

On the origins of the crisis

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Federal Reserve Bank of Boston

Understanding the Housing Collapse
NEPPC/Rappaport/Taubman Symposium
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I am speaking today as a researcher and a concerned citizen and not as a representative of the FRB Boston or the Federal Reserve System.

Brochure



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Federal Deposit Insurance Corporation
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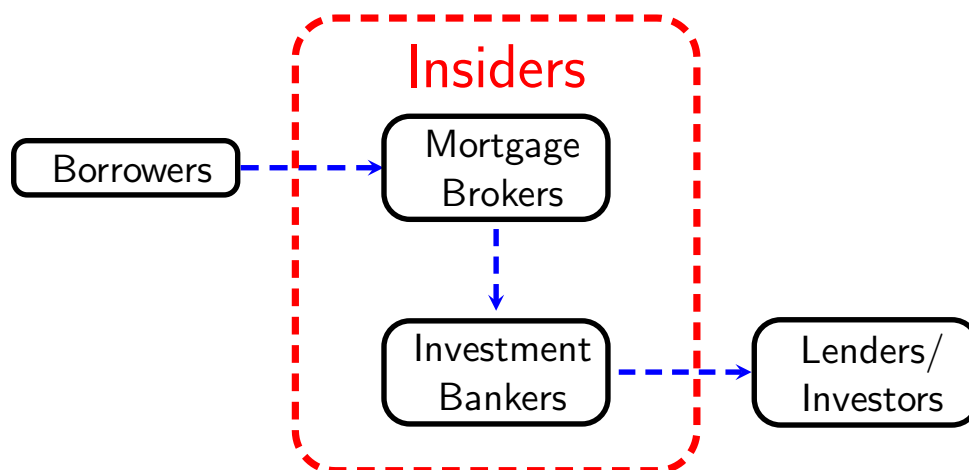
Board of Governors of the Federal Reserve System



The question

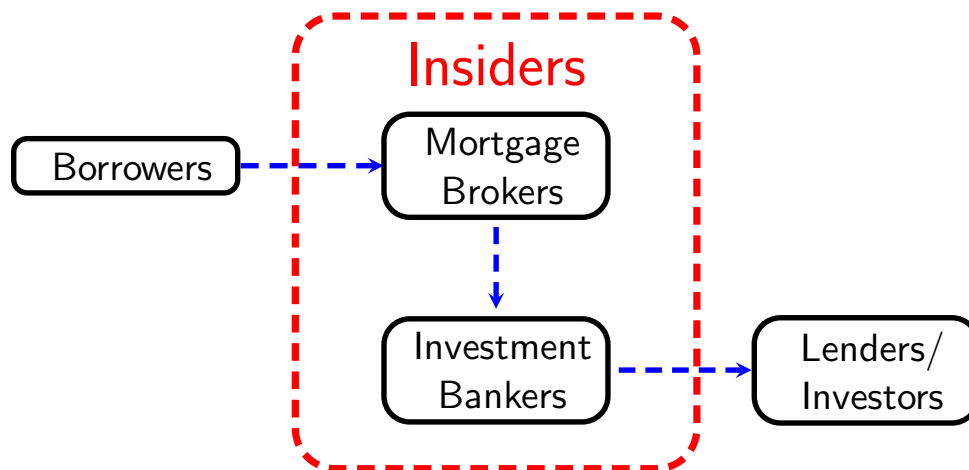
- Brochures not enough...
- The question:
 - Why did so many people make such bad decisions?
 - Why did borrowers take out loans they couldn't repay?
 - Why did the lenders lend them the money?

Why did so many people make bad decisions?



