

### THE BANKS ARE IN CRISIS

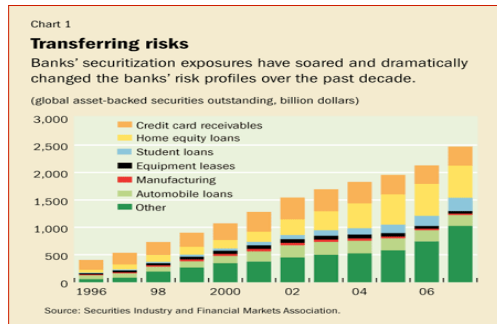
- The International Monetary Fund (IMF) now estimates that the financial sector has lost \$2.2 trillion due to the financial crisis.

### HOW Did This Happen?!

### What Could Have Motivated U.S. Commercial Banks to Invest in Subprime MBSs in the First Place?

#### Yield Hunt Theory:

- Yield hunting was ultimately a global phenomenon.
- Generally, commercial banks "hunted for yield": they wanted to invest in assets that were low-risk but that simultaneously produced high yields.
- Like other commercial banks around the world, U.S. commercial banks wanted to invest in low-risk assets because the less risk they took on, the less money they would have to keep on reserve to meet their capital adequacy requirements. Commercial banks are required to hold a certain percentage of risk-weighted capital to cover their liabilities (i.e., consumer deposits).
- Securitization produced new financial instruments (i.e., subprime mortgage-backed securities) that produced high yields and seemed to entail little risk.
- Investing in these instruments was more profitable than investing in lower-risk bonds, such as U.S. Treasury-issued bonds, and it was thought by commercial banks that they entailed almost comparable levels of risk.
- As a result, U.S. commercial banks heavily invested in these instruments.



Source: Finance & Development, *Banking on More Capital*, <http://www.imf.org/external/pubs/ft/fandd/2008/06/caruana.htm>

### Where Did Securities Spread? European Commercial Banks Get Hold of AAA-Rated Assets

- The AAA-rated assets that have been blamed for the credit crunch were created by the financial services sector in the United States, and were backed by U.S. subprime mortgages.
- European commercial banks became involved when they invested in the AAA-rated assets that were created in the United States.

### How Assets Became TOXIC

- Assets became 'toxic' when credit rating agencies realized that the assets that they had rated as AAA (or very low-risk ratings) were not really low-risk.
- The price of an asset is dependent on the risk of that asset.
- The assets backed by subprime mortgages are referred to as 'toxic' because the risk of default became impossible to assess. Banks were no longer able to value these 'toxic' assets.
- Demand for these assets plummeted and the banks were not able to sell them at a price they believed was fair.

### European banks were heavily exposed to toxic assets:

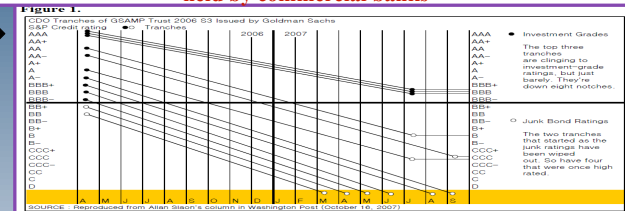
- In October 2008, Swiss bank Credit Suisse announced that it had been exposed to \$10.20 billion in toxic assets.
- In December 2008, French bank Natixis and Swiss bank UBS together announced that they had been exposed to US \$62.6 billion in toxic assets.
- European banks have also suffered significant losses due to their exposure to toxic assets:

Country	Banks	Losses*
Britain	Royal Bank of Scotland	• US \$15.6 bn.
	HBOS	• US \$9.5 bn.
	Barclays	• US \$6.7 bn.
Switzerland	UBS	• US \$48.6 bn.
	Credit Suisse	• US \$13.7 bn.
Germany	BayernLB	• US \$14.4 bn.
	IKB Deutsche Industriebank	• US \$14.0 bn.
	Deutsche Bank	• US \$12.7 bn.
France	BNP Paribas	• US \$5.8 bn.

(\*as of December 15, 2008)

Source: Bloomberg.com, <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aY3qrwJ0gJr0>

### Example of a credit rating agency re-rating a securitized AAA-rated asset held by commercial banks



### Write-Downs

- Mark-to-market accounting rules required the banks to value their assets based on the market price of those assets.
- Some commercial banks were able to sell their toxic assets on the market, but at a loss, because the market price was much lower than the original value.
- Since the prices of these assets on the market were so low, commercial banks that did not sell the assets had to lower the value of, or "write down," the assets on their balance sheets. When commercial banks took write-downs, they lost capital.

### Credit Markets FREEZE

- Commercial banks would not lend each other money because:
  - lower levels of capital reduced the amount available to lend,
  - they did not know to what extent other commercial banks held toxic assets, and
  - they were uncertain about the other commercial banks' creditworthiness.
- This led the credit markets to "freeze." The freeze of the credit markets is the credit crisis.
- The credit crisis is no longer limited to mortgage-backed securities: People have defaulted on other payments and the assets backed by those payments have also gone sour.
- Between 2006 and 2008, there was a \$1.2 trillion decline in the lending of securities backed by auto loans, credit cards, student loans, and commercial-mortgage-backed securities.

### The Credit Crisis is Now a Full-On FINANCIAL CRISIS

#### Write-Down Figures as of Dec. 15, 2008

Bank	Write-Down	Capital Raised
Wachovia (US)	US \$96.5 bn.	US \$11.0 bn.
Citigroup (US)	US \$67.2 bn.	US \$113.5 bn.
Merrill Lynch (US)	US \$55.9 bn.	US \$29.9 bn.
UBS (Switzerland)	US \$48.6 bn.	US \$31.7 bn.
Washington Mutual (US)	US \$45.6 bn.	US \$12.1 bn.
HSBC (US)	US \$33.1 bn.	US \$4.9 bn.
Bank of America (US)	US \$27.4 bn.	US \$55.7 bn.
National City Corp. (US)	US \$26.2 bn.	US \$8.9 bn.
JP Morgan Chase (US)	US \$20.5 bn.	US \$44.7 bn.
Lehman Brothers (US)	US \$16.2 bn.	US \$13.9 bn.
Morgan Stanley (US)	US \$15.7 bn.	US \$24.6 bn.

Source: Bloomberg.com <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aY3qrwJ0gJr0>