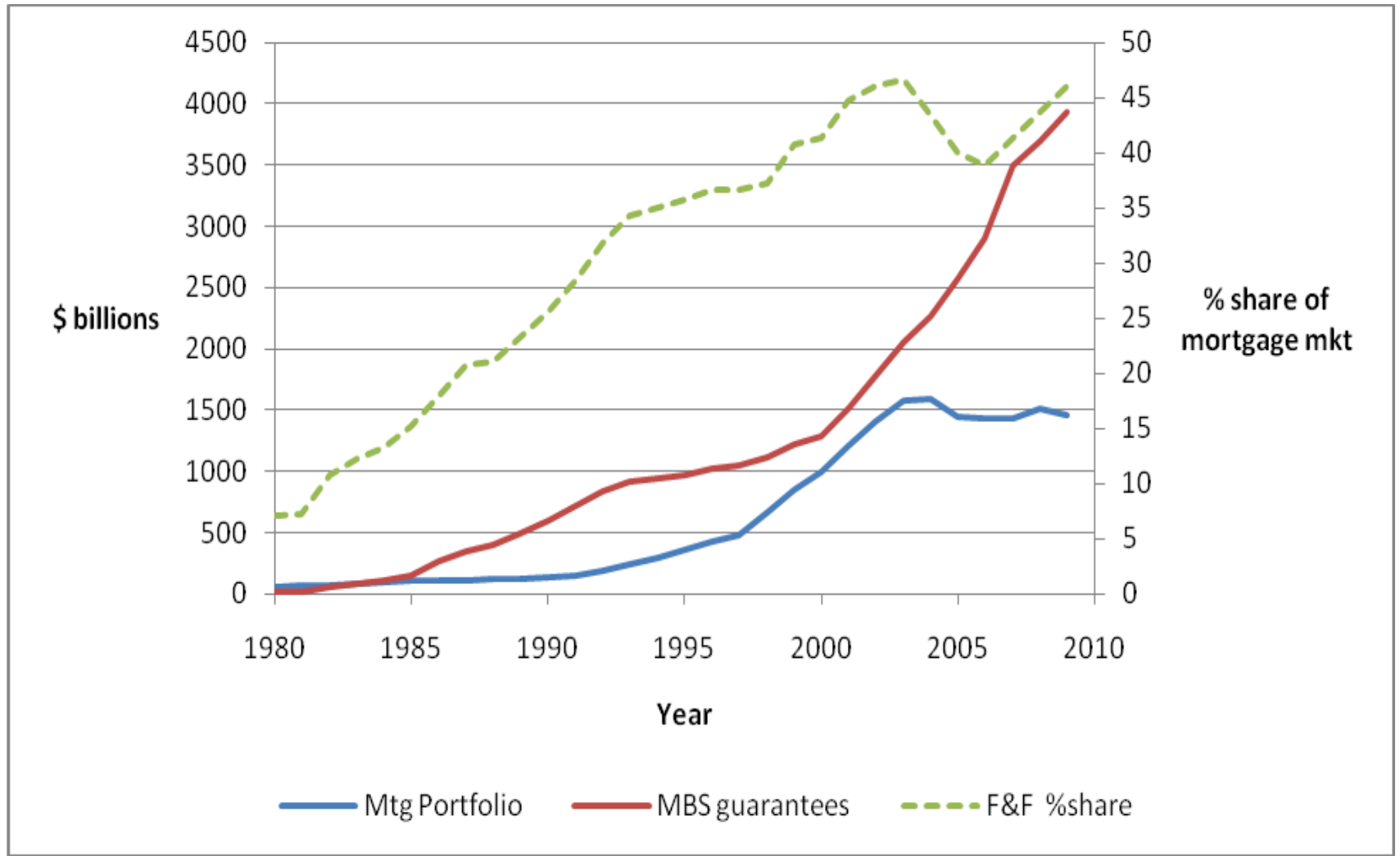
	Notional Amount (in billions)	Unrealized Market Valuation Loss (in millions)
Corporate loans ^(a)	\$230	\$ —
Prime residential mortgages ^(a)	149	—
Corporate Debt/CLOs	70	226
Multi-sector CDO ^(b)	78	11,246
Total	\$527	\$11,472

(a) Predominantly represent transactions written to facilitate regulatory capital relief.

(b) Approximately \$61.4 billion in notional amount of the multi-sector CDO pools include some exposure to U.S. subprime mortgages.

Approximately \$379 billion (consisting of the corporate loans and prime residential mortgages) of the \$527 billion in notional exposure of AIGFP's super senior credit default swap portfolio as of December 31, 2007 represents derivatives written for financial institutions, principally in Europe, for the purpose of providing them with regulatory capital relief rather than risk mitigation. In exchange for a minimum guaranteed fee, the counterparties receive credit protection in respect of diversified loan portfolios they own, thus improving their regulatory capital position. These derivatives are generally expected to terminate at no additional cost to the counterparty upon the counterparty's adoption of models compliant with the Basel II Accord. AIG expects that the

Tail risk traveled to the most levered balance-sheet (Source: FHFA and Federal Reserve)



Fannie Mae and Freddie Mac mortgage activities

New banking model

“Manufacturing Tail Risks”

- Acharya, Cooley, Richardson, Walter (2009)
- Asset-side: term premium + risk premium
 - Long-term; mortgage-backed; if possible, sub-prime mortgage-backed
- Capitalization: low
 - AAA-rated tranche or OTM guarantee on the pool
- Liability-side: short-end of yield curve
 - Short-term overnight or weekly ABCP, repo or CP
- Carry in good times = 50/100bps on assets – 15/20 bps on debt
- Bad times = Blow up, but limited liability...

Why are tail risks attractive?

- Selling OTM options gives premium in good times but is a highly levered bet on the underlying
- Management: Boost short-term ROE
- Bankers: Pocket premium as bonuses
 - See UBS, 2008, “Shareholder Report on UBS’s Write-Downs”
- Why don’t shareholders contain such behavior?
 - Manufacturing tail risks may be in the interest of shareholders too
 - Creditors expect to be bailed out in systemic tail risk scenarios or do not take account of the “externality” in such states
 - Shareholders do not pay for the externality either

Four Principles for Future Regulation

1. Efficient pricing of government guarantees

- Deposit insurance
- Too Big To Fail guarantees,
- Implicit (now explicit) guarantees of Government Sponsored Enterprises
- Loan guarantees and liquidity facilities during a crisis

2. “Tax” for systemic risk

- Market-based measures: Higher leverage, beta, size, illiquidity...
- Stress tests
- Countercyclical enforcement

Four Principles (cont'd)

3. State-contingent penalties for the hidden action problem

- Contingent capital, claw backs, double liability
- Resolution mechanisms for “shadow banking” markets (ABCP, repo, money markets)

OR Enforce or induce a new form of Glass-Steagall separation:

- No in-house hedge funds, i.e., privatize prop-trading

4. Transparency

- Centralized clearing
- Accounting of off-balance-sheet transactions/guarantees



Assessment of the Dodd-Frank Act from First Principles

Highlights of the Dodd-Frank Act

(see Appendix for details)

1. Identifying and regulating systemic risk

- “Council” to deem institutions as systemically important financial institutions (SIFI’s), regulate them and break them up as last resort
- Office of Financial Research (OFR) to collect, analyze and disseminate relevant information for anticipating future crises

2. Proposing an end to too-big-to-fail

- Funeral plans and orderly liquidation procedures for unwinding of SIFI’s
- Ruling out of taxpayer funding of wind-downs and instead requiring that
 - Management be fired
 - Wind down costs be borne by shareholders and creditors
 - If necessary, *ex post* levies be imposed on other (surviving) SIFI’s

Highlights of the Dodd-Frank Act

3. Expanding the responsibility and authority of the Fed

- Authority over all SIFI's and responsibility for preserving financial stability
- Bureau of Consumer Financial Protection to write rules governing consumer financial services and products offered by banks and non-banks

4. Restricting discretionary regulatory interventions

- Allows for discount-window lender-of-last-resort (LOLR) for “banks”
- Prevents or limits 13(3) [emergency] federal assistance in the form of LOLR to individual institutions
- However, allows for market-wide LOLR (in some cases subject to prior consent from the Council)

Highlights of the Dodd-Frank Act

5. Reinstating a limited form of Glass-Steagall (the “Volcker rule”)

- Limits bank holding companies to *de minimis* investments in prop trading activities (hedge funds, private equity) and prohibits their bail outs

