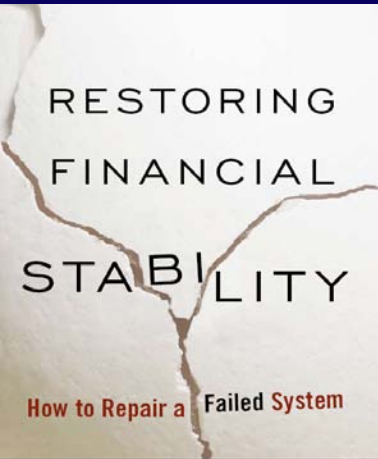


**Presentation at the
Commission on Growth and Development, April 20, 2009**



RESTORING FINANCIAL STABILITY: HOW TO REPAIR A FAILED SYSTEM

Viral V Acharya and Matthew Richardson

**New York University Stern School of Business (NYU-Stern) and
London Business School (Acharya)**

2 OUTLINE

- ⊙ Causes of the Financial Crisis of 2007-2009
- ⊙ Four principles for regulatory reform
- ⊙ Bailout principles
- ⊙ International alignment on core principles

3 DEFINITION OF SYSTEMIC RISK

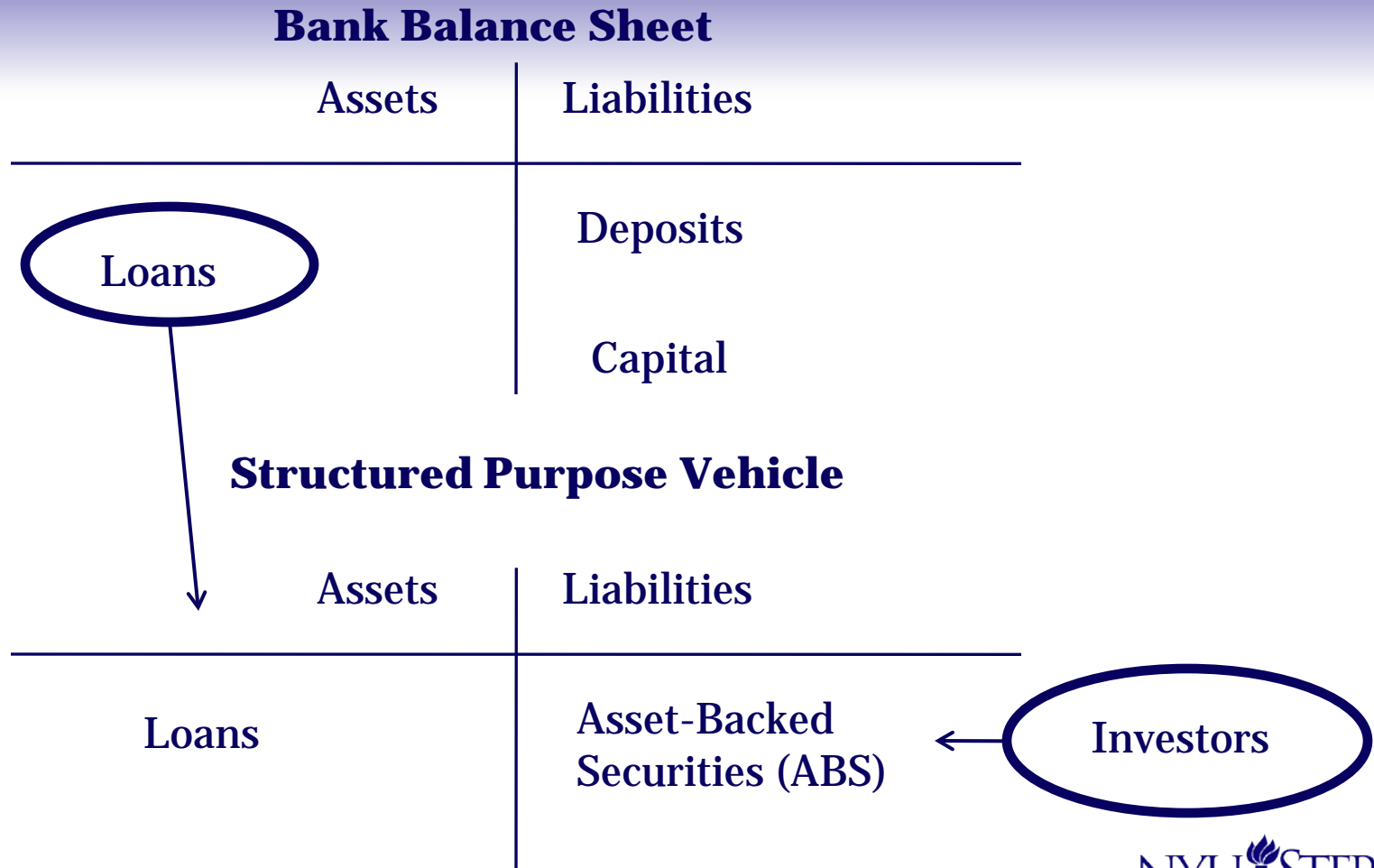
- © Systemic risk can be thought of as widespread failures of financial institutions or freezing up of capital markets that can substantially reduce the supply of capital to the real economy.