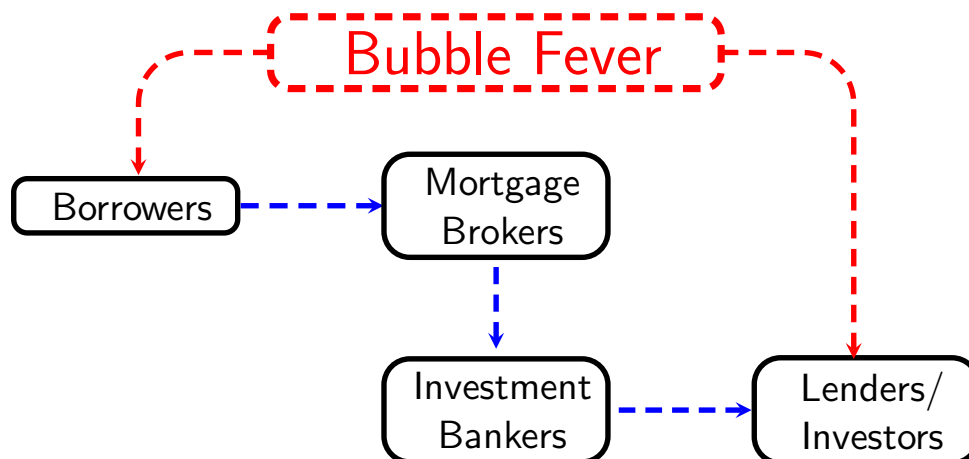
- Insiders have private information.
- Deceive investors and borrowers.
- Brokers push “exploding” mortgages.
- Bankers create “toxic” securities and hide problems.

Why did so many people make bad decisions?



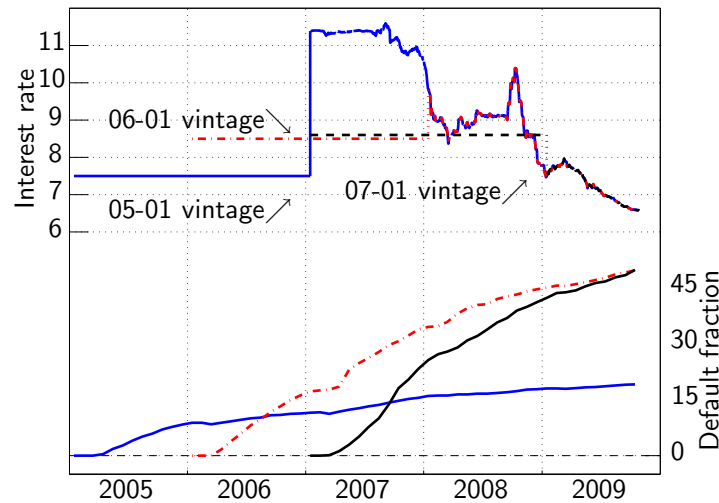
- Will show that most evidence contradicts story
- Exploding mortgages not a problem
- Banks did not hide what was going on.
- Investors could and did figure it out

Why did so many people make bad decisions?



- So what was the problem?
- Bubble Fever: Borrowers and lenders were trying to cash in on the biggest real estate boom in American history
- It is hard to stop consenting adults.

Exploding Mortgages



A policy experiment

- At the end of 2006, the city of Chicago passed a law requiring counseling for at-risk borrowers – targeting subprime loans.
- Amromin et al. (2009) show that the program was quite effective:
 - Targeted lending types declined by 73%
 - Loans that were made performed much better.
 - Many foreclosures were prevented.
- Borrowers and would-be borrowers must have been very grateful...
 - Residents in the target areas passionately hated the program.
 - It was suspended after only 4 months.

Were new products really new?

- Low Documentation Mortgage, January 9, 1985.

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 or visit us at www.wamu.com

- Invented in 1980
- Approved by FHLBB and OCC in 1981
- Accounted for about half of all ARMs in CA in 1996.

Investors

- From the top:

*...by breaking the direct link between borrowers and lenders, securitization led to an erosion of lending standards, resulting in a market failure that fed the housing boom and deepened the housing bust.
(Geithner and Summers, 6/15/2009)*

- Pseudo-technical term: “Originate-to-Distribute” or OTD model.
- My view is that lenders basically understood what they were buying.
 - Link was broken long ago
 - Investors seem to have understood the risks.

Some history

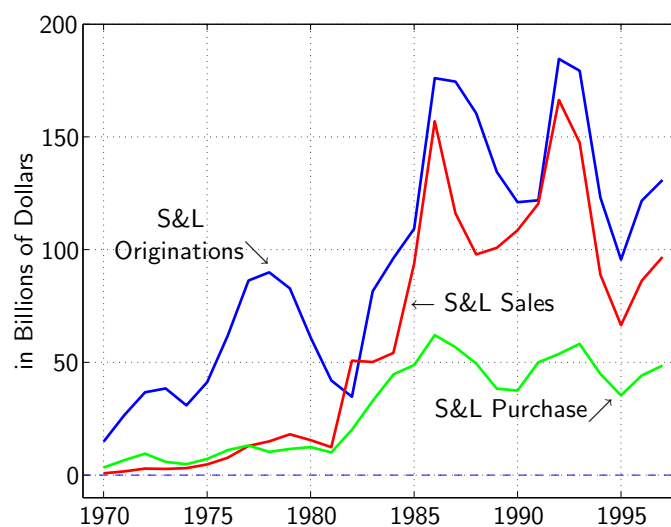
- “OTD” is not new. Link between borrower and lender broken long ago.
- “Mortgage Companies”: stand-alone companies that originate but don’t hold mortgages.
 - The Mortgage Bankers Association was founded in 1909.
 - As far back as the 1950s, MCs accounted for 25 percent of new originations
 - By the mid-1980s, they were more than half of all originations
- But what about savings and loans?