6. Regulation and transparency of derivatives

- Central clearing of standardized derivatives
- Regulation of complex ones that can remain over-the-counter (OTC)
- Transparency of all positions (price/volume for public and position-level for regulators)
- Separation of non-vanilla (other than interest rate, foreign exchange and single-name credit derivatives) positions into well-capitalized subsidiaries
- All with exceptions for commercial hedging transactions

Economic Theory of Regulation

- Identify the market failure
 - Externalities are rife in the financial sector
 - Pecuniary externalities (fire sales, counterparty risk, ...)
 - Coordination problems (information-based runs, panics, ...)
 - Markets are generally missing for pricing of externalities: incompleteness of contracting on actions or outcomes of multiple agents (Arrow, 1970)
 - Adverse selection
 - Limited ability to make binding commitments (property rights)
 - Transaction costs of setting up markets (direct or coordination problems)
 - Monopolistic or oligopolistic market structures

Economic Theory of Regulation (cont'd)

- Address the market failure through an intervention
 - Approach I: Charge *ex ante* Pigouvian taxes to price the externalities, or create a market for determining the prices (e.g. carbon emission tax)
 - Advantages:
 - Do not require heavy-handed government intervention
 - Taxes raise revenues that can reduce other taxes or help cover infrastructure costs
 - Disadvantages:
 - Politically unpalatable
 - Externality or contributions to externality difficult to measure

Economic Theory of Regulation (cont'd)

- Address the market failure through an intervention
 - Approach II: Address the externality *ex post* when it manifests (e.g., deposit insurance and bailouts)
 - Advantages:
 - Generally time-consistent
 - Politically palatable
 - Disadvantages:
 - Creates its own externalities due moral hazard and lack of level-playing field (e.g. TBTF)
 - Can often be unbounded in ex post costs (e.g., Irish bailouts, GSE bailouts)

Economic Theory of Regulation (cont'd)

- Recognize and contain the costs of intervention
 - Limit the direct costs of intervention
 - Indirect costs: Moral hazard, Regulatory arbitrage, Unintended consequences
 - Approach IIIa: Limit the externality from arising in the first place
 - Robust schemes to bound behavior (e.g., maximum LTV ratios)
 - Market and organizational structures to contain costs (e.g., clearinghouses)
 - Approach IIIb: Regulate by function rather than form
 - Anticipate circumventing innovations (e.g., shadow banking)

The Positives from the Act

- It has its heart in the right place: systemic risk!
 - Purpose of new legislation is (for the first time) explicitly to develop tools to contain systemic risk
 - Strives to give prudential regulators authority to deal with such risk
- The Act makes an effort at resolving and demystifying SIFI's
 - Funeral plans to unwind SIFI's could serve as a useful resolution aid and an implicit tax on complexity
 - Similarly, even the diluted Volcker rule should simplify organizational structure of SIFI's and reduce spillover from trading to payment systems

The Positives from the Act (cont'd)

- Perhaps the strongest aspect is the Derivatives reform
 - Focus on transparency and central-clearing should limit spillover costs of SIFI failures substantially (e.g., failures of Bear Stearns, Lehman, AIG)
 - Price-volume transparency to markets, and even some aggregated position disclosure, should improve pricing of counterparty risk even in bilateral OTC markets
- The Council may judge non-banks to also be SIFI's and subject them to greater scrutiny by the prudential regulators

Limitations of the Act

- A great degree of uncertainty and specificity remains on several aspects of the Act (in spite of its 2,300+ page script)
- A large amount of discretionary rule-making (over 225 new rules) left to prudential regulators (across 11 federal agencies)
- A significant chance to consolidate the fragmented regulation of the U.S. financial sector has been missed (barring in one case)
- However, leaving aside these issues of implementation, there appear to be four critical weaknesses in the Act, which the regulators may have to guard against in future

I. (Lack of) Pricing of guarantees

- Guarantees, if uncharged, distort capital budgeting of economy
 - Walter and Weinberg (1999): 45% of all (\$8.4 trn) financial liabilities in the U.S. received some form of guarantee
 - Malysheva and Walter (2009): 58% of all (\$25 trn) are under safety net
 - Government guarantees lower cost of debt, raise financial sector leverage, distort capital budgeting to riskier assets, increase financial fragility
- 1. GSEs, the largest – govt sponsored – “hedge fund”, ignored in the Act
- 2. No proposal to reform FDIC insurance premium so that banks pay premiums in good times too
- 3. Insurance sector: tiny state guarantee funds, so too big to fail problem
- 4. Orderly Liquidation Authority (OLA) does not cover all systemic institutions nor rules out future guarantees with certainty

II. Flawed resolution principle

- Systemic risk of failures implies costs beyond firm's stakeholders
 - Simply wiping out management, shareholders, creditors ex post may not suffice to internalize the full costs of failure
 - But no attempt in the Act whatsoever to charge an upfront tax for those firms whose systemic risk contributions are greater
 - See “Measuring Systemic Risk” - Acharya, Pedersen, Philippon and Richardson (2010)
 - What is worse, the Act proposes a scheme that aggravates systemic risk
- 1. Charging the surviving SIFI's when other large banks fail is a poor design
 - Can exacerbate recession and credit crunch by weakening remaining banks
 - Hence, SIFI's unlikely to pay for systemic risk *ex post* or *ex ante*!
 - Banks may even find it better to herd and all fail together
- 2. The Act limits Fed LOLR to individual non-depositories but creates no ex-ante funds for resolving their failures

III. Regulation by form and not function

- The Act remains pre-occupied with depository institutions
 - Several bank-like non-banks in the financial system: investment banks, money-market funds, swap dealers, some insurance companies, etc.
 - 1. Giving access to federal assistance to banks but not to others creates the lack of level-playing field
 - Can create “race to the bottom” in risk between banks and non-banks
 - Also as non-banks approach distress, they will merge with banks
 - 2. The Act will lead to creation of central clearinghouses for derivatives
 - Mark Twain: “Put all eggs in a basket” but then “watch that basket”!
 - Ruling out Fed’s LOLR to clearinghouses while they get recapitalized can create disorderly liquidations and uncertainty

IV. Systemically important markets?

- While the Act deals with OTC derivatives reasonably well, it remains agnostic about systemic risk in other markets
 - Collection of small institutions and economic agents and transactions can be systemic if it is central to plumbing of the financial sector
 - Examples: Payment and settlement systems, Wholesale financing markets (Repos, money market funds), Reserve currency (currently, mainly USD) market
- 1. Sale and repurchase agreements (“Repos”): Estimated \$5-\$10 trn
 - Contain a “fire sale” externality, akin to runs on banks by demandable deposits
 - No resolution proposed: Cannot simply pass losses to end financiers all at once
 - Emergency repo bank (LOLR) or Repo resolution authority (like FDIC) needed
- 2. Money market funds: Estimated \$7 trn
 - Uninsured deposits, subject to same risk of runs as in the pre-FDIC era
 - Again, no resolution proposed under the Dodd-Frank Act



Comparative Analysis Relative to the Reforms of 1930's

The pre-1933 panics

- Several banking panics punctuated the U.S. financial sector, most severe being 1907 and the Great Depression (4,000 banks failed)
- Fractional reserve banking: Long-term assets, short-term demandable deposits, and fewer reserves than deposits
- Aggregate shocks (“crop harvest yields”) led to bank runs
- Runs induced information-based or panic runs on other banks
- Commercial bank clearinghouses often proved inadequate due to aggregate liquidity shortage and private conflicts of interest

The Banking Act of 1933

- Providing liquidity to markets: Reconstruction Finance Corporation (RFC) in 1932 replaced by 13(3) Emergency lending under the Federal Reserve Act of 1932 (“to any individual, partnership or corporation”)
- Stopping bank runs: “Bank holiday” (stress test) followed by deposit insurance provision by the FDIC, with insured institutions to pay premiums (and over time, face prompt corrective action)
- Constraining risky behavior: Glass-Steagall separation of commercial and investment banking insulated deposit insurance from risky, more cyclical activities; ceilings on deposit rates created financial stability by enhancing bank “charter values”
- Addressing informational asymmetries: The Securities Act of 1933 and formation of the SEC

Shadow banking peeled the onion!

