Euromoney Training

Securitization Finance and the Credit Crunch

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Anatomy of a Crunch

- Mortgage Finance – *and Subprime Loans*
- Structured Finance – *and Credit Derivatives*
- Credit Default Swaps – *and AAA Downgrades*

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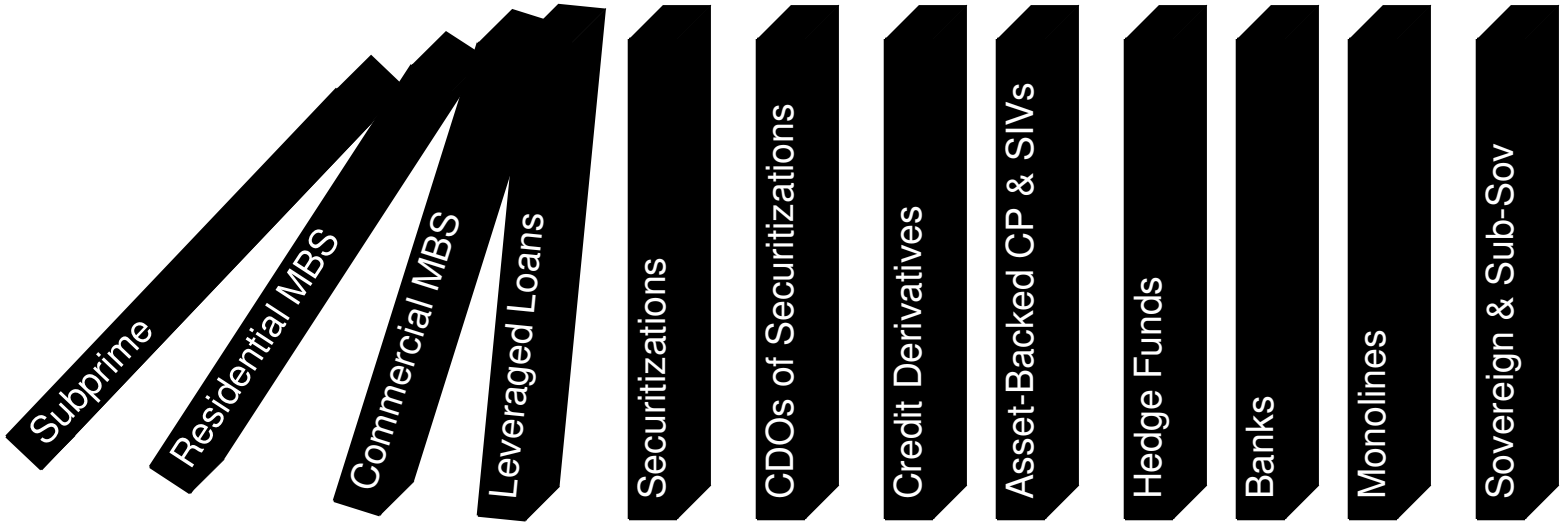
The Domino Effect?



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Collateral Damage

- Context: The Credit Risk Market
- Mortgage Meltdown
  - Mortgage Finance/Subprime
  - CMBS
- Leverage upon Leverage:
  - CDOs, CDS, ABCP and SIVs
- When Triple-A goes Bad

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The Trillion-Dollar Credit Crunch

Estimates of Financial Sector Potential Losses as of March 2008

(In billions of U.S. dollars)

	Estimates of Losses on Unsecuritized U.S. Loans		Breakdown of Losses on Unsecuritized Loans				
	Outstanding	Estimated loss	Banks	Insurance	Pensions/ Savings	GSEs and government	Other (hedge funds, etc.)
Subprime	300	45	20–30	<5	<5	10–15	5–10
Alt-A	600	30	15–20	<5	<5	5–10	<5
Prime	3,800	40	15–20	<5	<5	15–20	<5
Commercial real estate	2,400	30	15–20	<5	<5	<5	<5
Consumer loans	1,400	20	10–15	<5	<5	—	<5
Corporate loans	3,700	50	25–30	<5	<5	—	15–20
Leveraged loans	170	10	5–10	<5	<5	—	<5
Total for loans	12,370	225	100–130	10–20	10–20	30–50	40–50
	Estimates of Mark-to-Market Losses on Related Securities		**Breakdown of Losses on Securities**				
	Outstanding	Estimated mark-to-market loss	Banks	Insurance	Pensions/ Savings	GSEs and government	Other (hedge funds, etc.)
ABS	1,100	210	85–100	20–35	35–45	20–35	15–20
ABS CDOs	400	240	145–160	35–50	15–25	0–25	20–45
Prime MBS	3,800	0	—	—	—	—	—
CMBS	940	210	85–95	20–35	30–45	20–35	20–45
Consumer ABS	650	0	—	—	—	—	—
High-grade corporate debt	3,000	0	—	—	—	—	—
High-yield corporate debt	600	30	10–15	<5	5–10	—	<5
CLOs	350	30	15–20	<5	<5	—	0–10
Total for securities	10,840	720	340–380	95–110	70–120	—	95–120
Total for loans and securities	23,210	945	440–510	105–130	90–160	40–140	110–200

Sources: Goldman Sachs; JPMorgan Chase & Co.; Lehman Brothers; Markit.com; Merrill Lynch; and IMF staff estimates.