Savings and Loans



Figure: George Bailey and Old Man Potter.

- In the 1980s, S&L's became mortgage companies.



When did the link break?

- Only the phrase “Originate-to-Distribute” is new.
- The investor changed over time:
 - 1950: Life Insurance Company
 - 1970: GNMA
 - 1985: FNMA and FHLMC
 - 2000: Private Label Security
- But the link had been broken long before the crisis.
- If you want to make the case that “Private Label Securitization” was the problem
 - You need a much more subtle argument than that the originator didn’t take on any credit risk.

Did the “insiders” hide information?

- You might think so:

The SEC also is proposing that issuers provide computer-readable loan-level data to investors at the time of securitization and on an ongoing basis.” (National Mortgage News, April 12, 2010)

In fact, issuers have always provided precisely this information.

List of Securities in Abacus Deal



Reference Portfolio

Security	Type	Notional Amount	CUSIP	Fitch	Moody's	S&P	Base WAL (yrs)	Dated Date	Legal Final	Servicer
ABFC 2006-CP1 M8	Subprime	22,222,222	003910M4	BBB	Baa2	BBB	3.8	1/10/2006	8/25/2036	COIC
ABFC 2006-CP2 M8	Subprime	22,222,222	00075XAP2	BBB	Baa2	BBB	4.1	10/12/2006	10/25/2036	OOMC
ABSH 2006-HE3 M7	Subprime	22,222,222	045410M3	BBB	Baa2	BBB	3.8	4/17/2006	3/25/2036	OOMC
ABSH 2006-HE4 M7	Subprime	22,222,222	045410M4	BBB	Baa2	BBB	3.8	4/28/2006	5/25/2036	SPS
ACE 2006-FM2 M8	Midprime	22,222,222	00442CAN9	BBB	Baa2	BBB	4.5	10/30/2006	8/25/2036	WFB
ACE 2006-CP2 M8	Subprime	22,222,222	00441YAP7	BBB	Baa2	BBB	4.3	10/30/2006	8/25/2036	WFB
ARSI 2006-W1 M8	Subprime	22,222,222	00104R06	BBB+	Baa2	BBB+	3.8	3/7/2006	3/25/2036	AQAC
CARR 2006-FRE1 M8	Subprime	22,222,222	14453BAN5	BBB+	Baa2	A	3.8	6/28/2006	7/25/2036	FREM
CARR 2006-FRE2 M8	Subprime	22,222,222	14454AAN9	BBB	Baa2	BBB+	4.2	10/18/2006	10/25/2036	FREM
CARR 2006-NC1 M8	Midprime	22,222,222	14453FF2	BBB	Baa2	BBB+	3.8	2/8/2006	1/25/2036	NCAC
CARR 2006-NC2 M8	Subprime	22,222,222	14453FAM1	BBB	Baa2	BBB	3.8	6/21/2006	6/25/2036	CARR
CARR 2006-NC3 M8	Subprime	22,222,222	14453BAN6	BBB	Baa2	BBB	4.0	8/10/2006	8/25/2036	NCMC
CARR 2006-CP1 M8	Subprime	22,222,222	14453FV7	BBB+	Baa2	A	3.6	3/14/2006	2/25/2036	OOMC
CMLT 2006-AMC1 M8	Subprime	22,222,222	17308PAL0	BBB	Baa2	BBB	4.1	8/28/2006	8/25/2036	AQAC
CMLT 2006-NC1 M8	Subprime	22,222,222	17308JAN8	BBB	Baa2	BBB	3.8	6/25/2006	8/25/2036	WFB
CMLT 2006-WFH2 M8	Subprime	22,222,222	17308MA3	BBB	Baa2	BBB	4.0	8/10/2006	8/25/2036	WFB
CMLT 2006-WMC1 M8	Midprime	22,222,222	17307G2F4	A-	Baa2	BBB+	3.7	1/31/2006	1/25/2036	WFB