- Providing liquidity to markets: 13(3) Emergency lending used extensively for shadow banking institutions during the crisis of 2007-08 confirming their implicit too big to fail guarantee
- Stopping bank runs: Modern-day bank runs happened in the ABCP and repo markets, outside of FDIC's coverage and reach
- Constraining risky behavior: TBTF institutions remained unchecked in their risk-taking; gradual repeal of Glass-Steagall restrictions meant deposit-insured institutions undertook highly cyclical trading and banking activities; competition with GSE's created a "race to the bottom" in regulatory arbitrage, leverage and off-balance sheet risks
- Addressing informational asymmetries: Several institutions, products and markets operated outside of SEC purview

Dodd-Frank (clumsily) puts it back!!

- Providing liquidity to markets: 13(3) Emergency lending by the Fed restricted for individual institutions, but allowed for market-wide lending (subject in some cases to Council approval)
- Stopping bank runs: Extends FDIC resolution powers to non-bank SIFI's, but no resolution plans for dealing with ABCP and repo runs
- Constraining risky behavior: The diluted version of Volcker-rule brings back a form of Glass-Steagall, but the Act retains as relevant tool the Basel capital requirements that have focused – and continue so – on individual bank risk rather than systemic risk
- Addressing informational asymmetries: Deals well with transparency of derivatives and sets up the OFR for better data collection

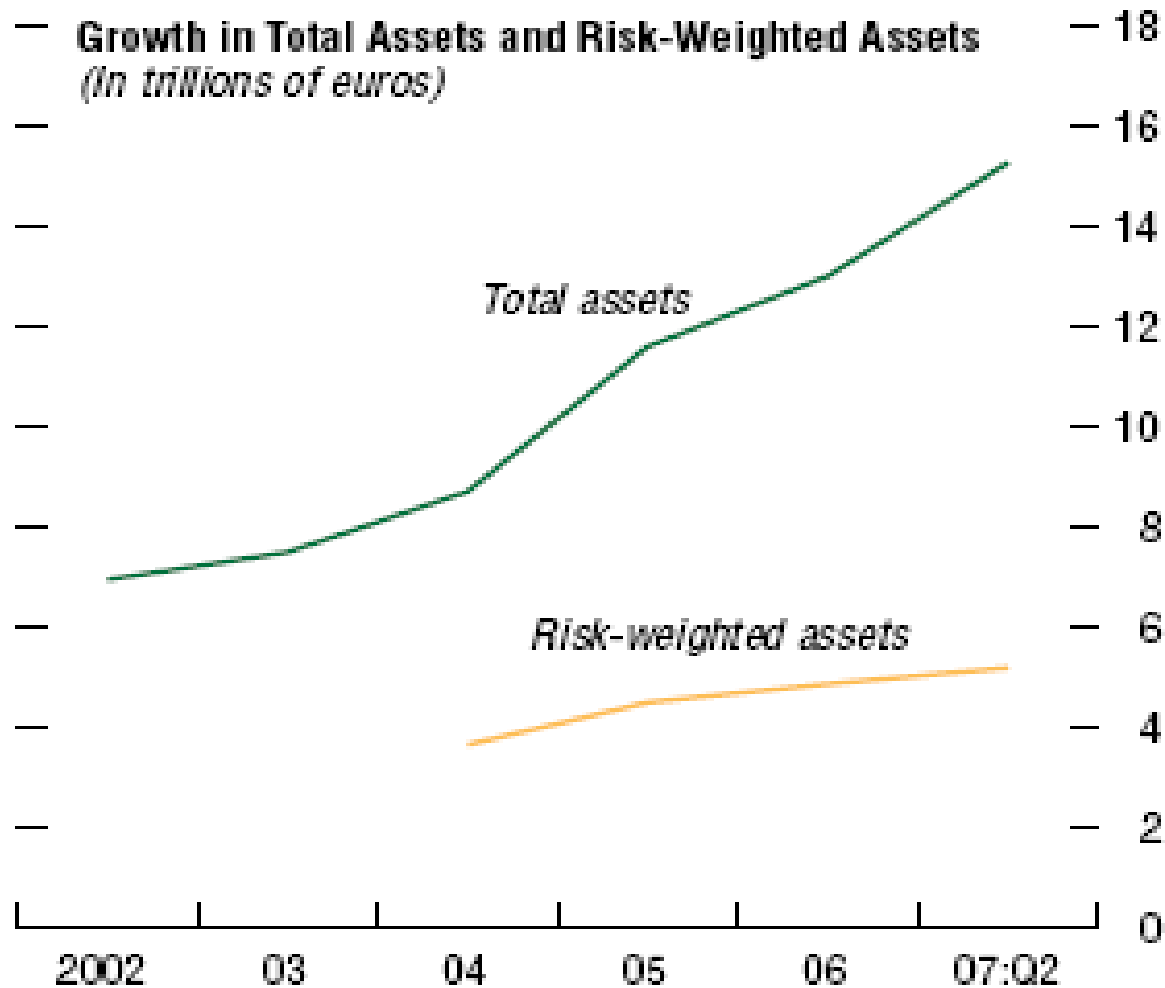


What if the Dodd-Frank Act
was in place during 2003-08?

“Back-to-the-future” analysis

- How effective would the Act have been during 2003-08?
 1. Would it have prevented the enormous build-up of leveraged exposure on financial sector balance-sheets to tail risk of the economy?
 2. Would it have dealt adequately with the failures of Bear Stearns, Lehman Brothers, AIG and Reserve Primary Fund?
- The answer to the first question is a resounding “No”
- The answer to the second question is mixed: “Yes” in containing derivatives-related spillovers, but “No” in resolving runs

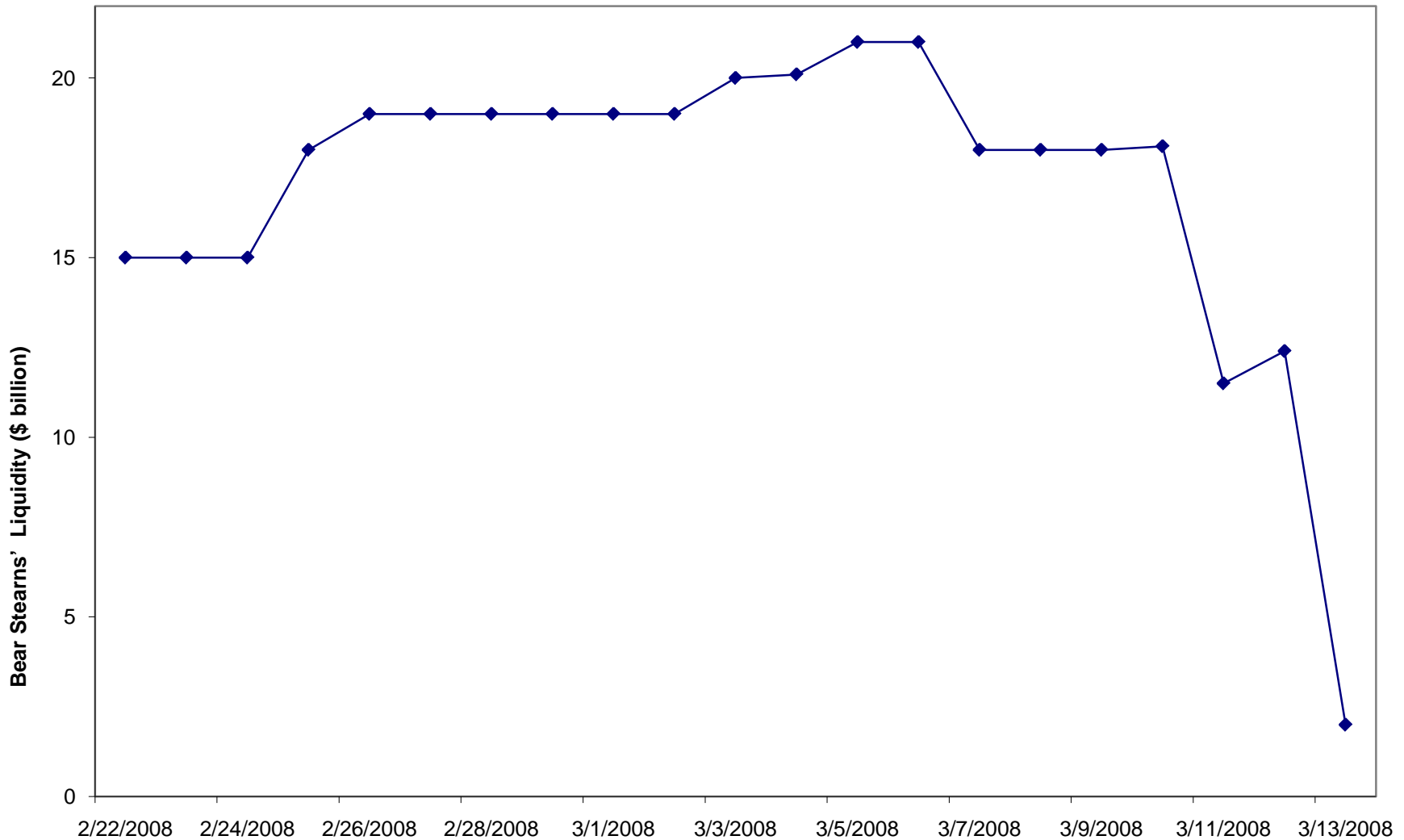
Low Growth in Risk-Weighted Assets (Source: IMF GFSR April 2008)