CAUSES OF THE FINANCIAL CRISIS

- ⊙ Popular choices:
 - ⊙ Design of subprime mortgages
 - ⊙ Growth and (lack of) quality of mortgages due to securitization
 - ⊙ Rating agencies rubber stamp of AAA
- ⊙ But banks did not transfer credit risk
 - ⊙ Securitization without risk transfer
 - Example 1: ABCP Conduits and SIVs
 - Example 2: Holdings of AAA tranches

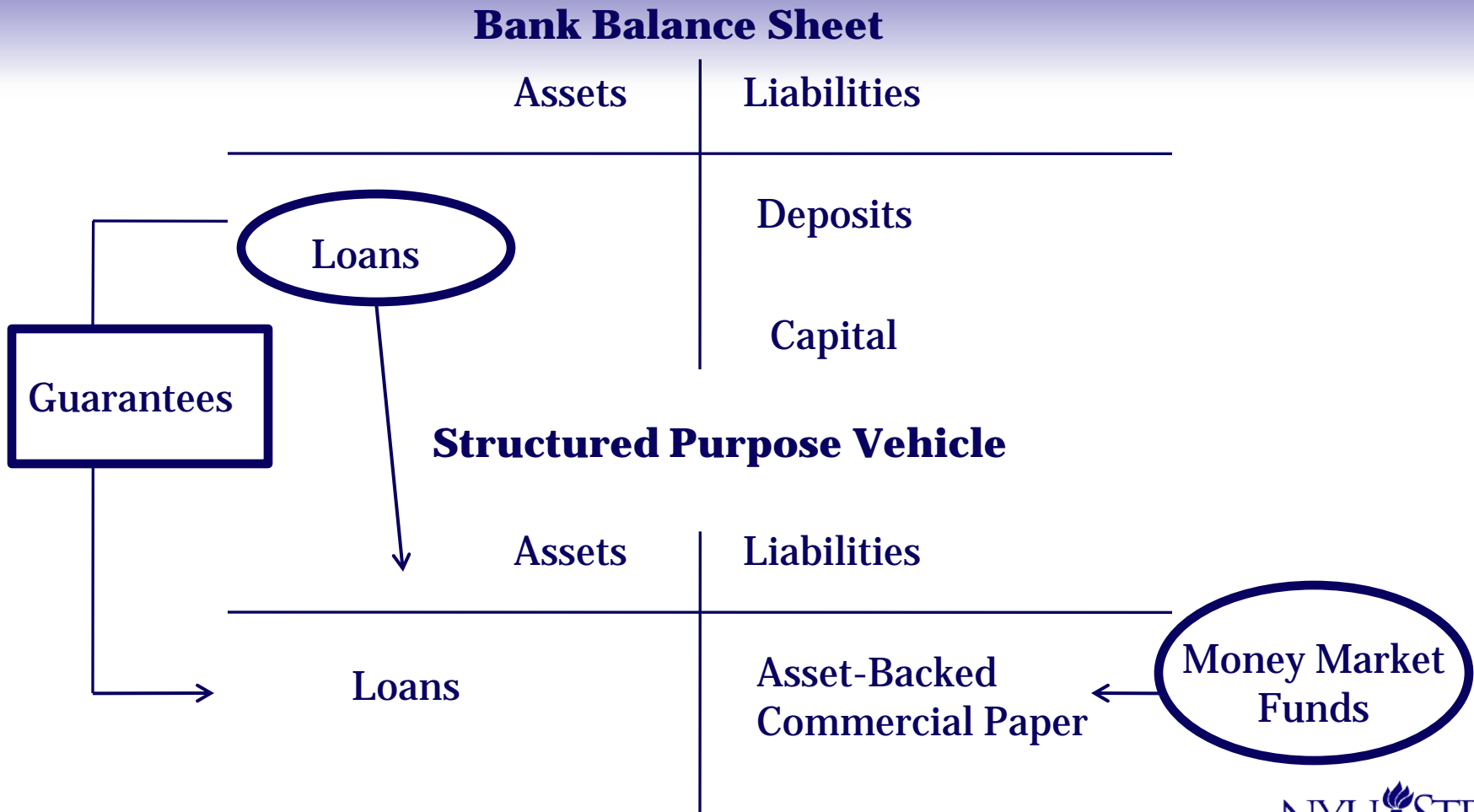
OLD MODEL: SECURITIZATION WITH RISK TRANSFER

