

# Financial Bubbling: from the Asian Crisis to the Subprime Mess



by

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Workshop “The complexity of financial crisis in a long-period perspective: facts, theory and models”

Siena, 23-4 March 2009

[this presentation draws partly on V. D’Apice & G. Ferri (2009), *L’instabilità finanziaria internazionale: dalla crisi asiatica a quella subprime*, Roma, Carocci]

University of Bari





# Outline

- ◆ A sequence of bubbles, not just one
- ◆ The current crisis:
  - The actors of this crisis;
  - The dynamics of this crisis;
  - The key role of the banking model.
- ◆ Similarities and differences vis-à-vis past crises
- ◆ Main lessons to be gleaned





In the last 10 years the international financial system lost gravity, like Willie Coyote ... who helped him walk on air (and then fall)?

QuickTime™ e un decompressore sono necessari per visualizzare quest'immagine.





# Sequence of bubbles: Japan late 1980s

**QuickTime™ e un  
decompressore  
sono necessari per visualizzare quest'immagine.**





# Sequence of bubbles: Mexico 1994

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decompressore  
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# Sequence of bubbles: East Asia 1990s

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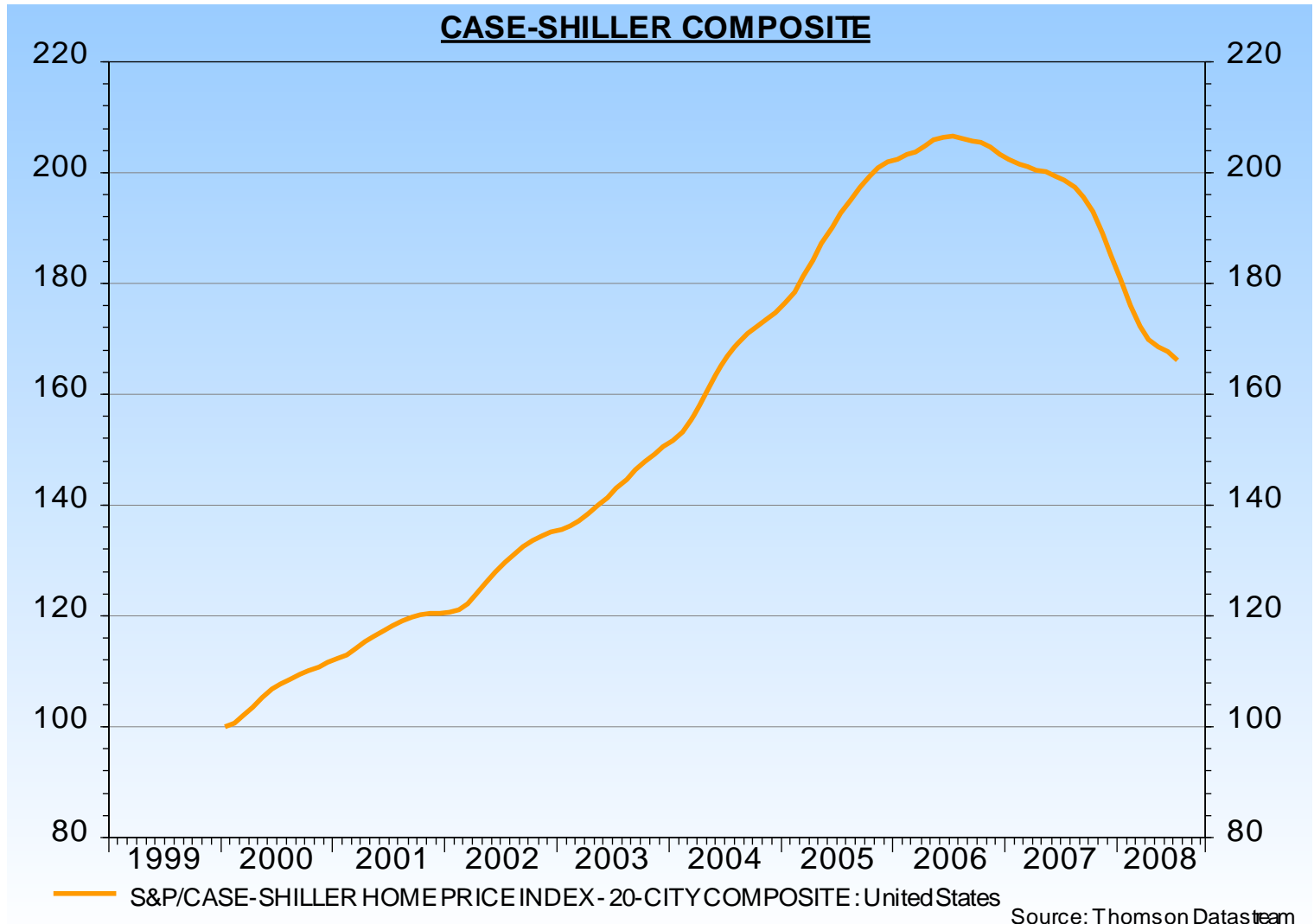


# Sequence of bubbles: Nasdaq 2000

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# Sequence of bubbles: US real estate





# Sequence of bubbles: Oil 2008

**QuickTime™ e un  
decompressore  
sono necessari per visualizzare quest'immagine.**





# Sequence of bubbles: from Oil to Food 2008

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# The Actors of the Subprime Crisis - 1

- ◆ Households ► wrong investment choices.
- ◆ Fed ► monetary policy too easy & too narrow CPI focus.
- ◆ Asian capitals ► lower US interest rates.
- ◆ US banks ► lower credit standards.
- ◆ Securitization ► “*originate to distribute*”.