CMLT 2007-WFH1 M9	Subprime	22,222,222	17311CAN3	BBB	Baa2	BBB	4.5	2/9/2007	1/25/2037	WFB
CWL 2006-24 M8	Subprime	22,222,222	22343HAN1	BBB	Baa2	BBB	4.8	10/26/2006	5/25/2037	CHLS
FFML 2006-FF11 M8	Midprime	22,222,222	32028PAP0	BBB	Baa2	BBB	3.9	9/6/2006	8/25/2036	WFB
FFML 2006-FF12 M8	Midprime	22,222,222	32027CAN6	BBB	Baa2	BBB	4.2	8/25/2006	9/25/2036	ALS
FFML 2006-FF14 M8	Midprime	22,222,222	32027LAP0	BBB	Baa2	BBB	4.2	8/25/2006	10/25/2036	AURA
FFML 2006-FF15 M8	Midprime	22,222,222	32028GAP0	BBB	Baa2	BBB	4.3	10/25/2006	11/25/2036	AURA
FFML 2006-FF16 M8	Midprime	22,222,222	32027FAN6	BBB	Baa2	BBB+	4.3	11/30/2006	1/25/2037	NCML
FFML 2006-FF17 M8	Midprime	22,222,222	32028KAP1	BBB	Baa2	BBB	4.4	11/25/2006	1/25/2036	ALS
FFML 2006-FF7 M8	Midprime	22,222,222	32027TAP1	BBB	Baa2	BBB	3.6	5/31/2006	5/25/2036	WFB
FFML 2006-FF8 M8	Midprime	22,222,222	32027AP3	BBB	Baa2	BBB	3.7	7/7/2006	6/25/2036	WFB
PHLT 2006-A M7	Midprime	22,222,222	35725RAN6	BBB+	Baa2	BBB	3.9	5/10/2006	5/25/2036	WFB
PHLT 2006-B M8	Midprime	22,222,222	35720CAN8	BBB+	Baa2	BBB	4.4	8/3/2006	8/25/2036	WFB
FMIC 2006-2 M8	Midprime	22,222,222	31656CAN0	BBB	Baa2	BBB+	4.1	1/29/2006	1/25/2036	WFB
FMIC 2006-3 M8	Midprime	22,222,222	31656RAN9	BBB	Baa2	BBB	4.4	10/27/2006	11/25/2036	WFB
GSAMP 2006-FM2 M8	Midprime	22,222,222	32480DAN0	BBB	Baa2	BBB+	4.0	9/28/2006	9/25/2036	WFB
HEAT 2006-3 M8	Midprime	22,222,222	43704AL2	BBB+	Baa2	BBB	3.8	3/30/2006	7/25/2036	SPM
HEAT 2006-5 M8	Midprime	22,222,222	43706AG3	BBB+	Baa2	BBB+	3.8	6/25/2006	10/25/2036	WFB
HEAT 2006-6 M8	Midprime	22,222,222	43707AP3	A-	Baa2	A-	4.0	8/1/2006	11/25/2036	SPS
HEAT 2006-7 M8	Midprime	22,222,222	43708CAN8	BBB+	Baa2	BBB	4.0	10/3/2006	1/25/2037	WFB
HEAT 2006-8 M8	Midprime	22,222,222	43709CAP1	BBB	Baa2	BBB+	4.4	12/1/2006	3/25/2037	SPS
IRS 2006-HE3 B2	Midprime	22,222,222	46602UAN0	BBB	Baa2	BBB	4.8	9/29/2006	1/25/2037	WFB
JPMAC 2006-CPV2 W/M	Midprime	22,222,222	46602CAN6	BBB	Baa2	BBB+	4.3	8/9/2006	11/25/2036	WFB
JPMAC 2006-FRE1 M8	Midprime	22,222,222	46626LV7	BBB	Baa2	BBB	3.6	1/27/2006	5/25/2035	JPM
JPMAC 2006-WMC1 M8	Midprime	22,222,222	46626KAP4	BBB	Baa2	BBB	4.3	9/14/2006	8/25/2036	JPM
LBMLT 2006-11 M8	Midprime	22,222,222	54251ZAN8	BBB	Baa2	BBB	4.7	12/14/2006	1/25/2036	WMB
LBMLT 2006-4 M8	Midprime	22,222,222	54251MAN4	BBB	Baa2	A-	3.9	5/9/2006	5/25/2036	WMB
LBMLT 2006-5 M8	Midprime	22,222,222	54251RAN3	BBB+	Baa2	BBB+	4.2	7/26/2006	7/25/2036	WMB
LBMLT 2006-7 M8	Midprime	22,222,222	54251CAN8	BBB+	Baa2	A-	4.2	8/30/2006	8/25/2036	WMB