5D



NEW MODEL: SECURITIZATION WITHOUT RISK TRANSFER

6



REDUCES CAPITAL REQUIREMENTS

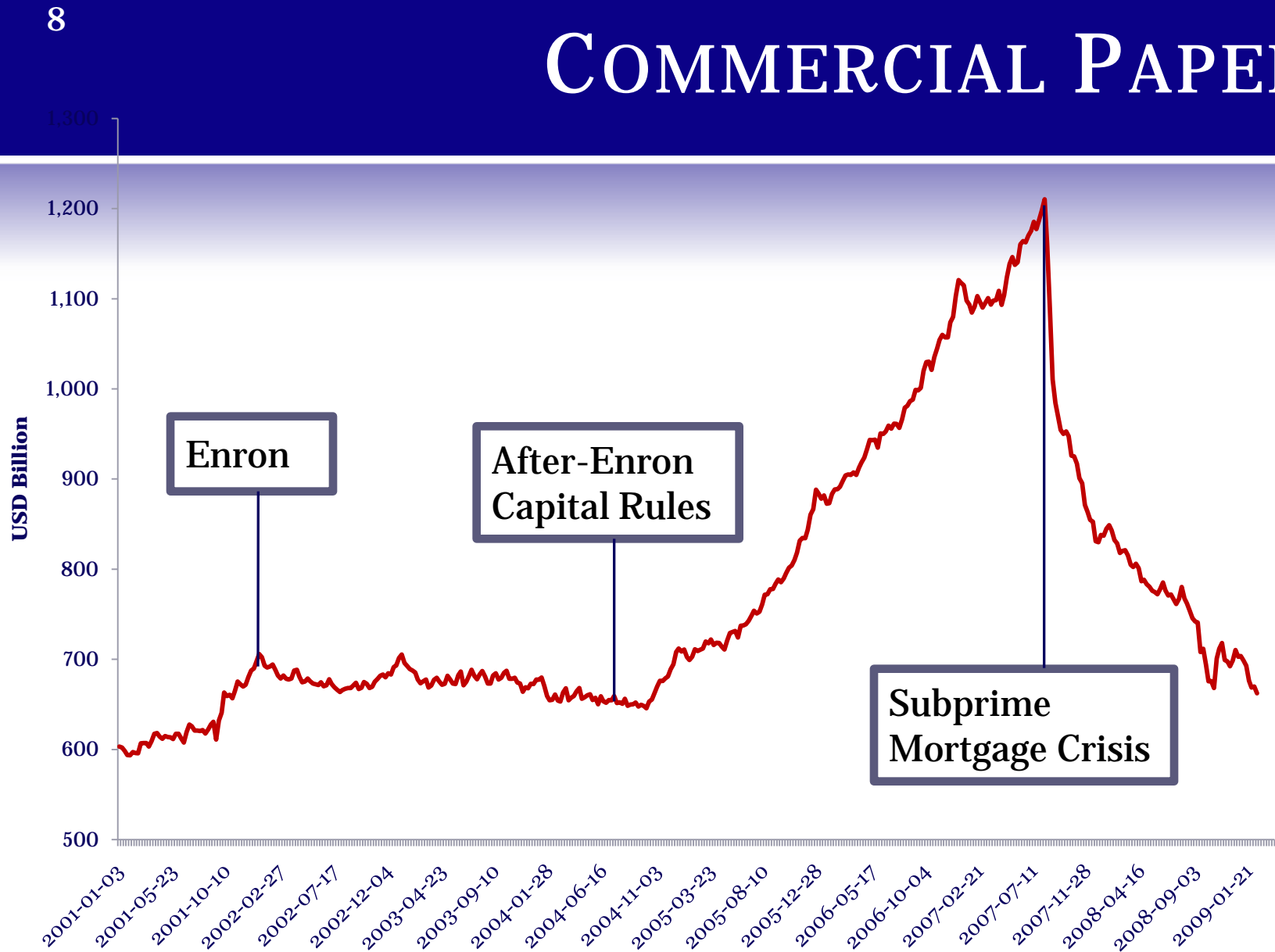
Bank

| Asset/Commitment | Capital Requirement |
|------------------|---------------------|
| Loans | 1.6% - 8% |
| Guarantees | 0% - 0.8% |