Note: ABS = asset-backed security; CDO = collateralized debt obligation; CLO = collateralized loan obligation; CMBS = commercial mortgage-backed security; GSE = government-sponsored enterprise; MBS = mortgage-backed security.

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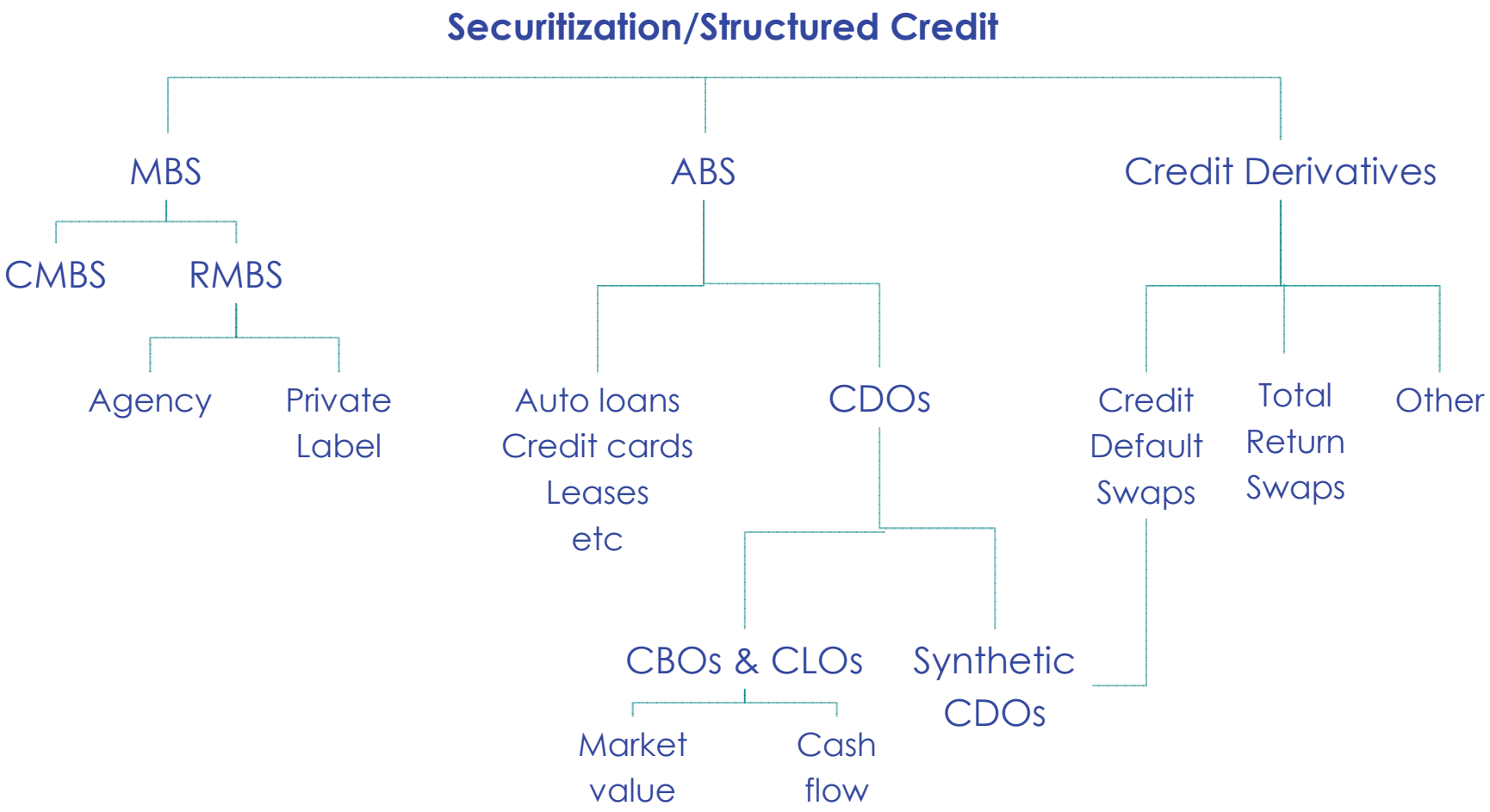
Structured Credit Risk Transfer