## THE ACTORS - 2

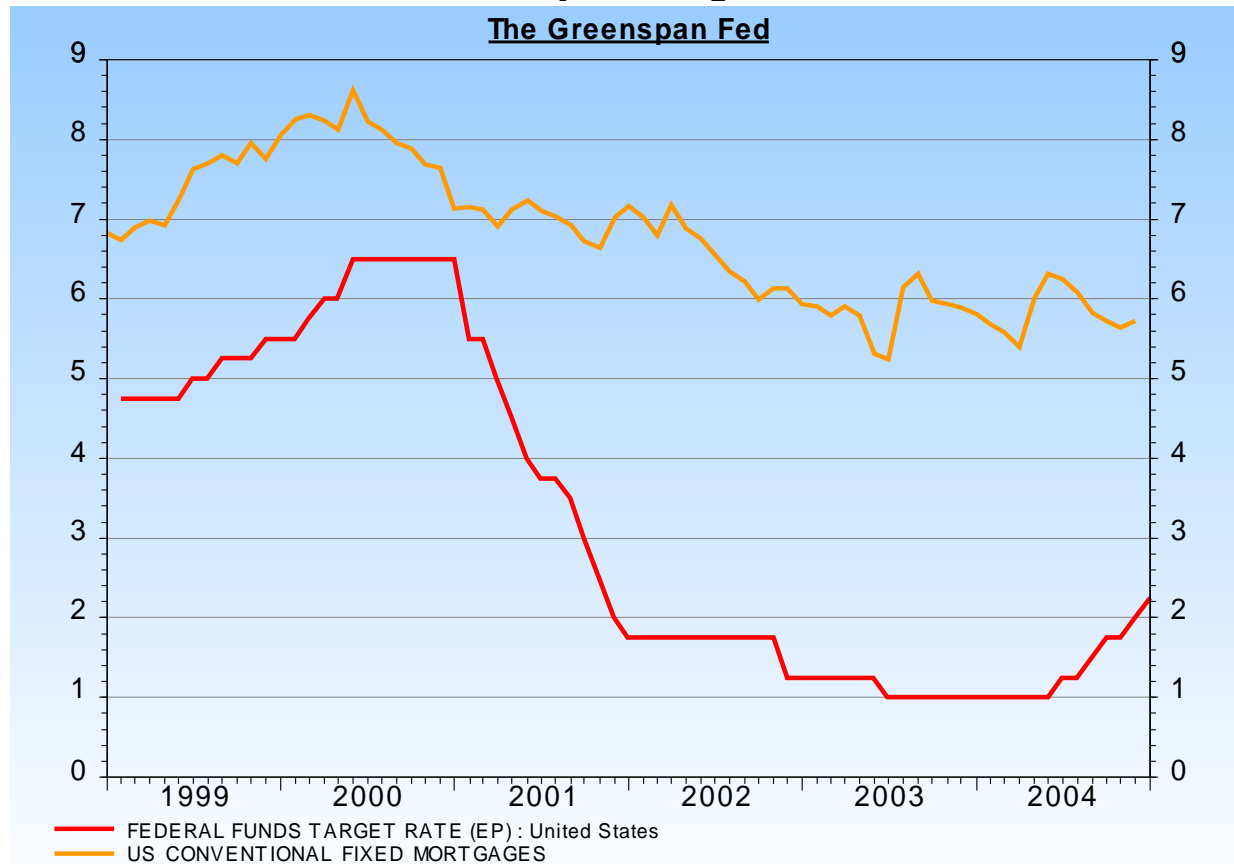
- ◆ Investment Banks ▶ amplifying risk (ABS, CDO).
- ◆ Rating Agencies ▶ underestimating risk (CDO).
- ◆ Investors ▶ lack of *due diligence*.
- ◆ Regulation ▶ lacking/too late.





# MACRO CAUSES OF THE CRISIS: 1-BALANCE SHEET CHANNEL

- ◆ Greenspan + capital inflows from Asia = lower interest rates → abundant liquidity on US market.