Basel risk-weights were – and remain – a serious regulatory failure

- Granting 20% risk weight to AAA MBS for indefinite future!
 1. Assumes bank capital allocation is invariant to weights
 2. Ignores that mortgage lending will soon crowd out all others
- Dodd-Frank Act proposes higher capital requirement for SIFI's
- It cannot be ruled out that the preference for AAA MBS will be even greater under a higher overall requirement (“regulatory arbitrage”)!
- Mitigating (but only weakly mitigating) factors:
 1. Liquidity requirements: No shortage of liquidity in 2003-2Q 07
 - Political push for mortgages through GSEs would be still at play
 2. Volcker rule helps, but not in constraining poor underwriting standards of GSEs and conduits/SIVs of commercial banks

Would the Act have ensured banks (say Bear) incurred costs of failure?



Mixed success for the Act with failures

- “Run” phase of Bear Stearns: Not addressed well by the Act
 1. With no resolution authority in place for repos, money market funds (Federated, Fidelity, etc.) would have still run on Bear’s liquidity pool
 2. Bear Stearns’ failure WITHOUT FED’S LOLR would have likely triggered a money-market run in March 2008 (rather than in Sept 2008)
- “Contagion” phase of Bear Stearns: Possibly addressed well
 1. Bear Stearns was a central counterparty in several CDS transactions
 2. Under Dodd-Frank, many of these would have been on clearinghouses
 3. Un-cleared transactions would have been visible to regulators
 4. Residual uncertainty: un-collateralized exposures of other financial firms to Bear Stearns (will data be gathered?)



Conclusion

Adam Smith on bank regulation ("The Wealth of Nations")



"To restrain private people, it may be said, from receiving in payment the promissory notes of a banker for any sum, whether great or small, when they themselves are willing to receive them; or, to restrain a banker from issuing such notes, when all his neighbors are willing to accept of them, is a manifest violation of that natural liberty, which it is the proper business of law not to infringe, but to support. Such regulations may, no doubt, be considered as in some respects a violation of natural liberty.

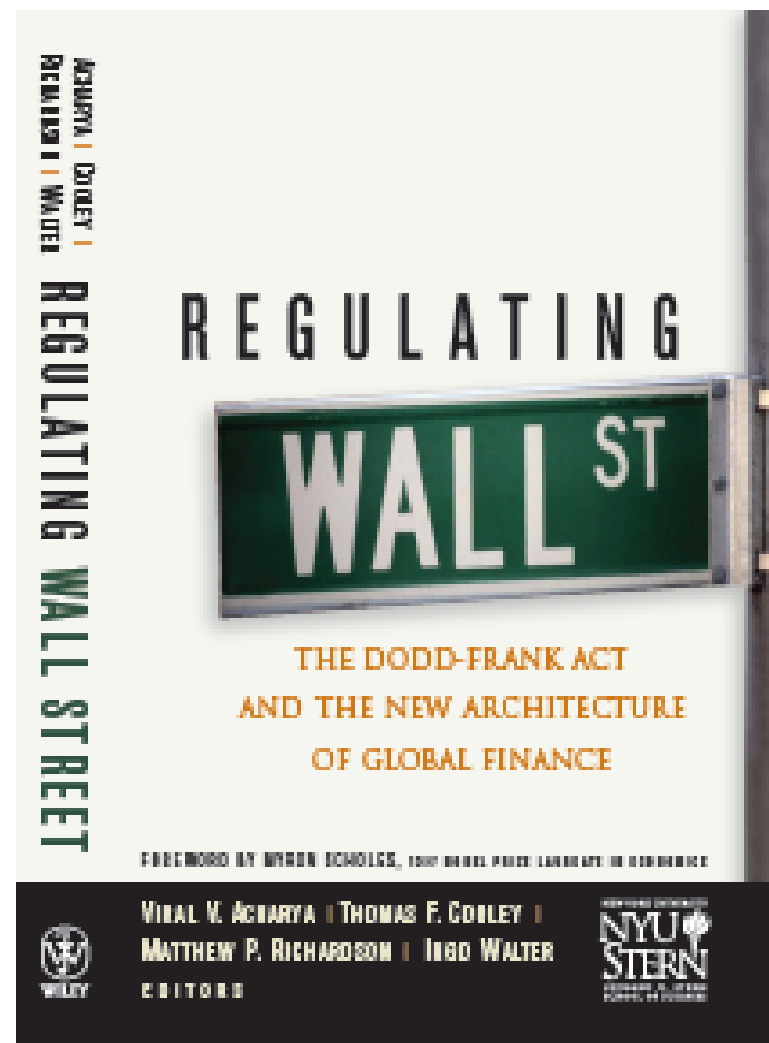
But those exertions of the natural liberty of a few individuals, which might endanger the security of the whole society, are, and ought to be, restrained by the laws of all governments; of the most free, as well as of the most despotical. The obligation of building party walls, in order to prevent the communication of fire, is a violation of natural liberty, exactly of the same kind with the regulations of the banking trade which are here proposed."

The Dodd-Frank Act and “party walls”

- Right in requiring party walls of depository institutions (the Volcker rule), but what about shadow banks?
- Right in requiring orderly resolution when fires break out, but why put brakes on emergency services (the Fed)?
- Right in putting an end to taxpayers footing the bill of putting out fires, but why charge neighbors (surviving SIFI’s)?
- Right in trying to contain systemic risk and too-big-to-fail but not if government is setting its own fires without any party walls (Fannie Mae and Freddie Mac)?
- The Act is a good, commendable effort by many, but appears incomplete and with a good share of holes that regulators must attempt to fill

How to address these limitations?

READ THE BOOK!



Book outline

I. Financial Architecture

1. The Architecture of Financial Regulation
2. Central Bank Independence and the Role of the Fed
3. Consumer Financial Protection Agency

II. Systemic Risk

4. Measuring Systemic Risk
5. Taxing Systemic Risk
6. Capital, Contingent Capital and Liquidity Requirements
7. Large Banks and the Volcker Rule
8. Resolution Authority
9. Systemic Risk and the Regulation of Insurance Companies

III. Shadow Banking

10. Money Market Funds
11. The Repurchase Agreement (Repo) Market
12. Hedge Funds, Mutual Funds and ETFs
13. Regulating OTC Derivatives

IV. Credit Markets

14. The GSEs
15. Regulation of Rating Agencies
16. Securitization Reform

V. Corporate Control

17. Compensation
18. Accounting Issues



Appendix:

Regulatory Architectures Under G-20, US (Dodd-Frank) and European Reform Proposals

Key G-20, European and US Regulatory Issues After Dodd-Frank and Canada G-20

- **Too big to fail bailouts, orderly liquidations living wills, bank taxes & resolution funds.**
- **Advance warning systems.**
- **Size caps and preemptive break-ups.**
- **Tough capital and leverage requirements.**
- **Stress-testing.**
- **Volcker Rule prop limits and 5% co-investment cap (US).**
- **Transp. and accountability – funds, firms and products.**
- **Consumer protection and securitization exposure retention.**
- **Investor protection and rating agencies.**
- **Executive compensation and corporate governance.**
- **Central banks take center-stage.**
- **Derivatives – trading, clearing and settlement (incl. forex).**

Systemic Risk Monitoring & Role of Central Banks

G-20 – Agreement on need for systemic risk monitoring.