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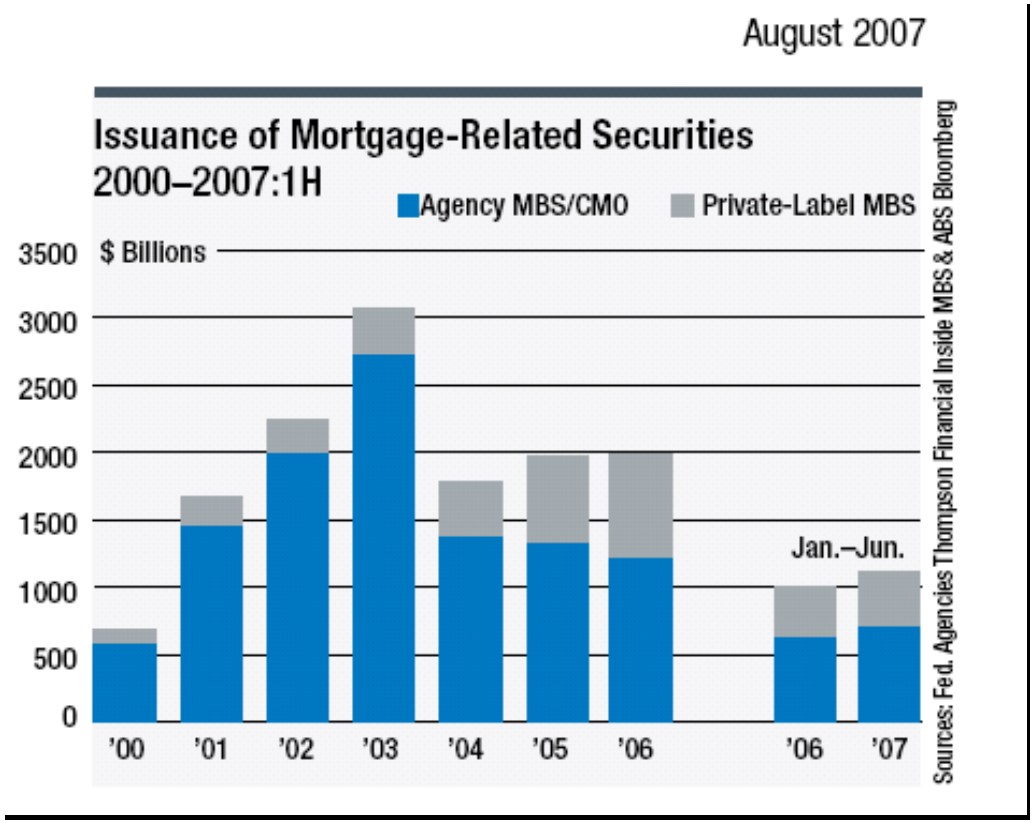
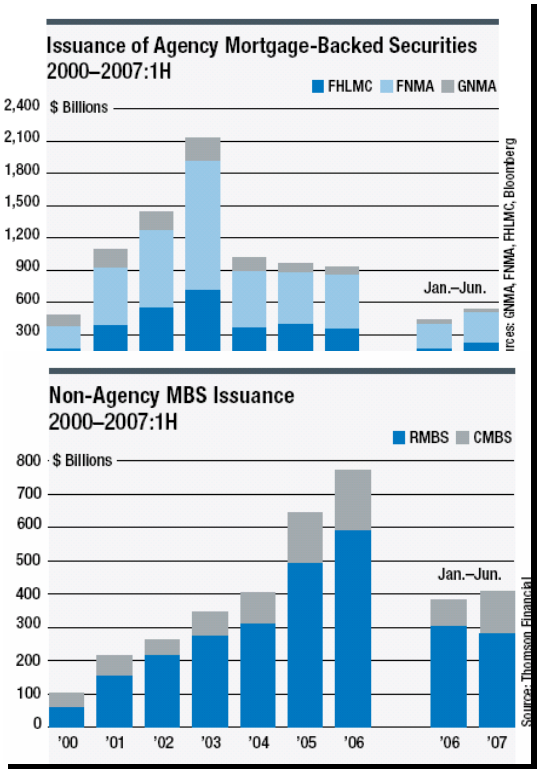
The US MBS Market





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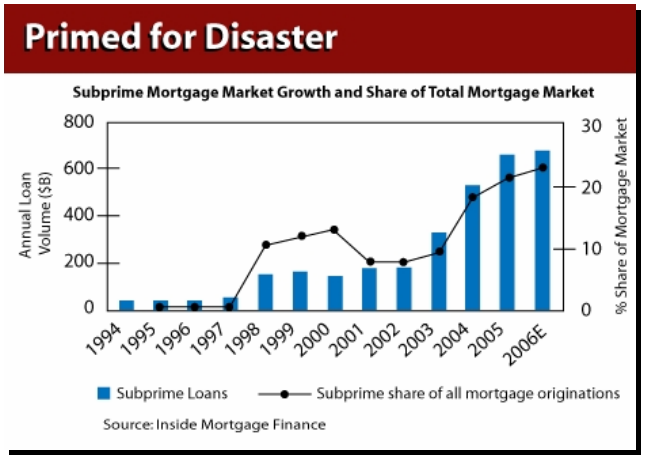
SubPrimed for Disaster

- *Subprime lending* is the practice of making loans to borrowers who do not qualify for the best market interest rates because of their deficient credit history.
- "Subprime borrowers typically have weakened credit histories that include payment delinquencies, and possibly more severe problems such as charge-offs, judgments, and bankruptcies. They may also display reduced repayment capacity as measured by credit scores, debt-to income ratios, or other criteria that may encompass borrowers with incomplete credit histories." (US Treasury definition)