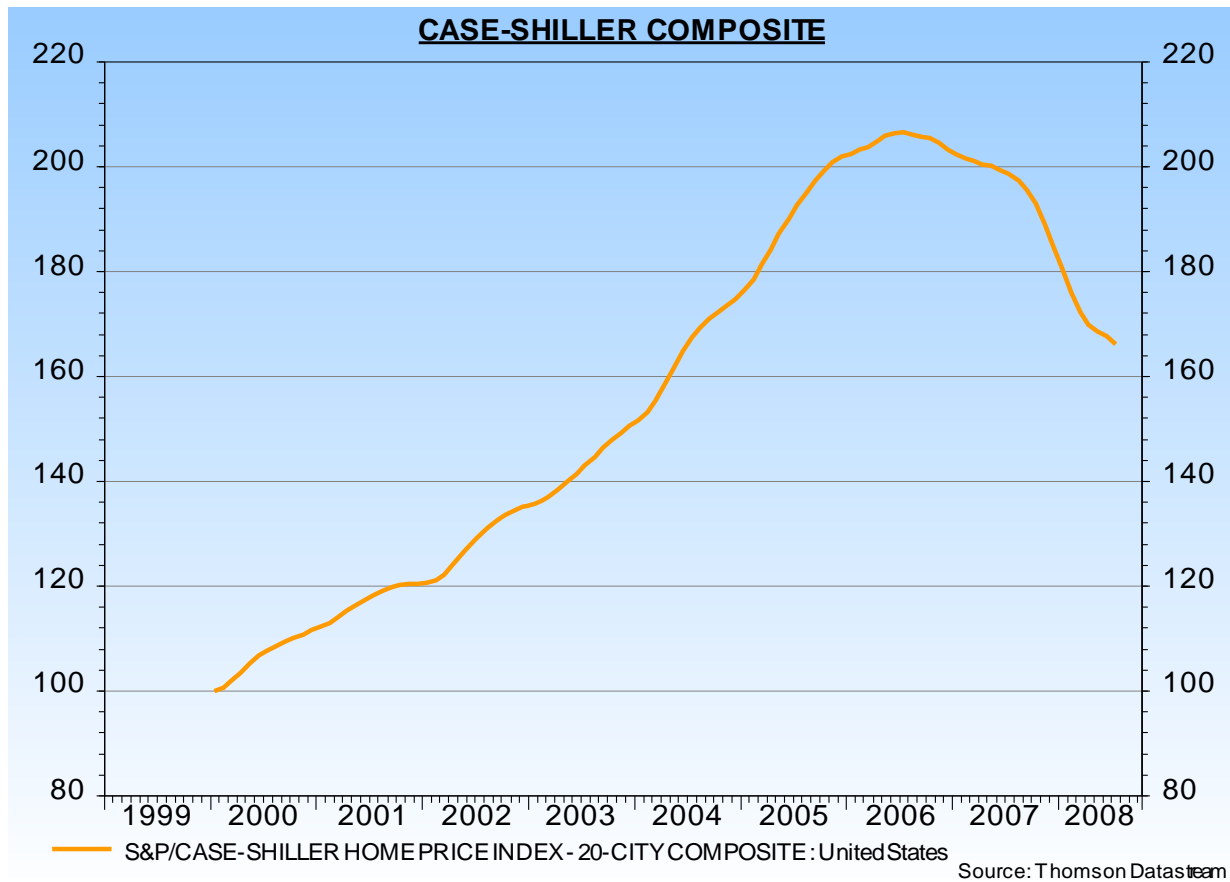
Source: Thomson Datastream





# MACRO CAUSES OF THE CRISIS: 1-BALANCE SHEET CHANNEL

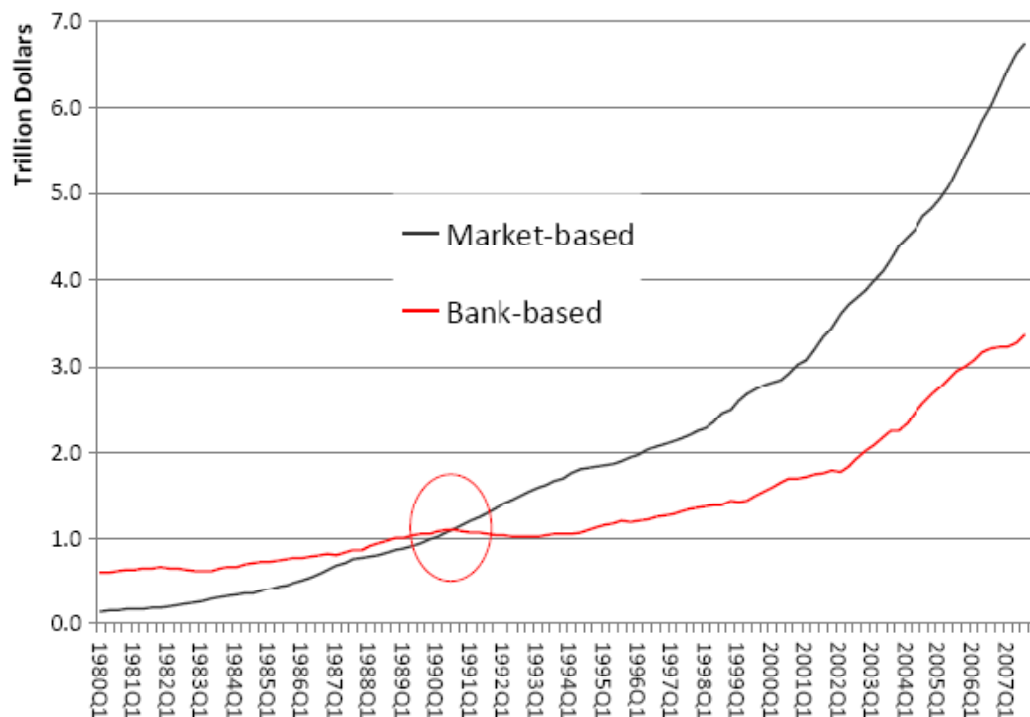
- ◆ Irrational exuberance (before the recent drop): in 5 years house prices double!





# MACRO CAUSES OF THE CRISIS: 2-BANK LENDING CHANNEL

- ◆ From bank based to market based: US Home Mortgage Holdings



Source: Hyun Song Shin, "Crisis on Wall Street", Conference at Princeton University (Sep-08).





# MACRO CAUSES OF THE CRISIS: 2-BANK LENDING CHANNEL

## ◆ The process of disintermediation

### TABELLA

Emissioni e cartolarizzazioni di mutui in Usa dal 2001 al 2006

Anno	Subprime			Alt-A			Jumbo			Agency		
	Emissioni	Cartolarizzazioni	Ratio	Emissioni	Cartolarizzazioni	Ratio	Emissioni	Cartolarizzazioni	Ratio	Emissioni	Cartolarizzazioni	Ratio
2001	\$190,00	\$87,10	46%	\$60,00	\$11,40	19%	\$430,00	\$142,20	33%	\$1.433,00	\$1.087,00	76%
2002	\$231,00	\$122,70	53%	\$68,00	\$53,50	79%	\$576,00	\$171,50	30%	\$1.898,00	\$1.442,60	76%
2003	\$335,00	\$195,00	58%	\$85,00	\$74,10	87%	\$655,00	\$237,50	36%	\$2.690,00	\$2.130,90	79%
2004	\$540,00	\$362,63	67%	\$200,00	\$158,60	79%	\$515,00	\$233,40	45%	\$1.345,00	\$1.018,60	76%
2005	\$625,00	\$465,00	74%	\$380,00	\$332,30	87%	\$570,00	\$280,70	49%	\$1.180,00	\$964,80	82%
2006	\$600,00	\$448,60	75%	\$400,00	\$365,70	91%	\$480,00	\$219,00	46%	\$1.040,00	\$904,60	87%

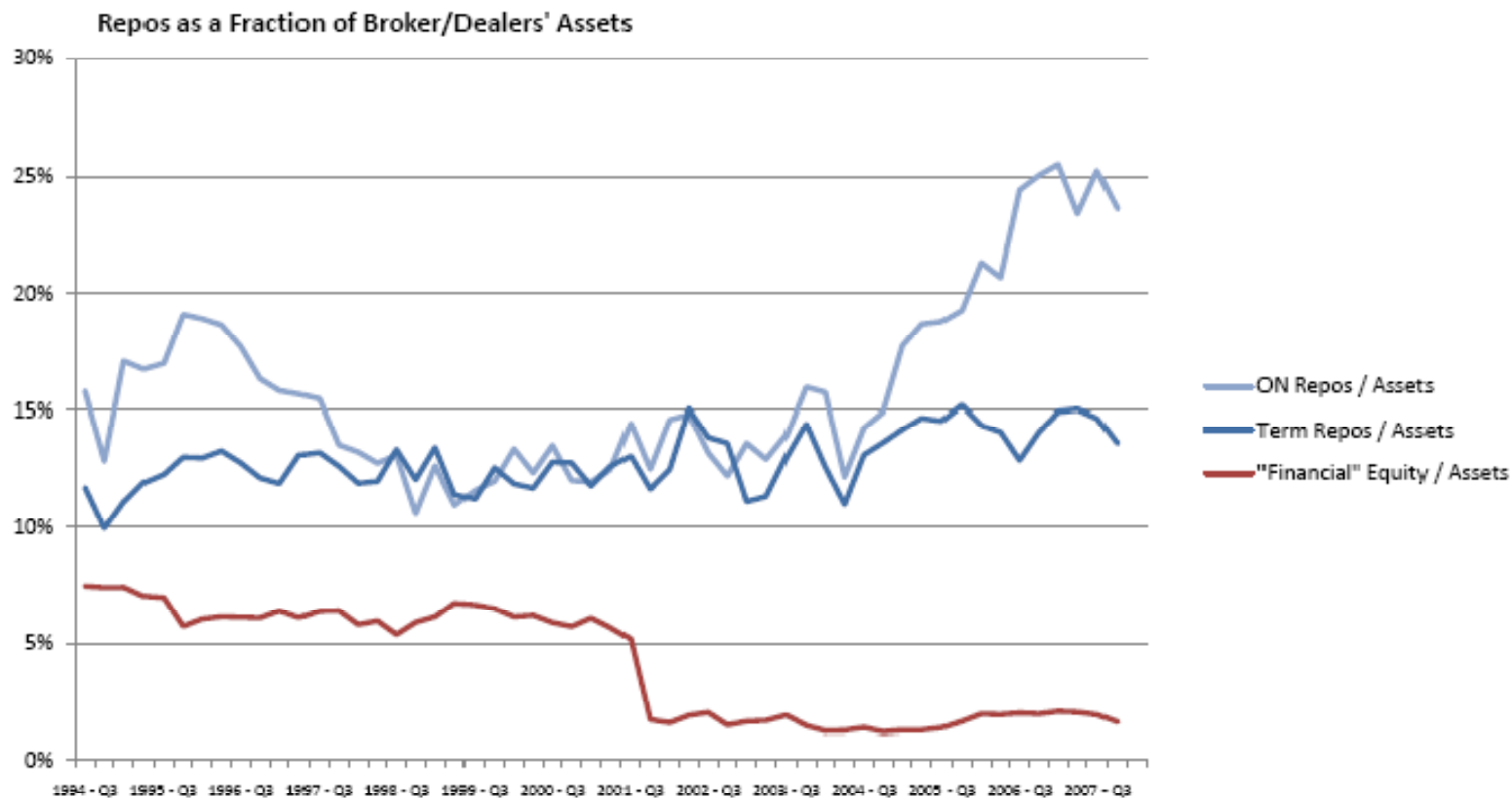
Fonte: Ashcraft A. and T. Schuermann (2007)