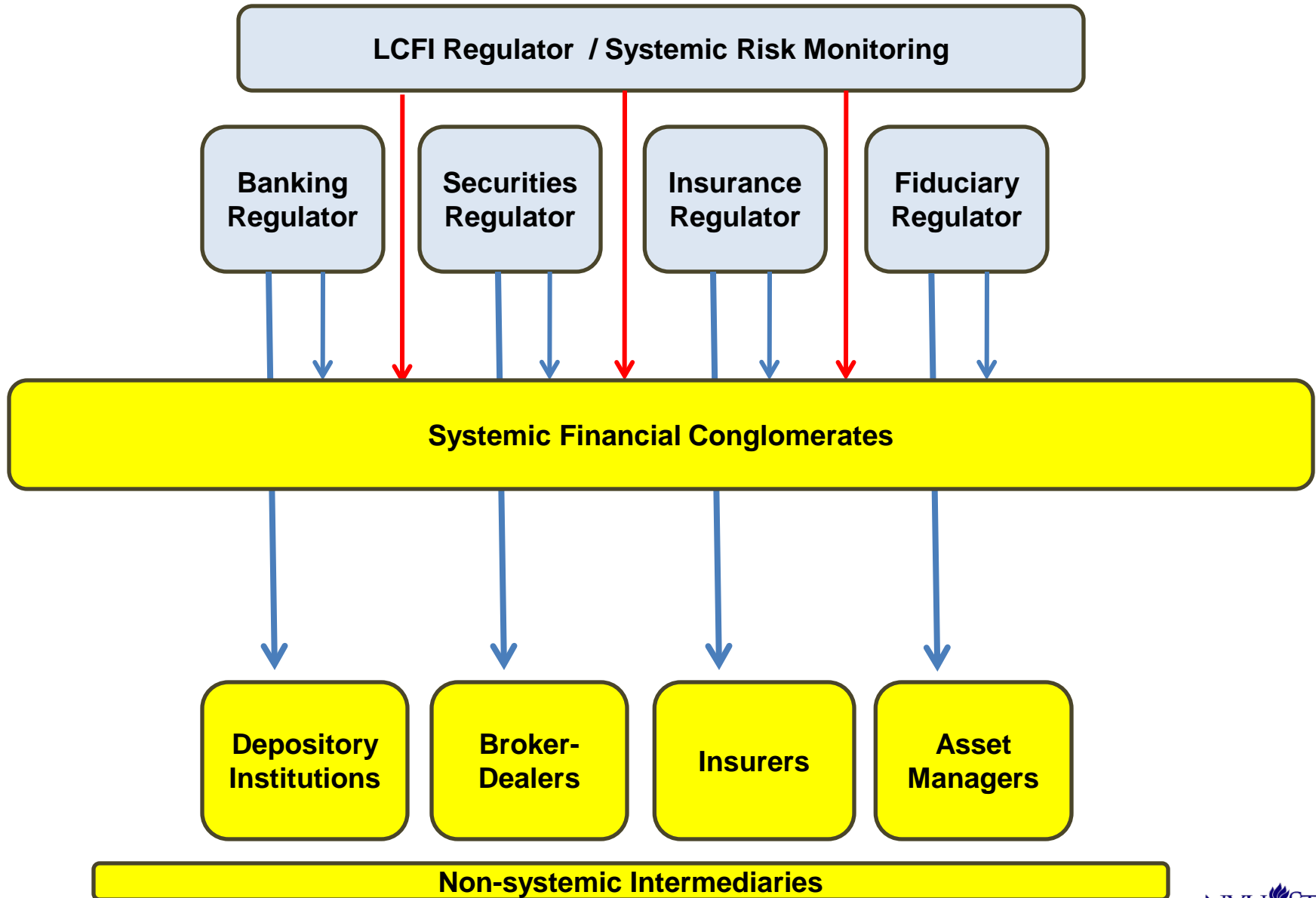
US – Creation of Financial Stability Oversight Council.

- > Limits Fed lending under “unusual and exigent circumstances” without Congressional approval.
- > One-time audit of Fed emergency activity during the crisis.
- > Fed retention of supervisory authority for all banking companies and elimination of OTS.
- > Ring-fences monetary policy.
- > Cuts banks’ role in deciding leadership of regional Feds.

Europe – ECB to retain focus on monetary policy and hosts pan-EU systemic risk board, but compromised by sovereign debt crisis.

- > Regulatory and supervisory responsibility rests at the national level.
- > UK FSA scrapped, with powerful macro- and micro-prudential roles for the Bank of England, subject to Chancellor of the Exchequer veto.

Elements of Regulatory Architecture



Too Big to Fail

G-20 – Agreement to end “too big to fail” – citizens should not again have to bail out failed banks.

- > Agreement on TBTF surcharge above enhanced capital and liquidity requirements.
- > Use of “living wills.”

US – Orderly liquidation process organized by the FDIC.

- > Regulators may seize and break up systemic financial firms posing a threat to the system.
- > Any losses to be recovered from fees on financial firms exceeding \$50 billion in assets.
- > Market share limit of 10% of banking system assets.

Europe – No common insolvency laws or agreement on national funds and bank levies among 27 states.

- > No common approach to cross-border banks.
- > EU policy outline on ex ante resolution fund due in 2011.

Bank Tax

G-20 – General agreement on creation of resolution funds and bank levies to finance them.

> Strongly opposed by several countries, led by Australia and Canada.

US – Special assessments on banks to cover costs of new regulations.

> Resolution costs to be recouped from survivors.

Europe – Strong support for a bank tax in several countries, notably UK, Germany, France and Germany.

> Proposals focus on tax on short-term bank liabilities, expected to raise annually \$3 billion in the UK, \$1.5 billion in Germany.

> Debate on general revenues (UK and France) vs. ex ante resolution fund (Sweden & Germany) focused on moral hazard.

> EU policy outline on ex ante resolution fund due in 2011.

Stress-Testing Banks

G-20 - Measure and regulate systemic risk contributions of financial firms.

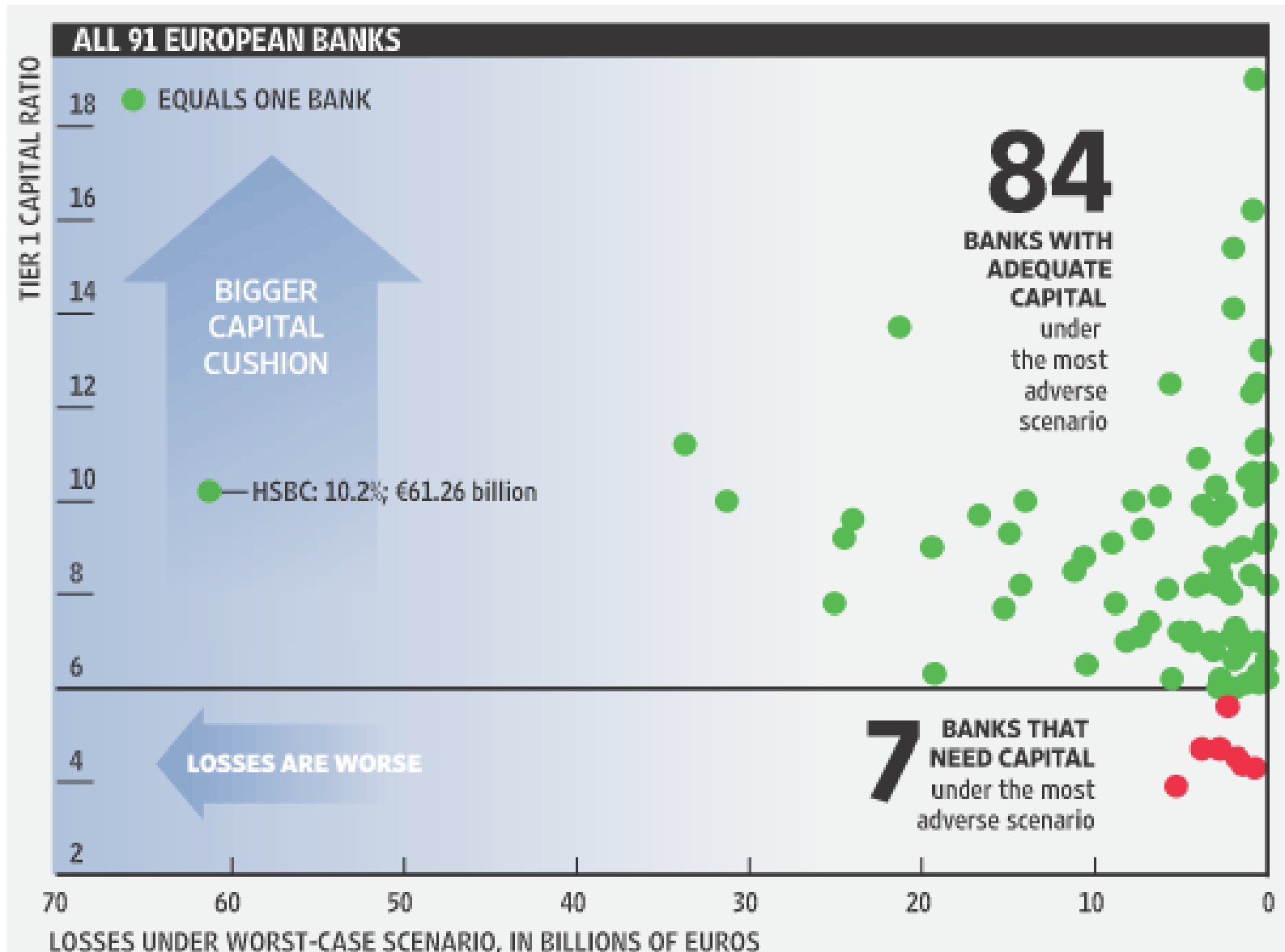
- > Information on interconnectedness remains elusive
- > Transparency standard is needed
- > Focus should not be just on current exposures but on potential exposures under systemic risk scenarios
- > Stress tests could be made part of regular assessment of which institutions are systemic but under-capitalized