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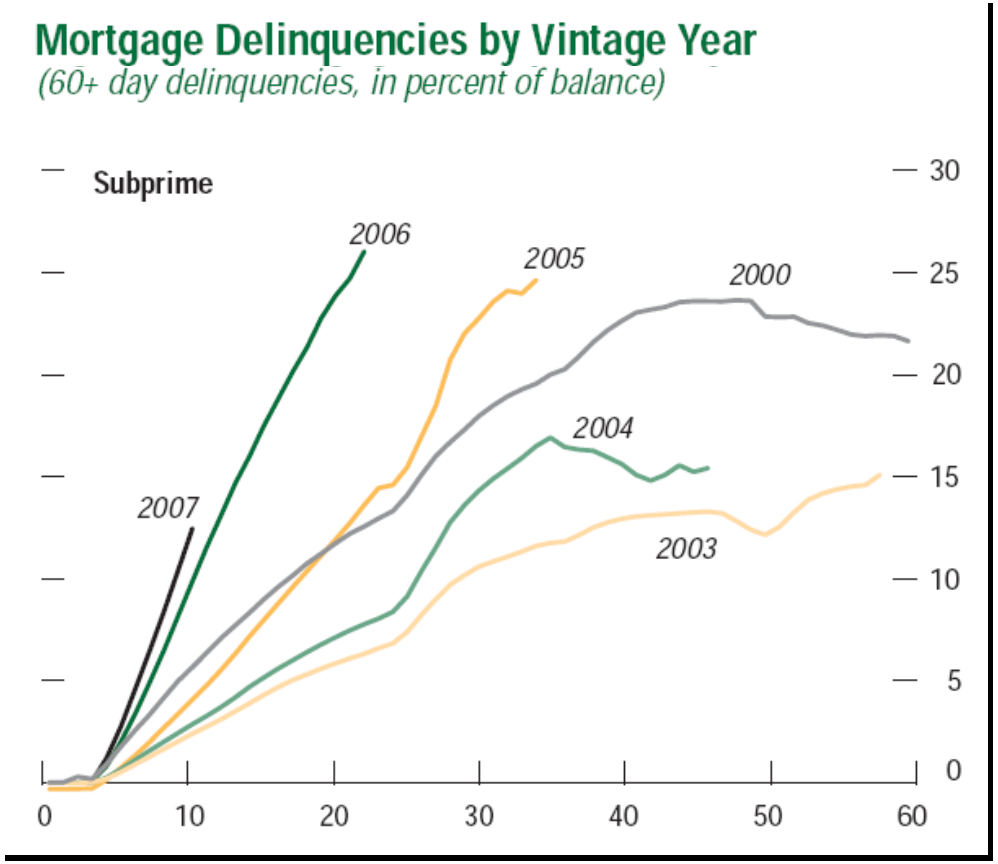
Sudden Debt



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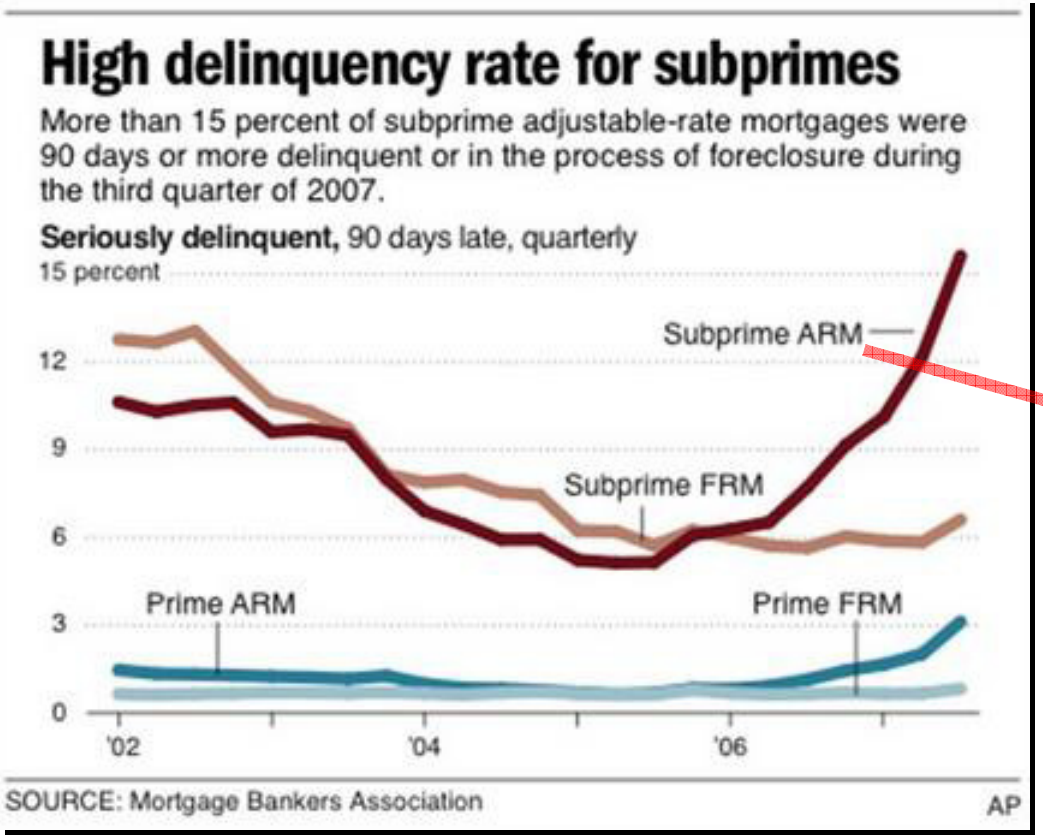
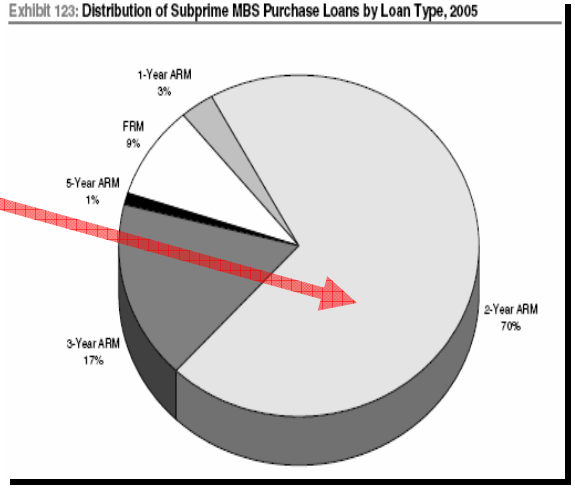
Subprime Disaster is ARM