# MACRO CAUSES OF THE CRISIS: 2-BANK LENDING CHANNEL

- ◆ Fragility of the investment banks: 25% of liabilities o/n



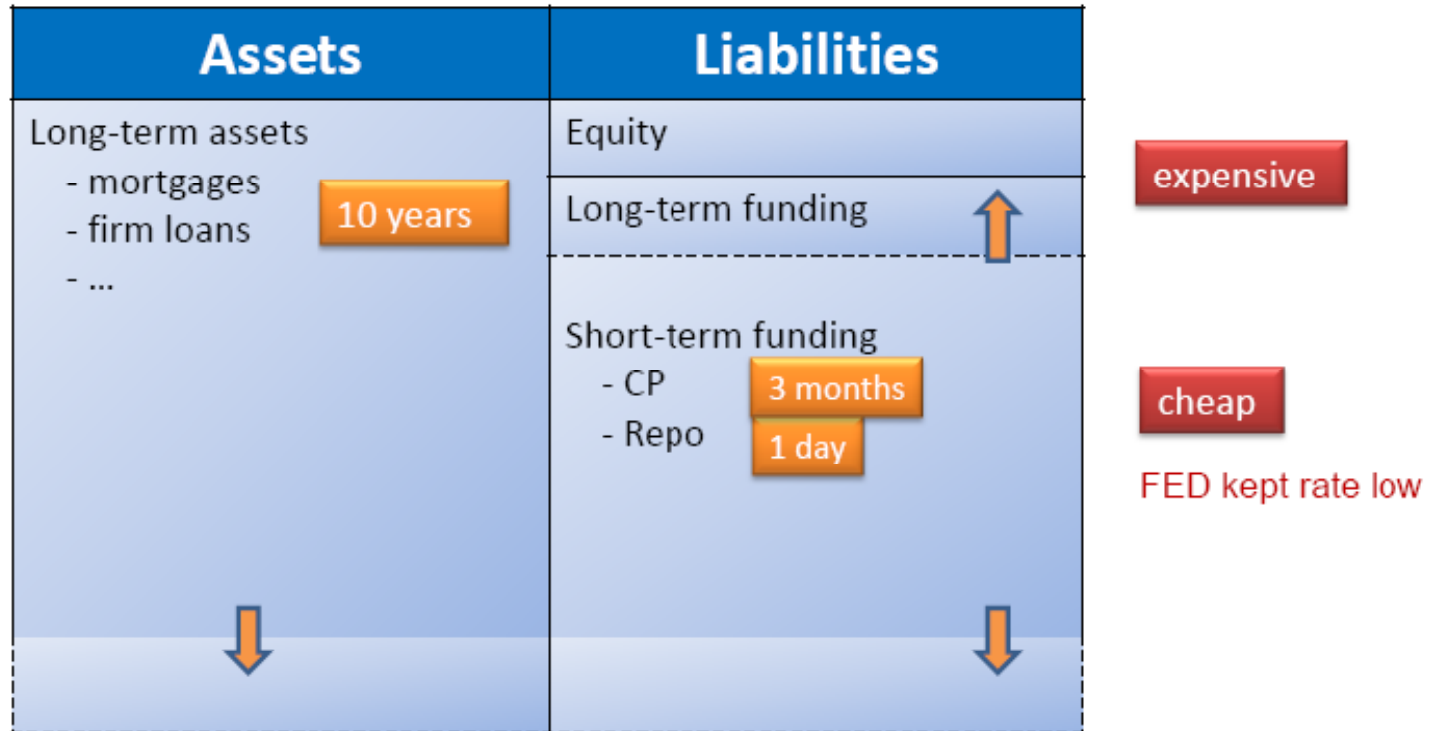
Source: Markus Brunnermeier, "Crisis on Wall Street", Conference at Princeton University (Sep-08).





# MACRO CAUSES OF THE CRISIS: 2-BANK LENDING CHANNEL

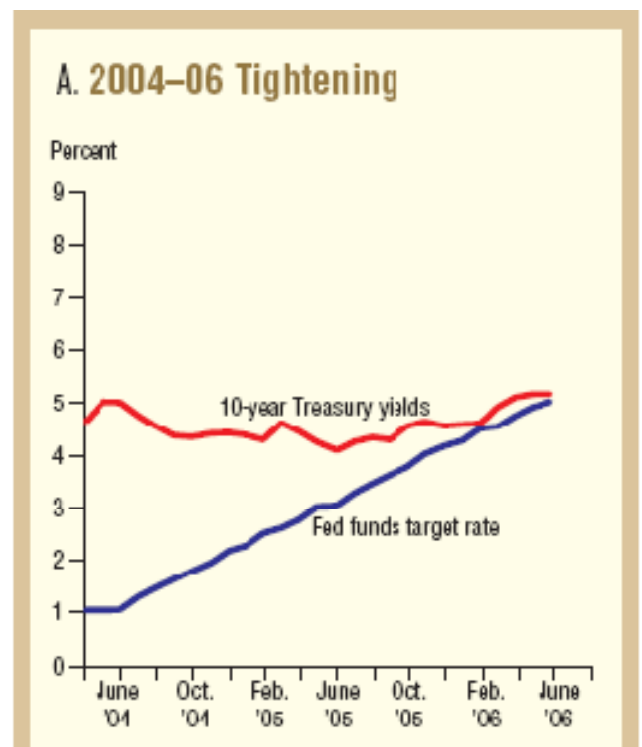
## ◆ Fragility of the investment banks:





# MACRO CAUSES OF THE CRISIS: 3-GREENSPAN CONUNDRUM

- ◆ Greenspan Conundrum: economy does not slow down

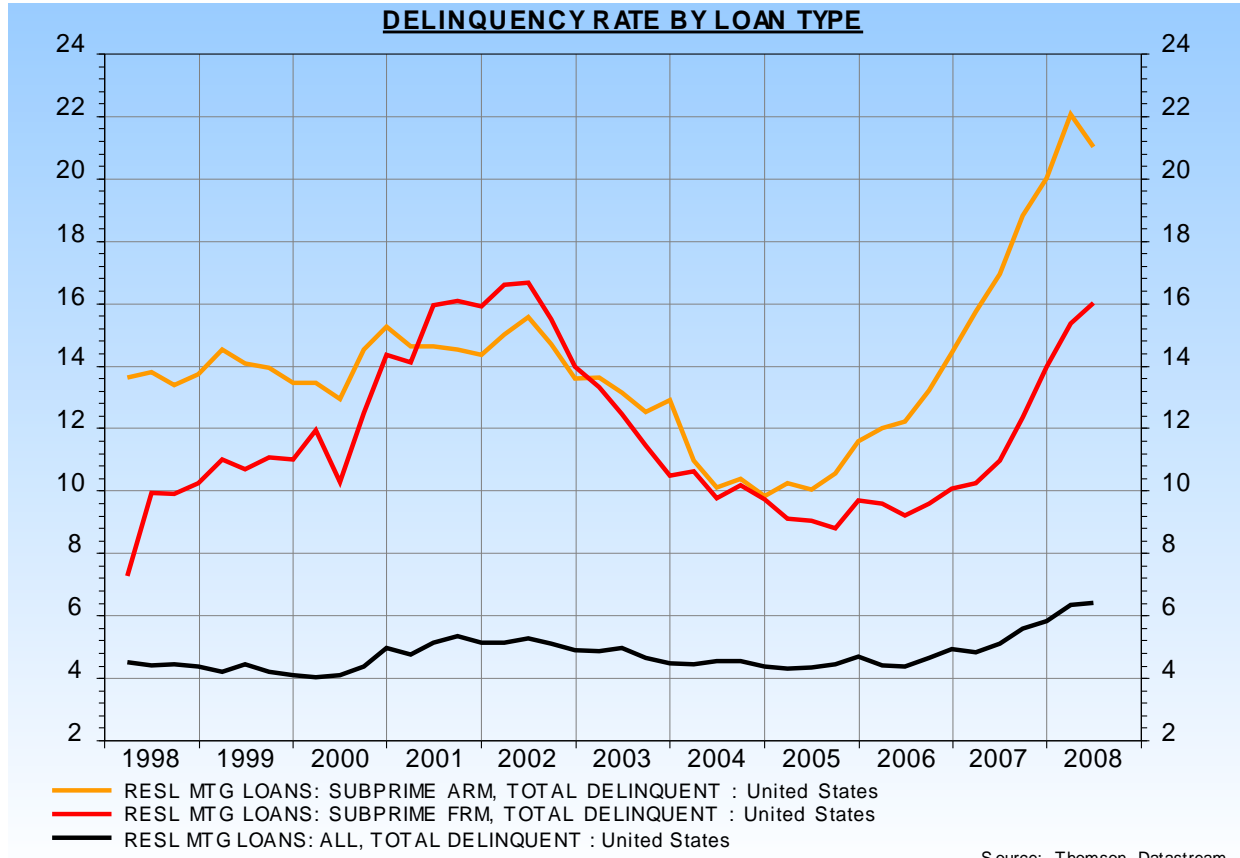


Source: Wu T. (2006), Globalization's Effect on Interest Rates and the Yield Curve, Federal Reserve Bank of Dallas Economic Letter 9.



# SUBPRIME CRISIS: EVENTS ON THE REAL ESTATE MARKET

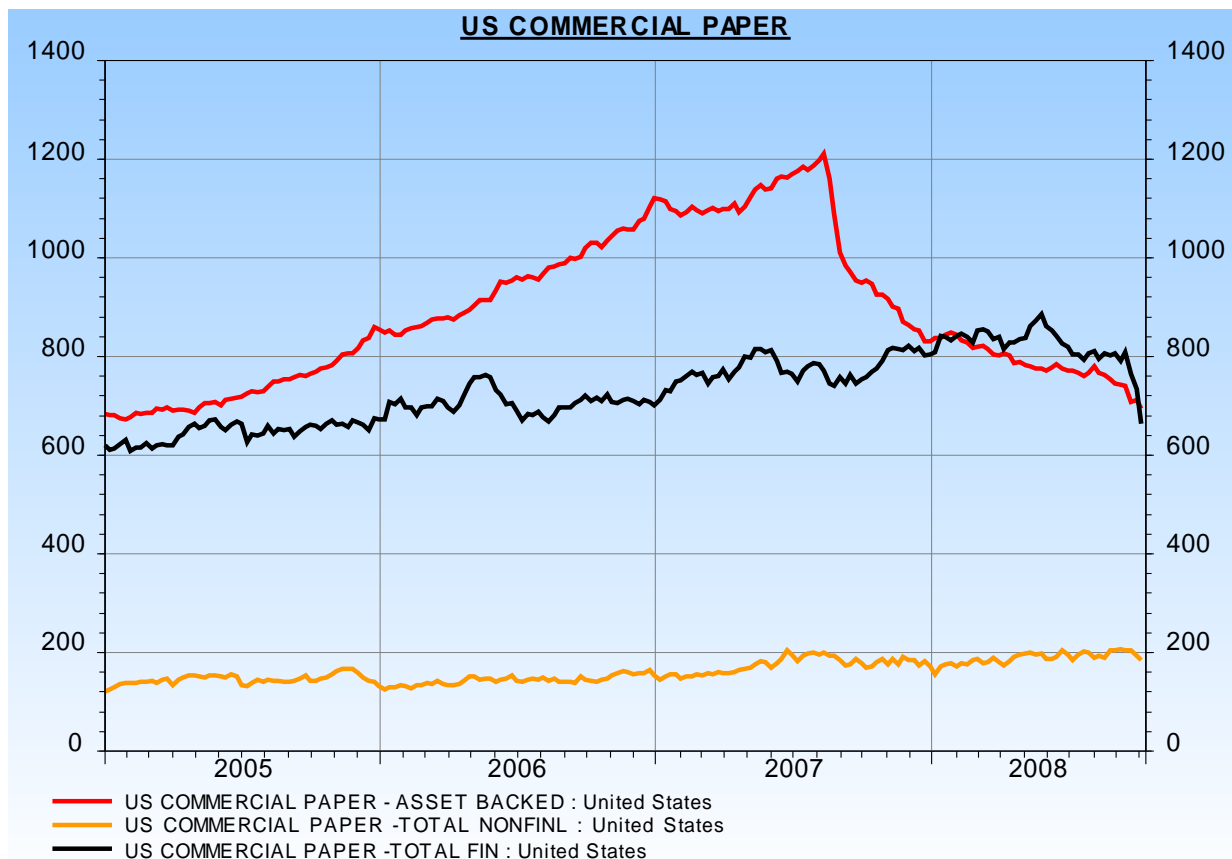
- ◆ Low credit standard (*subprime*) household defaults rising as real estate prices begin dropping.