ABCP Conduit

| Asset | Capital Requirement |
|-------|---------------------|
| Loans | 0% |

GROWTH IN ASSET-BACKED COMMERCIAL PAPER

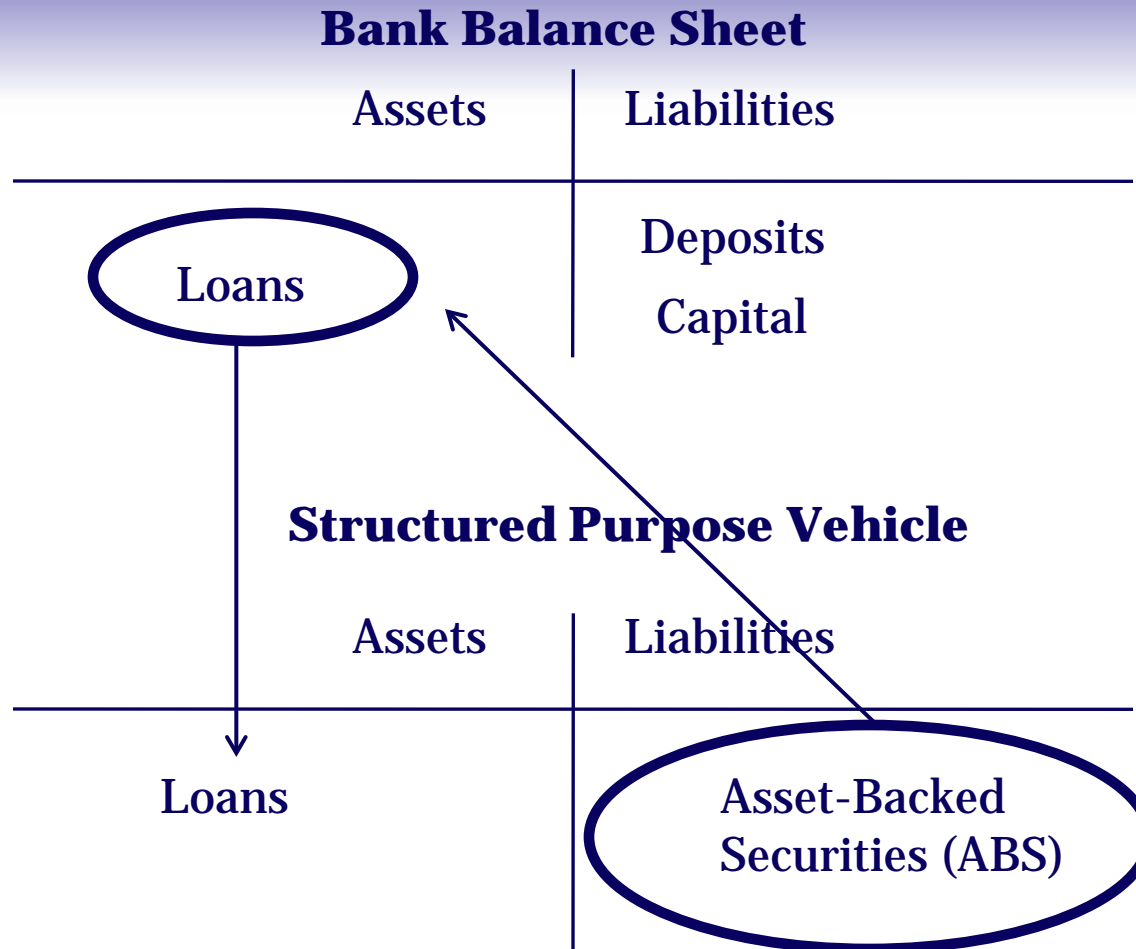


SIGNIFICANT EXPOSURE TO ABCP CONDUITS

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| | ABCP (bn) | Assets (bn) | Equity (bn) | ABCP/Equity |
|------------------|-----------|-------------|-------------|-------------|
| Citibank | 93 | 1,884 | 120 | 77.4% |
| ABN Amro | 69 | 1,301 | 34 | 201.1% |
| Bank of America | 46 | 1,464 | 136 | 33.7% |
| HBOS | 44 | 1,160 | 42 | 105.6% |
| JPMorgan Chase | 42 | 1,352 | 116 | 36.1% |
| HSBC | 39 | 1,861 | 123 | 32.1% |
| Societe Generale | 39 | 1,260 | 44 | 87.2% |
| Deutsche Bank | 38 | 1,483 | 44 | 87.8% |
| Barclays | 33 | 1,957 | 54 | 61.5% |
| WestLB | 30 | 376 | 9 | 336.6% |