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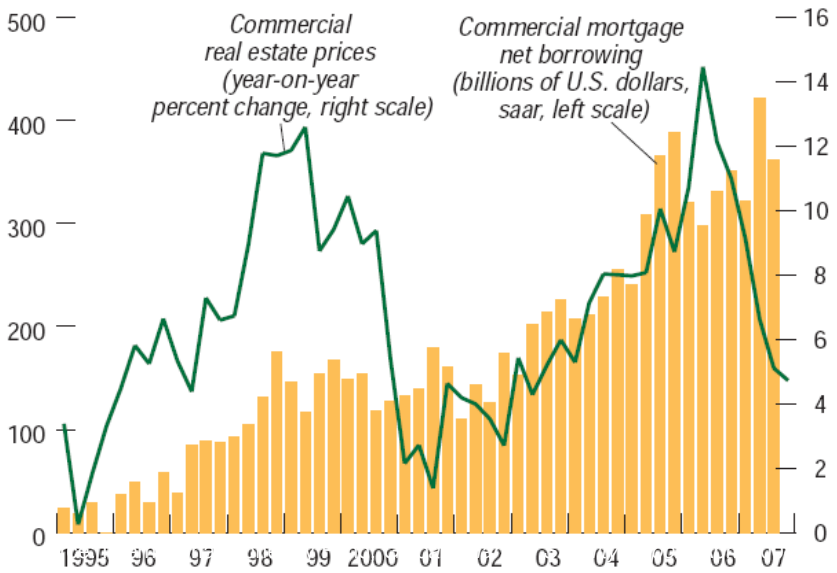
Spreading to Commercial MBS?

Figure 1.6. Commercial Mortgage Borrowing and Real Estate Prices



Sources: Federal Reserve; and Standard and Poor's.
Note: saar = seasonally-adjusted annual rate.

	Estimates of Mark-to-Market Losses on Related Securities	
	Outstanding	Estimated mark-to-market loss
ABS	1,100	210
ABS CDOs	400	240
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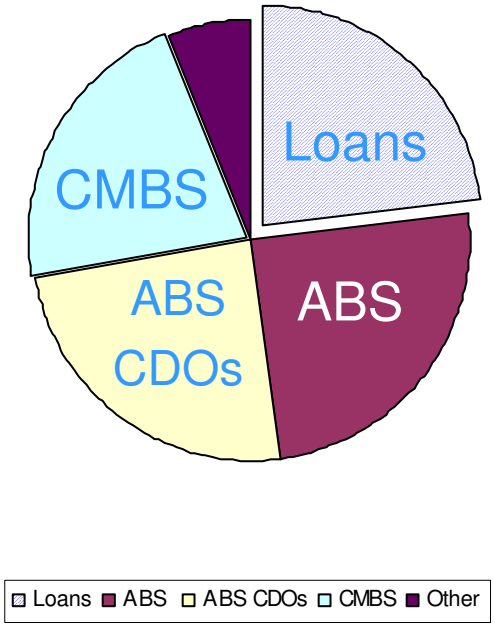
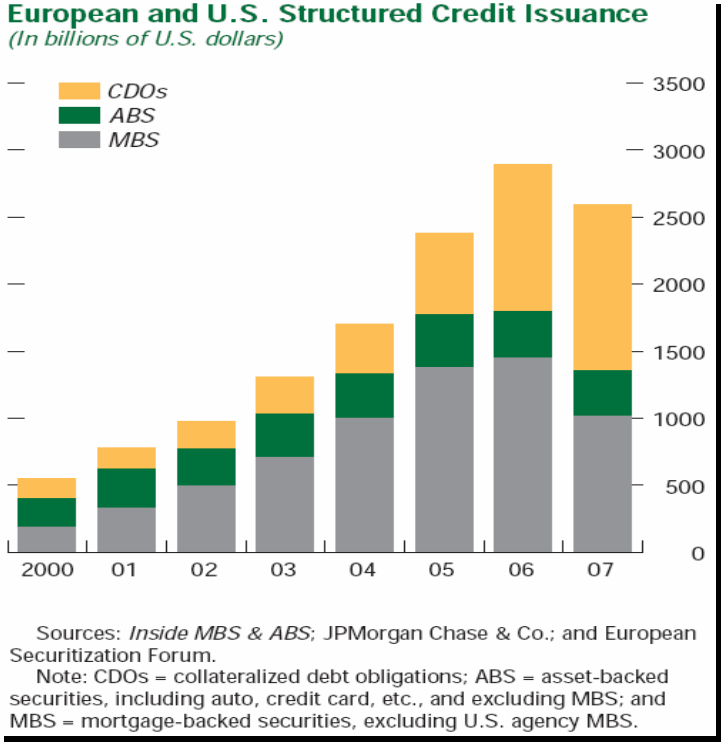
Spreading to Other Securitizations…