# SUBPRIME CRISIS: EVENTS ON FINANCIAL MARKETS

- ◆ In the *shadow banking system* (short term) fund raising is frozen ▶ *bank runs*



Source: Thomson Datastream





# SUBPRIME CRISIS: EVENTS ON FINANCIAL MARKETS

- ◆ Over July 1<sup>st</sup>-August 31<sup>st</sup> 2007 the sole S&P downgrades 1,544 securities guaranteed by residential mortgages. This raises serious concern on the ability of the rating agencies to correctly assess the risk of these products

**Standard & Poor's U.S. RMBS Public Rating Actions (July 1, 2007 - August 31, 2007)**

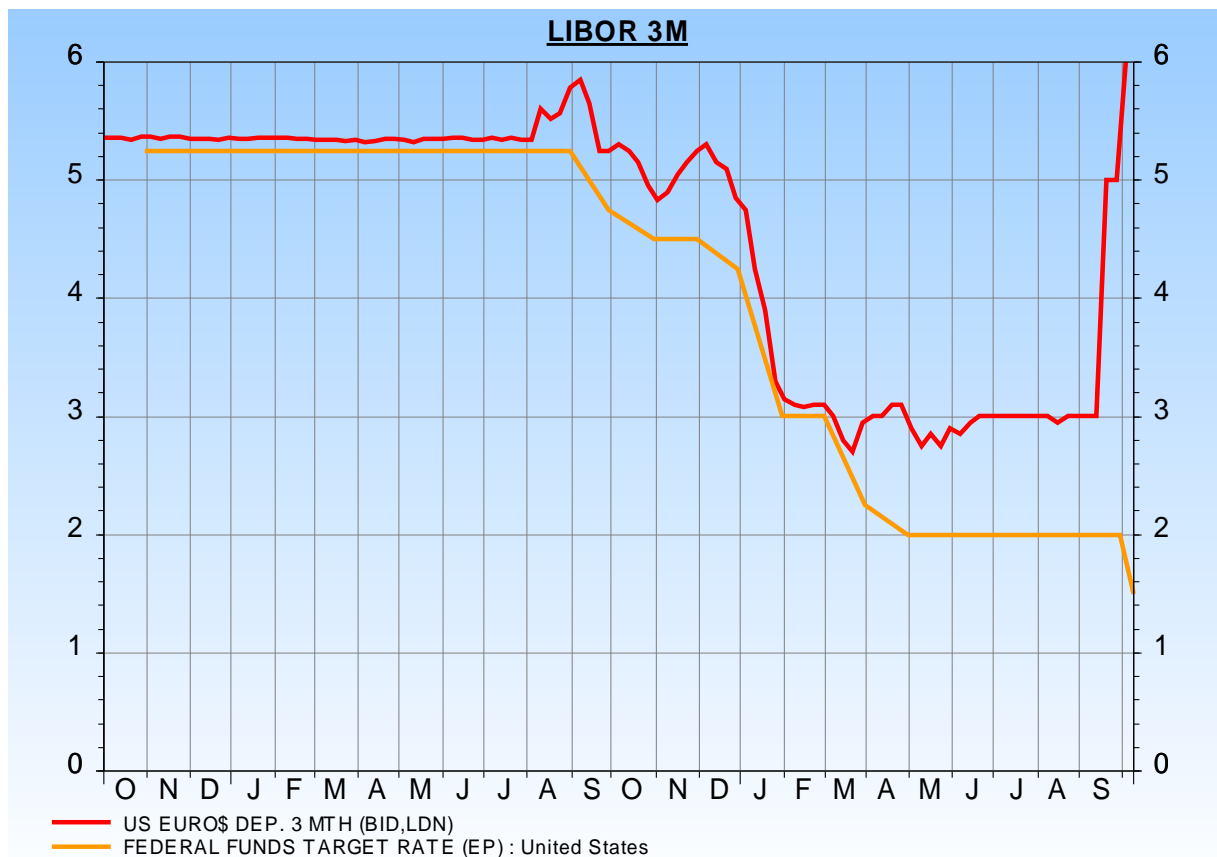
Rating From:	Rating To:																	TOTAL	
	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC		D
AAA			5						3										8
AA+	12																		12
AA	6	26		1		3	1	1	1			2			2				43
AA-	1	3	5			2	7		1		1								20
A+		5	1	5			6	3	3		6	2		1	2		1		35
A		1	5	4	16		11	3	32	1	7	8		1	14	1			104
A-			1	5	3	3	5	13	18	10	13	9	5	31	12	12			137
BBB+				2	2	3	3	19	5	39	19		2	48	1	14			154
BBB					2	2	9	7	21	72	4	1	85	7	27				237
BBB-					1	2	6	1		22	48	23	7	133	30	66			339
BB+									1		19	5	10	63	4	80			182
BB								1	2	9		6	2	92	12	89			213
BB-										1				9	2	28			40
B+											1	2				10			13
B												1	2		12	98	3		116
B-																20	1		21
CCC																		19	19
D																			0
<b>TOTAL</b>	<b>19</b>	<b>35</b>	<b>16</b>	<b>11</b>	<b>23</b>	<b>13</b>	<b>32</b>	<b>27</b>	<b>74</b>	<b>34</b>	<b>116</b>	<b>184</b>	<b>50</b>	<b>31</b>	<b>479</b>	<b>81</b>	<b>445</b>	<b>23</b>	<b>1693</b>





# SUBPRIME CRISIS: EVENTS ON FINANCIAL MARKETS

- ◆ SIV, short of liquidity, call their credit lines at the banks.