US – Advocate transparency of measures, stress test outputs, and aggregated exposure information

Europe – July 2010 stress test of 91 large banks failed by only 7 banks.

- > Mild recession with moderate credit losses
- > Did not stress for sovereign defaults
- > No general disclosure of bank assets

Stress-Testing European Banks – July 2010



Capital Requirements and Leverage

G-20 - Basle Committee mandate to toughen capital (quantity and quality) and liquidity standards.

- > Original end-2012 deadline extended and tailored to country circumstances to avoid credit constraints.
- > Definition of “capital” substantially weakened by counting equity holdings in subsidiaries as capital.
- > No numbers yet.

US – Requires additional capital faster and exceeding Basle 3 numbers based on size and riskiness of activities.

- > Major banks will have to raise more and better quality capital.
- > No more trust preferred certificates to be qualified as capital.

Europe – New EU rules on supplementary capital if remuneration encourages risk.

- > Tightening definition of capital and leverage constraints.
- > Many European countries will lag well behind the US, raising competitive issues.

Contingent Capital

G-20 – A form of ex-post penalty - “contingent capital.”

Forced debt-for-equity conversion of part of debt.

No G-20 CoCo position.

US – Legislation requires assessment of this option.

- > Will it promote financial stability?
- > Characteristics of the new convertible debt?
- > Requires deep credit markets.
- > Amount to be issued?
- > When should the debt convert? Trigger event?
- > At what cost to companies?

Europe – No position.

Breaking-up the Banks

G-20 – No position

US – Financial Stability Oversight Council can break-up firms deemed a threat to the financial system – forced sale of businesses to bolster capital.

> Volcker Rule retention of in-house hedge funds and private equity funds.

> Banks cannot bail-out hedge funds which they sponsor.



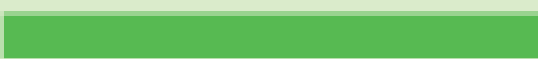

> Own funds (skin in the game) limit of 3% of Tier 1 capital phased-in over 7years.

> Volcker Rule elimination of prop trading by firms with access to LOLR support (exceptions for US governments, agencies and munis and hedging own or clients' exposures).

Sore Spot

Under the Volcker rule, banks face new curbs on their proprietary trading with their own funds.

DATA IN BILLIONS

	2009 revenue	2009 Core Trading Revenue	Potential Revenue Hit to Proprietary Trading
Bank of America	\$120.9	\$20.5	\$0.4 
J.P. Morgan Chase	\$100	\$23.8	\$0.5 
Goldman Sachs	\$45.1	\$37.3	\$1.5 
Morgan Stanley	\$23.3	\$12.2	\$0.2 

Source: Citi Investment Research & Analysis

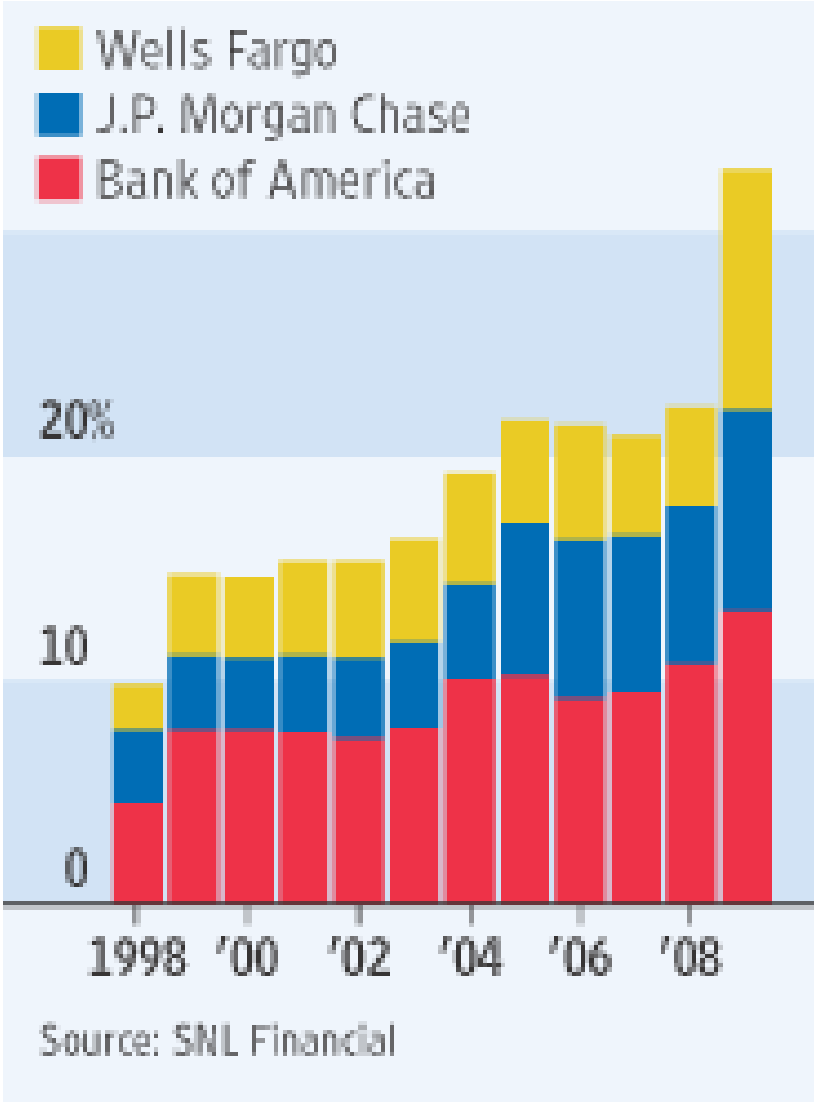
Breaking-up the Banks

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Top-three US Commercial Bank Market Shares - Deposits



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Europe – No appetite for structural constraints due to adherence to universal banking model.

- > No Volcker Rule restrictions on prop trading, hedge funds & private equity.
- > UK Chancellor of the Exchequer examining retail-wholesale separation.

Regulating Hedge Funds and Private Equity

G-20 – Registration of hedge funds and continuous position reporting.

US – Hedge funds must register with the SEC as investment advisers.

> Must provide information on trades.

> Exempts private equity & venture capital from G-20 reporting requirements.

Europe – Includes private equity & require 3rd country funds and fund managers to comply with strict requirements to solicit EU investors.

> Includes limits on fund manager remuneration.

Compensation Practices

G-20 – Principles to curb excessive pay, including deferrals, lockups and clawbacks.

US – Reliance on disclosure and tougher governance discipline.

- > No restrictions except at firms operating with government assistance.
- > Mandatory clawbacks in case of earnings restatements for all public companies.
- > Compensation hedging restrictions.
- > Fed lead on compensation principles.
- > Closing tax loopholes for hedge funds & private equity (carried interest).

Europe – New EU compensation law.