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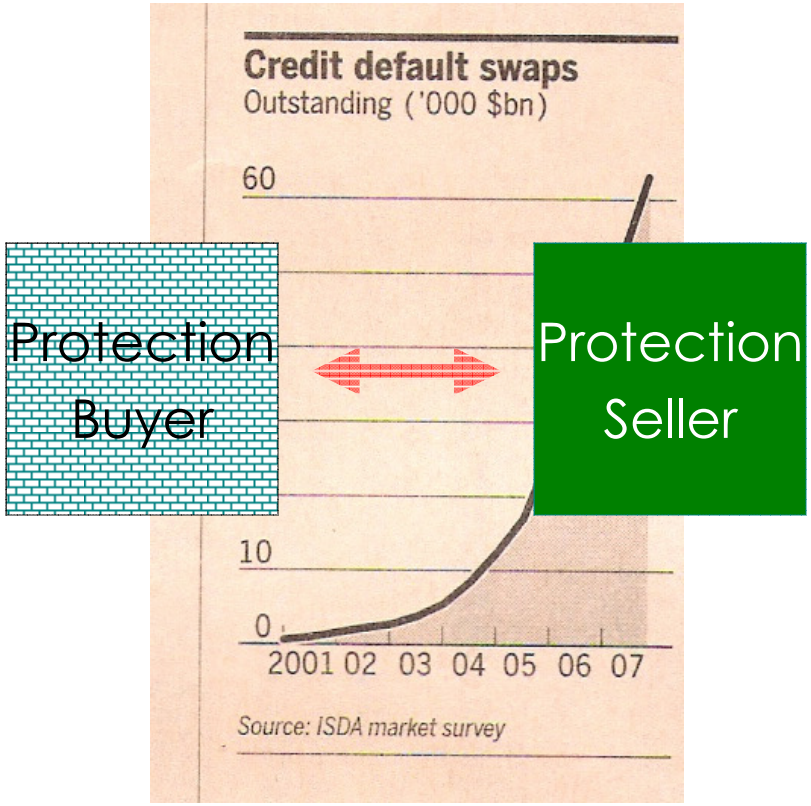
And Much More So Thanks to Credit Derivatives

- Credit Default Swaps developed to transfer risks on *individual credits* … extending to *portfolios* … and then to *synthetic* ABS.
- Allowing
  - **Unfunded** exposure
  - **Leveraged** exposure
  - **Tranched** exposure



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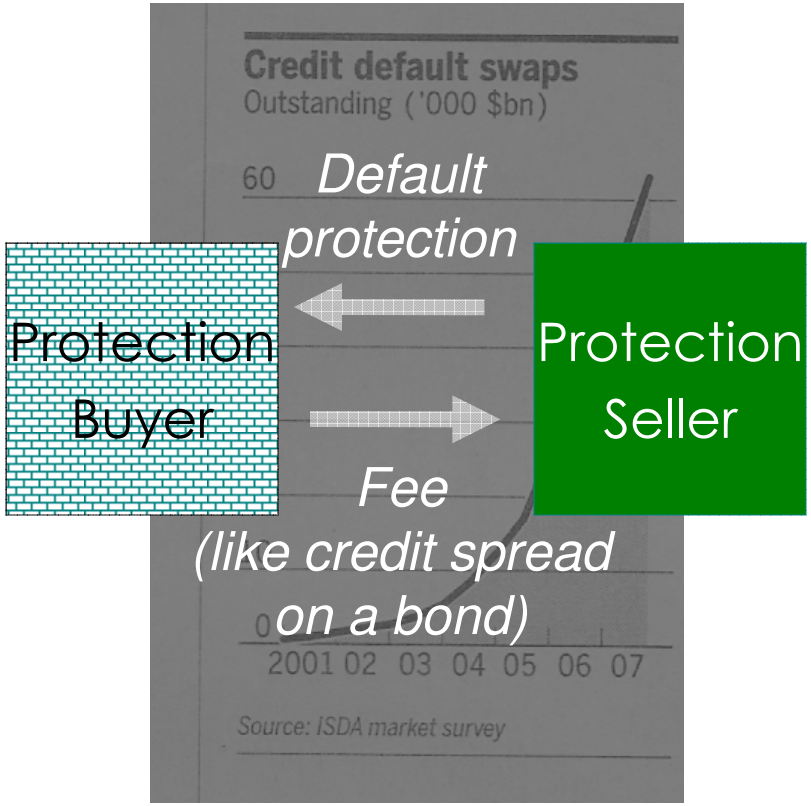