NEW MODEL: AAA-ASSET BUY BACK



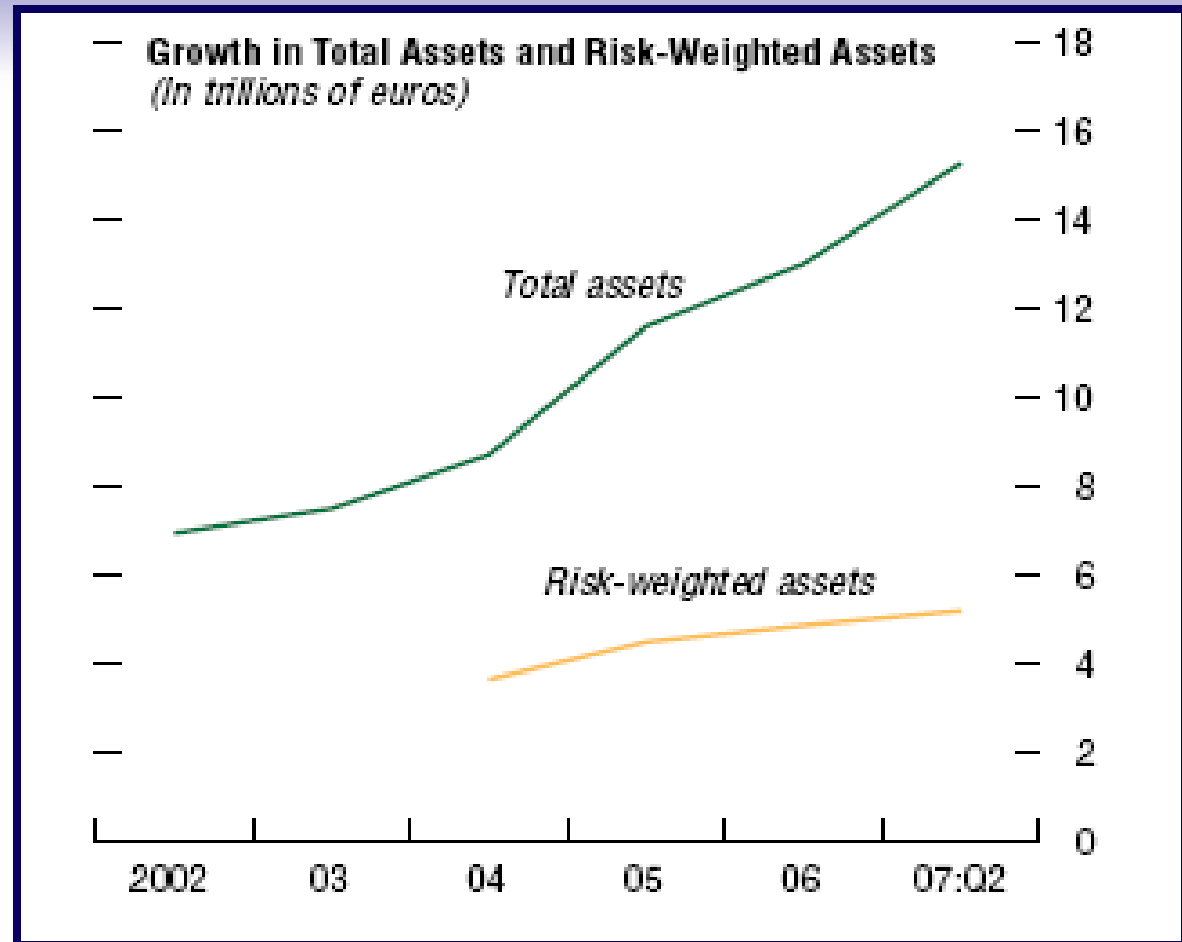
CONSIDER THE BANKS' BET ON "AAA" TRANCHES OF NONPRIME MBSs

Holder of Mortgage-Related Debt

| | 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% | | |

BANK BALANCE SHEETS EXPANDED WITH LITTLE EXPANSION OF BASEL “RISK- WEIGHTED” ASSETS

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PRINCIPLE #1 – RISK TAKING INCENTIVES AND SHORT-TERMISM

- ⊙ Why AAA-tranches of MBS?
 - ⊙ Twice the premium
 - ⊙ Writing an out-of-the money put option
- ⊙ The “fake alpha” trade.
 - ⊙ Short-termism
 - ⊙ Externality of excessive job turnover
- ⊙ Focus on maximizing ROE instead of ROA
 - ⊙ Risk adjustment? Fake “Alpha”?!