- > Half of up-front bonus to be paid in shares or other securities linked to bank performance.
- > 40-60% of bonuses to be deferred from 3 to 5 years.
- > Cash Portion limited to 20-30%.
- > Bonuses linked more closely to salaries.
- > Financial and nonfinancial penalties levied at national level for risky remuneration policies.
- > One-off tax applied in the UK. Discussion on tax surcharges in various countries.

Global – Compensation reforms in most major financial firms. 71 of largest 100 US listed corporations now operate clawback regimes.

Governance Practices

G-20 – No agreement on “specialness” of governance in banks.

US – Reliance on tougher governance discipline for all firms, with greater involvement by shareholders.

- > Greater Fed and SEC oversight of governance practices.
- > Shareholders get non-binding vote on executive compensation & golden parachutes.
- > SEC gets authority to grant shareholders the right to nominate directors.

Europe – No change in governance models in most countries.

Corporations – Only 6 of top 100 US public companies now have poison pill defenses in place (down from 34 in 2004).

- > Only 20% have staggered boards (down from 50% in 2004).
- > CEO is only non-independent director in 59% of top-100 companies, up from 49% in 2004.
- > Pressure to separate roles of CEO and Chairman, per the UK model.

Consumer Protection

G-20 – No position.

US – New, independent Consumer Financial Protection Bureau created within the Federal Reserve to address “abusive” financial practices.

- > Head appointed by the President & confirmed by the Senate.
- > No more federal preemption of state consumer protection initiatives.
- > State Attorney General enforcement.
- > Car dealer exemption.
- > Deposit insurance cap lifted to \$250,000.
- > Mortgage lenders must verify ability to pay – income, job status, credit history.
- > Prepayment penalties & broker bonuses for riskier loans outlawed.
- > Fiduciary standards for insurance agents, brokers and financial planners comparable to investment advisers.
- > Mandated free FICO scores when denied credit.
- > Card interchange fees commensurate to costs & cash discounts
- > Application to banks and nonbank financial companies exceeding \$10 billion in assets

Europe – Consumer protection applied at the national level except for EU-wide distribution of financial products. Highly variable across countries.

Markets - Securitization

G-20 – Greater transparency and reduced complexity in structured products.

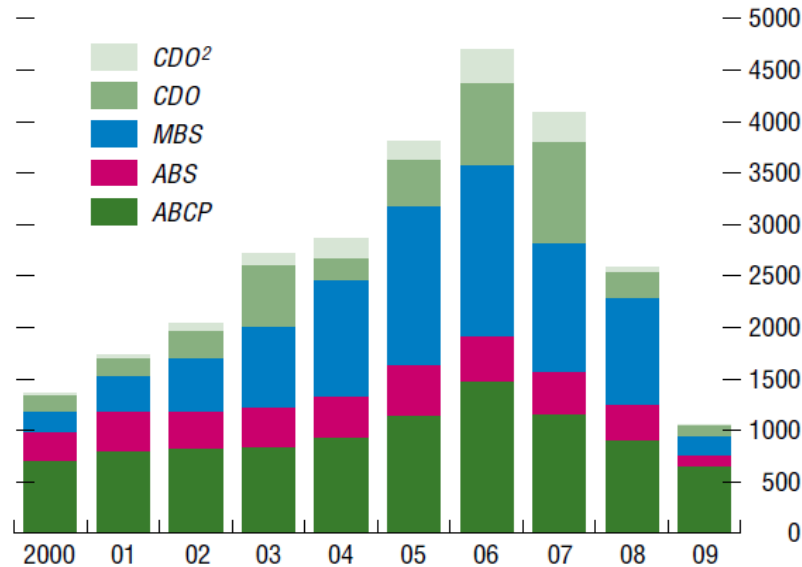
US – Securitizers must keep a base-line 5% of credit risk on securitized assets on their books.

> Exemption for low-risk mortgages.

Europe – EU has approved a regulatory statute to this effect.

Markets - Securitization

Collapse of the Securitization Market (annual issuance by type)



Sources: IMF staff estimates based on data from Dealogic; JPMorgan Chase & Co.; Board of Governors of the Federal Reserve System; Moody's; Mizuho Securities; DBRS; Standard & Poor's; European Securitization Forum; and *Inside Mortgage Finance*.

Note: ABCP = asset-backed commercial paper; ABS = asset-backed security; CDO = collateralized debt obligation; CDO² = CDOs backed by CDO, ABS, and MBS; MBS = mortgage-backed security. Data for 2009 cover only U.S. and European issuance through end-June. For European ABCP, 2009 data through end-May. ABCP data represent period-end outstandings.

Markets - Derivatives

G-20 – Derivatives to be standardized where possible, centrally cleared and settled, and where appropriate traded on an exchange by 2012.

US – Banks to spin off swaps desks for equities, commodities, low-grade CDSs into separately capitalized subsidiaries.

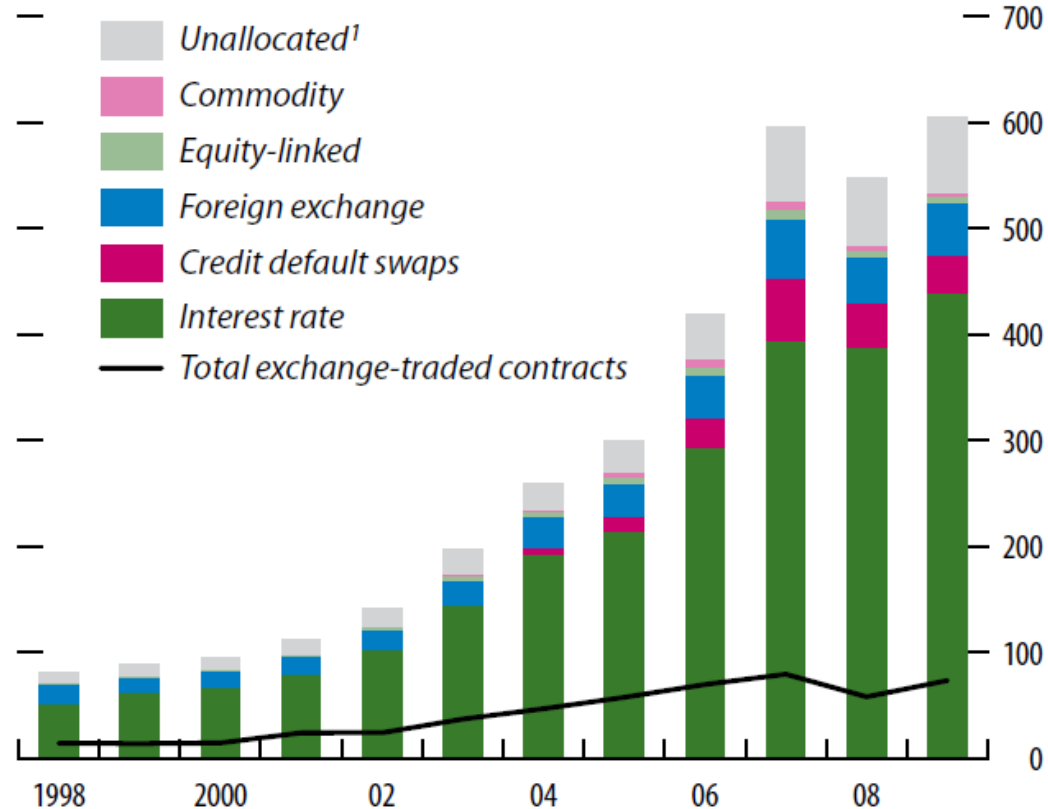
- > Exemption for forex, high grade CDSs, gold, silver, etc.
- > OTC derivatives reported to central repositories.
- > End-user exemption, avoiding collateral posting.

Europe – EU draft law on derivatives due July 2010.

- > No swaps desk spinoffs.
- > Less emphasis on mandatory exchange trading and retention of OTC trading.
- > New capital, margin, reporting, record-keeping and business conduct rules for all firms dealing in derivatives.

Global OTC Derivatives Markets

(In trillions of U.S. dollars; notional amounts of contracts outstanding)



Source: Bank for International Settlements.

Note: Over-the-counter data through June 2009; exchange-traded data through December 2009.

¹Includes foreign exchange, interest rate, equity, commodity, and credit derivatives of nonreporting institutions.

Markets - Repos

Repo market size in the \$5-\$10 trillion range, higher by some estimates.

Secured borrowing in the form of a “sale and repurchase.”