Source: Thomson Datastream





# THE SUBPRIME CRISIS: AUGUST 2007 VS. DECEMBER 2007

**August** ↑ Default subprime mortgages ➡ Funding liquidity\* ↓

Maturity mismatching:

- ↑ rollover risk (ABCP market & other structured products);
- ↑ margin risk (primary brokers raise “margin requirements”);
- ↑ redemption risk (outflow of deposits).

➡ Fed (& other Central Banks) intervenes pumping liquidity

**December** ↑ Deleveraging ➡ Market liquidity\*\* ↓

➡ Fed intervenes with Term Auction Facility (TAF): new credit lines for commercial banks; large menu of collateral; no stigma effect

\*: ease to raise funds to buy assets via issuing bonds guaranteed on those assets

\*\* : ease to sell an asset without exceedingly depressing its price.





## THE SUBPRIME CRISIS: MARCH 2008

- ◆ Bear Stearns (BS) risks defaulting.
- ◆ The Fed intervenes on two levels:
  - Salvaging BS via a subsidized loan to JP Morgan.
  - Introducing new liquidity instruments for primary dealers:
    - Primary Dealer Credit Facility (PDCF): overnight loans (large menu of collaterals).
    - Term Securities Lending Facility (TSLF): Fed trades via repos government securities against a large menu of collaterals (MBS & CDO).