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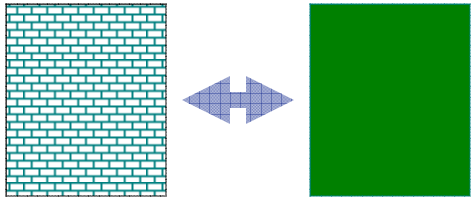
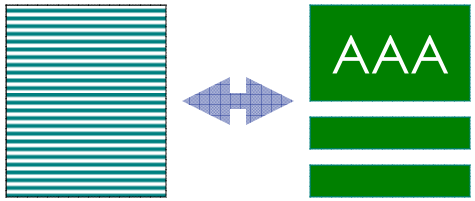
Three Levels of Credit Default Swaps

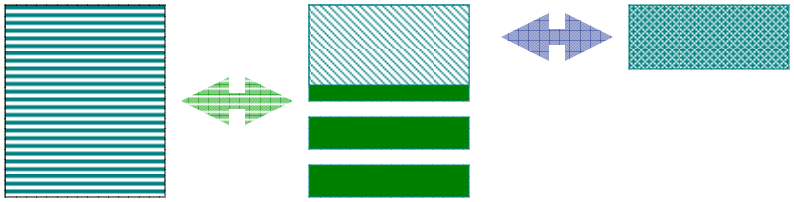
CDS on loan or portfolio



CDS on portfolio in synthetic ABS



CDS on super-senior in synthetic ABS



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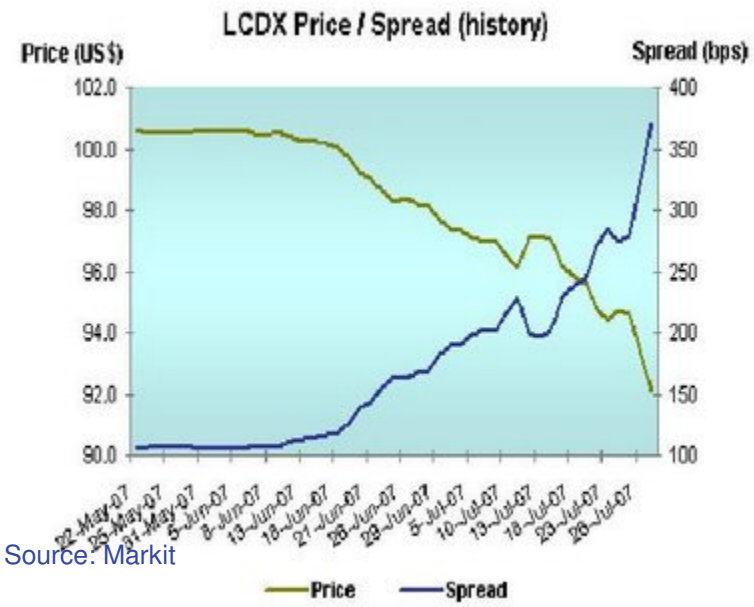
Write-Downs Have Been Forced by CDS Index-Based Pricing

- Credit Default Swap indexes are used to mark bank portfolios to market
- These indexes can be buffeted by the winds of credit market sentiment
- Resulting in (possibly) exaggerated write-downs of loan portfolios



Source: Markit

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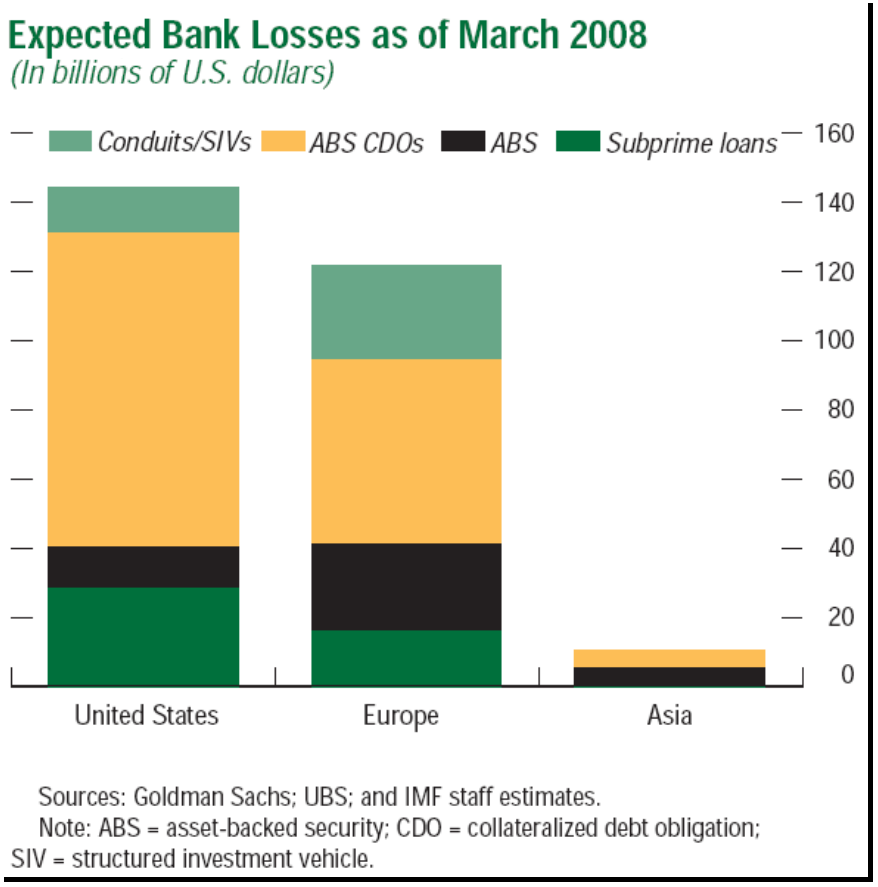
… so Banks Exposed to These "SF" CDOs are Worst Hurt