- High quality collateral should render repos fail-safe.
- But if borrower is unable to roll-over (repurchase) the repo, then the financier “owns” the asset.
- Financier may face liquidating repo collateral in an illiquid market, leading to fire sales, runs, and systemic consequences (Bear Stearns, money market funds).
- **G-20** – No mention.
- **US** – Nothing in the legislation.
- **Europe** – Nothing under discussion.

Markets - Credit Rating Agencies

G-20 – Registration of RAs, reporting to regulators and management of internal conflicts of interest.

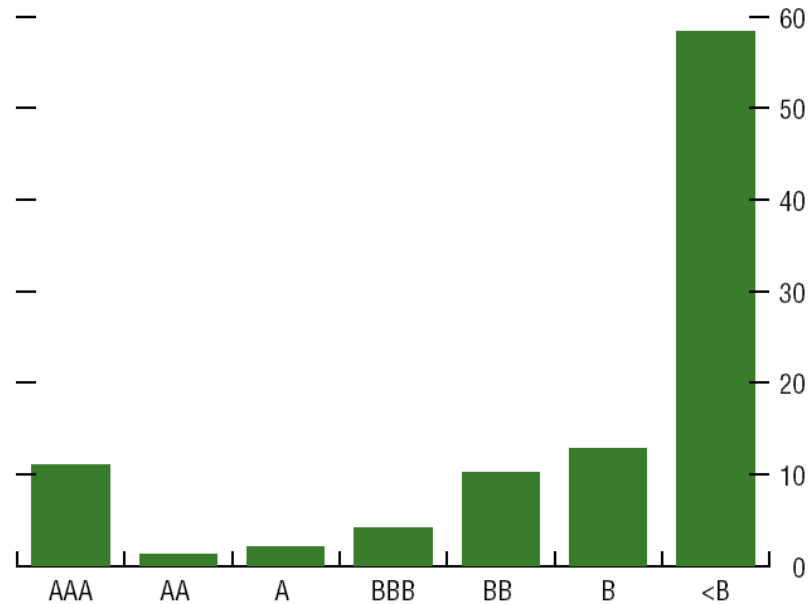
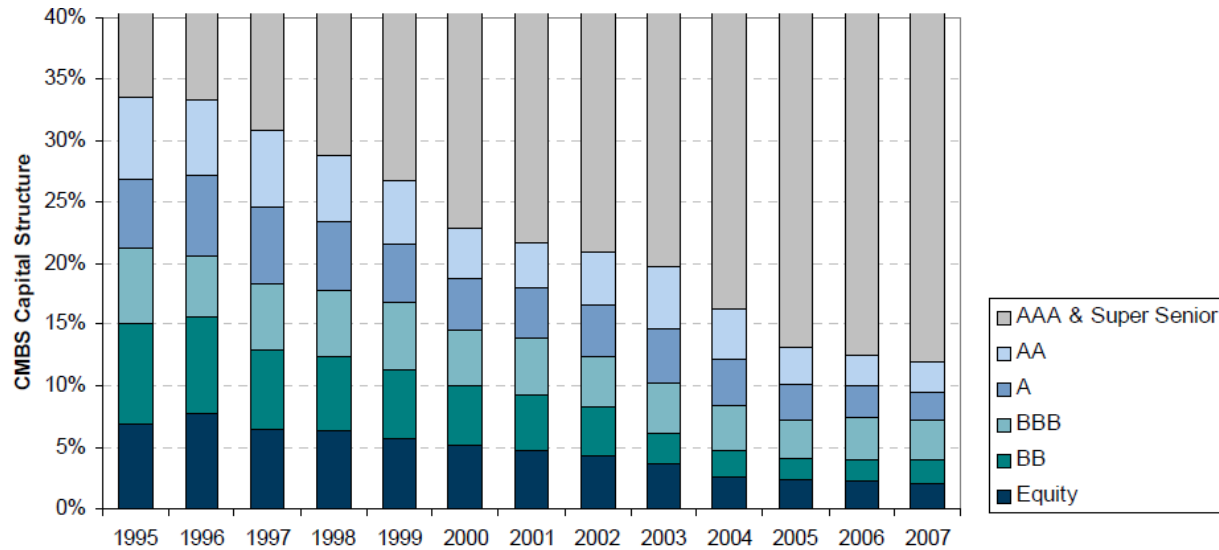
US – Focus on internal conflicts of interest and possible new CRA models. Reduced role in investor regulation and bank capital requirements.

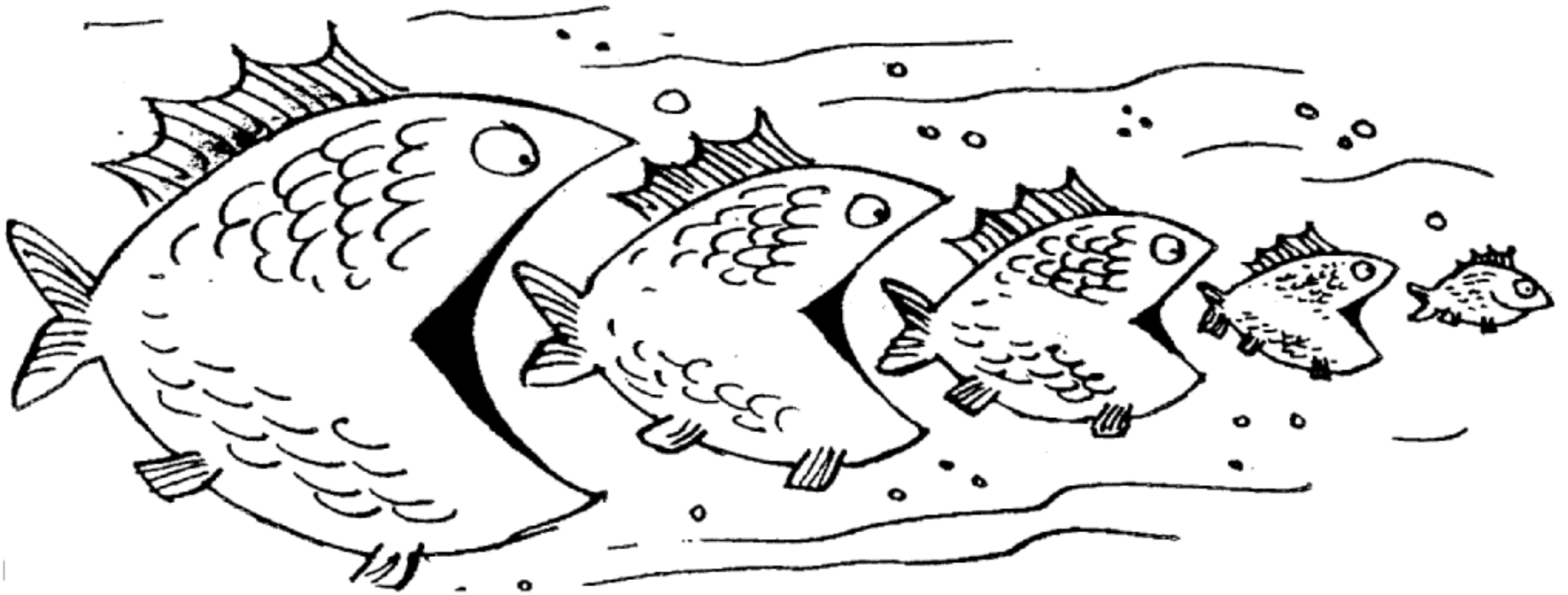
- > Empowers SEC to de-register raters with bad track records.
- > New SEC unit to fine rating agencies with bad track records.
- > Allows investors to sue rating agencies for “knowing and reckless” failures.

Europe – New law on CRAs due in late 2010 assuring pan-European supervision.

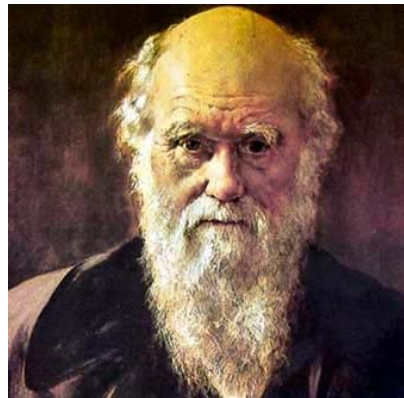
- > Emphasis on entry of new CRAs, including Europe-based players.

Rating Migration: What Happened to the Classes of 2005-07?





**“It is not the strongest of the species that survive,
but rather the most adaptable to change.”**



**Charles Darwin
1809-1882**