WHY DID GOVERNANCE FAIL?

- ⊙ Principle 2 - Lack of market discipline due to mispriced government guarantees.
- ⊙ Principle 3 – Negative externality of systemic risk of some financial institutions.
- ⊙ Principle 4 – Opaqueness of some financial institutions and market instruments.

PRINCIPLE #2 – MISPRICED GOVERNMENT GUARANTEES

- ⊙ Distorts (infects) the entire system
- ⊙ Right cost of capital for banks: Guarantees must be priced in accordance with risks
- ⊙ Examples:
 - ⊙ Too-big-to-fail institutions
 - ⊙ Deposit insurance to commercial banks
 - ⊙ The GSEs
 - ⊙ Bailout programs: LOLR, Recapitalization, TGLP, insurance of bad assets

LOLR AND RECAPITALIZATION

- ⊙ Efficient FDIC premia
 - ⊙ Been ~ zero for most large banks in last decade
- ⊙ Role for “conditionality” in LOLR
 - ⊙ Government money with strings
 - ⊙ Like private lines of credit, Central Bank LOLR should have Material Adverse Change Clause
- ⊙ Temporary Liquidity Guarantee Program
 - ⊙ Charges “one size fits all” premium for guarantee

TEMPORARY LIQUIDITY GUARANTEE PROGRAM - US (11/25/08)

| Firm | Writedowns | # Times | Capital (in \$ billions) |
|------------------|-------------|---------|--------------------------|
| Bank of America* | 96 (*ML) | 11 | 35.5 |
| JP Morgan* | 75 (*WaMu) | 12 | 30 |
| GE Capital | NA | 16 | 27 |
| Citigroup | 88 | 6 | 24 |
| Morgan Stanley | 22 | 12 | 19 |
| Goldman Sachs | 7 | 8 | 19 |
| Wells Fargo* | 115 (*WCHV) | 2 | 6 |
| Total | | 97 | 180 |

Pay 75bps p.a. - issue debt of 1-3 years tenor guaranteed by US govt

PRINCIPLE #3 – INDIVIDUAL VERSUS SYSTEMIC RISK

- ⊙ Negative externality of risk.
- ⊙ Gaming of current capital requirements that are based on individual bank risks.
 - ⊙ SIVs, Conduits, AAA-rated MBS tranches
- ⊙ Two main proposals:
 - ⊙ A special regulator for systemic institutions (like LCFIs)
 - ⊙ Measure and price/tax systemic risk
 - Joint private-public insurance scheme

PRINCIPLE #4 – LACK OF TRANSPARENCY

- ⊙ Tradeoff the benefit and costs of greater transparency.
- ⊙ Three problem areas:
 - ⊙ Complexity of LCFIs
 - ⊙ Opacity of shadow banking system can induce “runs”
 - ⊙ OTC derivatives
- ⊙ Centralized counterparties and minimum trade-level transparency

BAILOUT PRINCIPLES

- ⊙ Identify market failures
 - ⊙ Debt Overhang, Information Asymmetry
- ⊙ Principled Approach instead of Ad-Hoc Intervention
- ⊙ Address Debt Overhang
 - ⊙ Restructure Capital: Forced debt-equity Swap, Good/Bad Bank, Receivership
 - ⊙ Inject Capital: Equity injections, debt guarantee, Risky asset purchases
- ⊙ Address Information Asymmetry
 - ⊙ Support Price Discovery: Auctions, Transparency

INTERNATIONAL ALIGNMENT

- ⊙ Large Central Banks: Bretton Woods III as Systemic Risk Regulators
- ⊙ Agree on broad regulatory principles
 - ⊙ Incentives
 - ⊙ Mark-to-market and accounting
 - ⊙ Pricing of government guarantees
 - ⊙ Systemic risk tax
 - ⊙ Transparency and accounting of off-balance sheet activities
 - ⊙ LOLR and burden-sharing