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Worst Hit Are Nested "Structured Finance" CDOs

Subprime mortgage loans

↓

Subprime mortgage bonds

AAA	80%
AA	11%
A	4%
BBB	3%
BB – Unrated	2%

High-grade structured-finance CDO

Senior AAA	88%
Junior AAA	5%
AA	3%
A	2%
BBB	1%
Unrated	1%

Mezzanine structured-finance CDO

Senior AAA	62%
Junior AAA	14%
AA	8%
A	6%
BBB	6%
Unrated	4%

CDO-squared

Senior AAA	60%
Junior AAA	27%
AA	4%
A	3%
BBB	3%
Unrated	2%

Source: IMF staff estimates.
Note: CDO = collateralized debt obligation.

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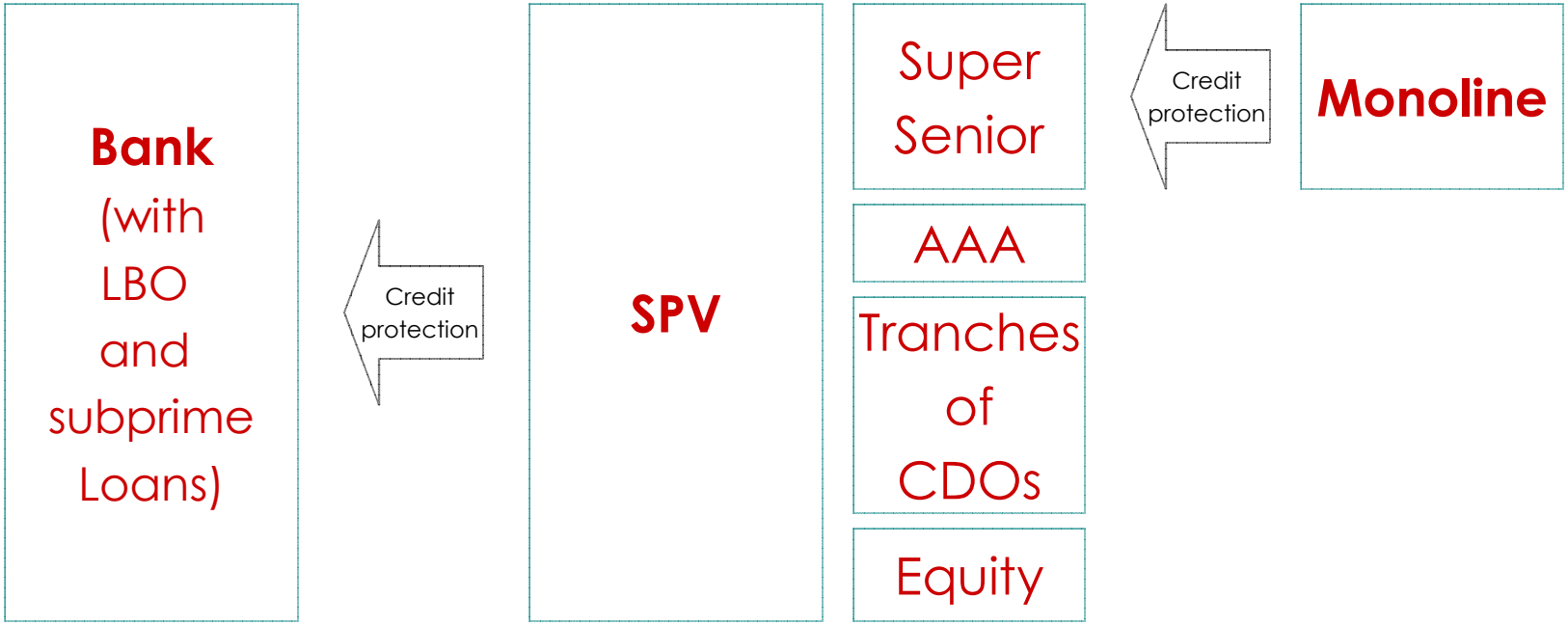
Especially in Complex Synthetic Securitization Structures



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CDO Upgrades and Downgrades

- Dominated by downgrades in CDOs of Asset-Backed Securities
- Of which, the most downgraded is the AAA class

	2008	
CDO type	**Downgrades**	**Upgrades**
High-yield bonds	4	2
Leveraged loans	64	3
Middle market	4	1
Emerging markets	-	4
Trust preferred	-	3
Structured finance	4008	6
of which triple-A	*1000*	-
Synthetic	402	57
Other	3	-

Source: Morgan Stanley, reported in *Financial Times*

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