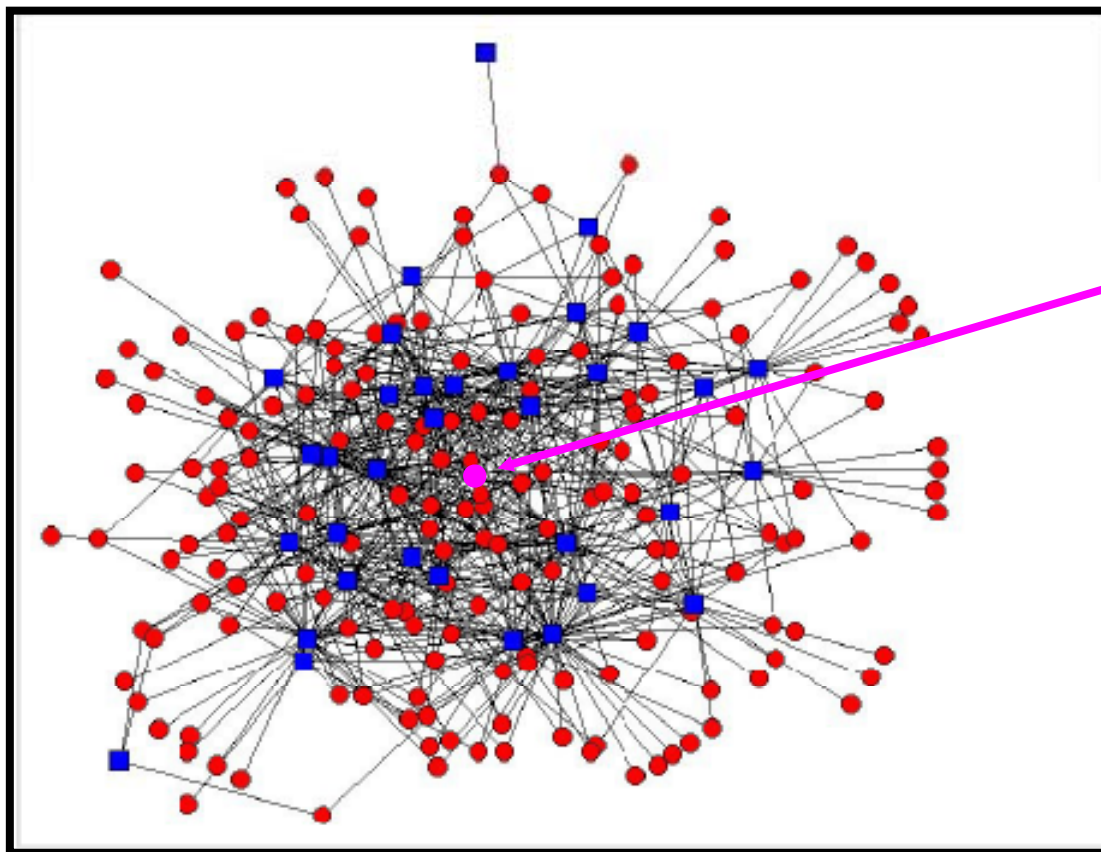




# THE SUBPRIME CRISIS: MARCH 2008

- ◆ Why Bear Stearns could not default? *Too interconnected to fail:*

Financial market



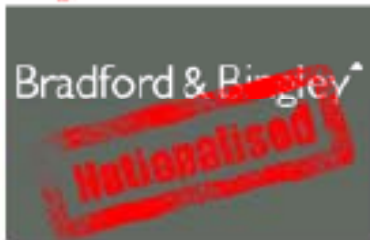
Bear Stearns





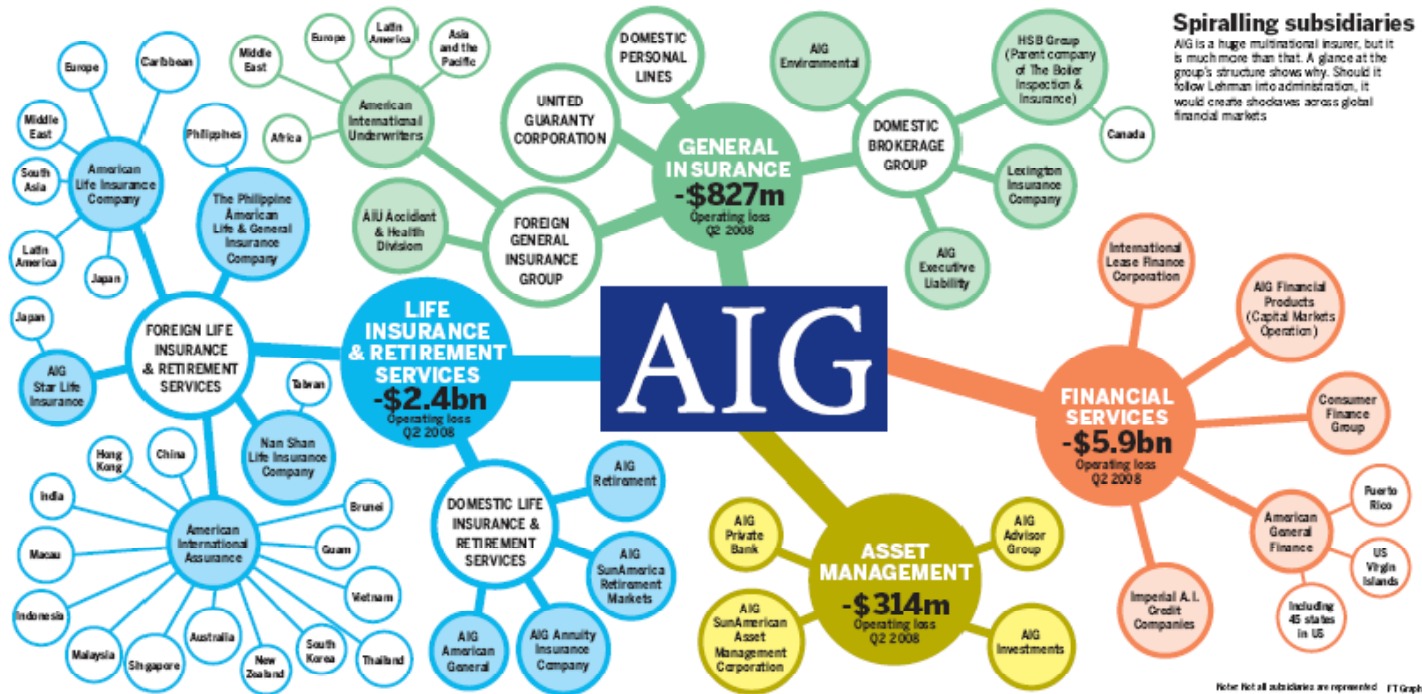
# THE SUBPRIME CRISIS: SEPTEMBER 2008

- ◆ The month that changed US (& world) capitalism:



# THE SUBPRIME CRISIS: SEPTEMBER 2008

- ◆ AIG should be salvaged (Lehman as well perhaps): *too interconnected to fail*



Source: Hyun Song Shin, "Crisis on Wall Street", Conference at Princeton University (Sep-08).



# COUNTERPARTY RISK

- ◆ *Flight to quality*: the counterparty risk in the interbank market jumps to the sky



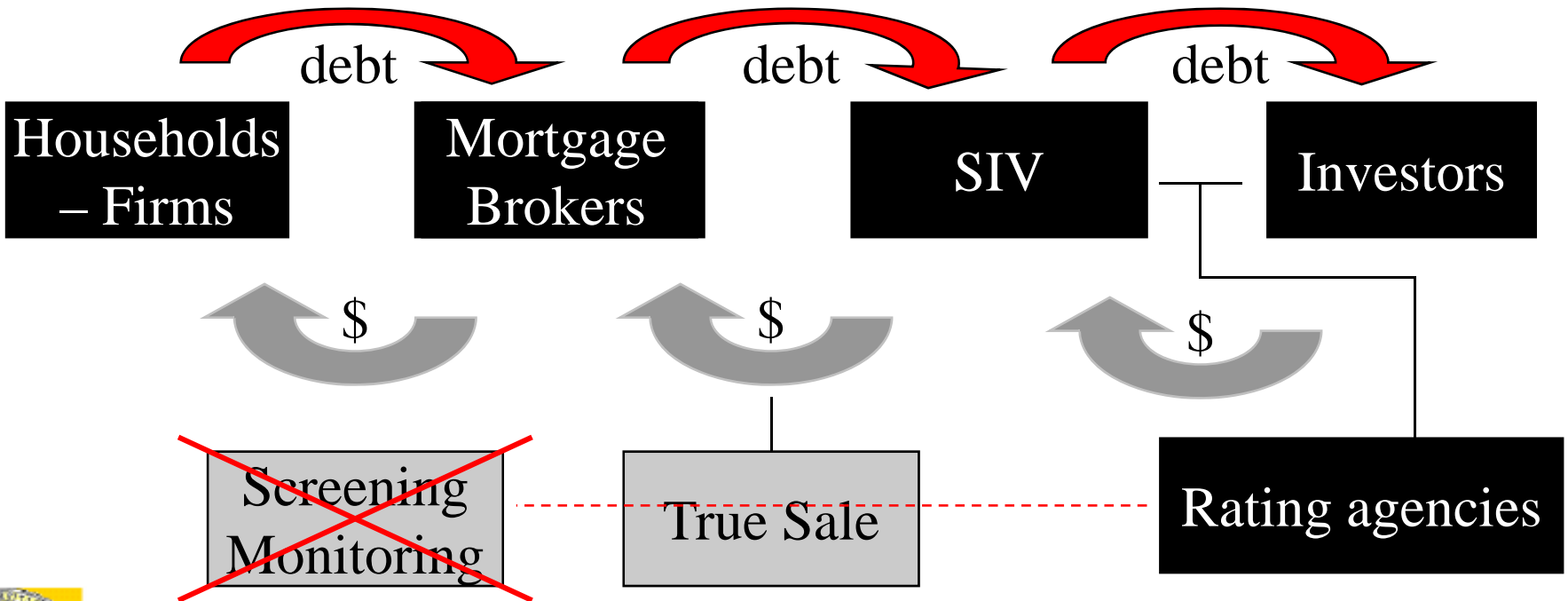
Four waves  
of the  
financial crisis





# MICRO CAUSES: MORAL HAZARD & ADVERSE SELECTION

◆ From “*originate and hold*” to “*originate and distribute*”





## 4-SIMILARITIES & DIFFERENCES WITH RESPECT TO PAST CRISES

- ◆ Past crises (from Mexico to East Asia to Turkey) were twin crises, of the exchange rate and of the domestic banking system
- ◆ Similarities between previous crises and the subprime crisis:
  - i) foreign capital inflows, *lending boom* and lower credit standards;
  - ii) banking system suffering widespread fragilities;
  - iii) financial liberalization enacted before the banking crisis.
- ◆ The differences:
  - i) though US dollar weakened, liabilities were denominated in USD and there was no vicious cycle through the exchange rate depreciation;
  - ii) it is a crisis of the center (not the periphery) of the financial system and, as such, it soon became global crisis: first a liquidity, then a financial and then a real economy crisis.





## 5-WHICH LESSONS TO BE GLEANED?

- ◆ Improve regulation & supervision.
- ◆ Do we need new models to measure risk?
  - what is the “true” reduction of risk via diversification?
  - is it appropriate to consider that country risk is unrelated to individual company risks (e.g. CAPM)? (this is oblivious of the economy’s total leverage)
  - is it appropriate considering financial markets and banks as alternatives or should they be held complements?
- ◆ Enlarge the focus of monetary policy?
  - can it deal with CPI only while enormous unbalances build up?