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LBMLT 2006-11 M8	Subprime	22,222,222	54251RAN3	BBB	Baa2	BBB	4.2	7/26/2006	1/25/2036	WMB
MABS 2006-HE5 M9	Subprime	22,222,222	57645AN9	BBB	Baa2	BBB	4.5	12/28/2006	11/25/2036	WFB
MABS 2006-NC2 M9	Subprime	22,222,222	59271BAP2	BBB	Baa2	BBB	4.2	9/28/2006	8/25/2036	WFB
MABS 2006-WMCA M8	Subprime	22,222,222	57646AP7	BBB	Baa2	BBB+	4.6	11/30/2006	10/25/2036	WFB
MLMI 2006-WMC1 B2A	Midprime	22,222,222	59020U415	BBB	Baa2	BBB+	3.6	3/14/2006	1/25/2037	WCC
MSAC 2006-HE7 B2	Subprime	22,222,222	61750MAP0	BBB	Baa2	BBB	4.9	10/31/2006	8/25/2036	CWHL
MSAC 2006-HE8 B2	Subprime	22,222,222	61750GAP7	BBB	Baa2	BBB	5.1	11/29/2006	10/25/2036	WFB
MSAC 2006-NC4 B2	Subprime	22,222,222	61748LAN2	BBB	Baa2	BBB	4.5	6/23/2006	6/25/2036	WFB
MSAC 2006-NC5 B3	Midprime	22,222,222	61748CAN6	BBB	Baa2	BBB	5.3	11/28/2006	10/25/2036	CWHL
MSAC 2006-WMC1 B2	Subprime	22,222,222	61744CV3	BBB+	Baa2	A	4.2	1/26/2006	3/25/2035	JPM
MSAC 2006-WMC2 B2	Midprime	22,222,222	61749KAP8	BBB	Baa2	BBB	4.7	6/28/2006	7/25/2036	WFB
MSAC 2007-NC1 B2	Subprime	22,222,222	61750CAN2	BBB	Baa2	BBB	5.3	1/26/2007	11/25/2036	CWHL
NSC 2006-HE1 B2	Subprime	22,222,222	61745FT06	BBB	Baa2	BBB+	4.5	4/28/2006	3/25/2036	WFB
NSIX 2006-2 B2	Midprime	22,222,222	617463AM6	BBB	Baa2	BBB	5.0	11/28/2006	11/25/2036	SAX
NHEL 2006-5 M8	Subprime	22,222,222	60889YAN2	BBB	Baa2	BBB+	4.0	5/28/2006	11/25/2036	NOVA
NHEL 2006-FM1 M8	Midprime	22,222,222	60889HPC3	BBB	Baa2	BBB+	3.3	1/30/2006	11/25/2035	WFB
NHEL 2006-FM2 M8	Midprime	22,222,222	60837FAN1	BBB+	Baa2	BBB+	4.1	10/31/2006	7/25/2036	WFB
NHEL 2006-HE3 M8	Subprime	22,222,222	60836QAN8	BBB+	Baa2	BBB+	4.8	8/1/2006	7/25/2036	WFB
COMLT 2007-1 M8	Subprime	22,222,222	83400DAP9	BBB	Baa2	BBB	4.3	1/24/2007	1/25/2037	OFC
SABR 2006-FR1 B2	Midprime	22,222,222	81376WJY3	BBB+	Baa2	A-	4.6	2/23/2006	11/25/2035	HSC
SABR 2006-FR2 B2	Subprime	22,222,222	81376WJY7	BBB+	Baa2	BBB	5.0	8/3/2006	5/25/2036	WMB
SABR 2006-HE2 B2	Subprime	22,222,222	81377AAM4	BBB+	Baa2	BBB	4.1	9/28/2006	7/25/2036	HSC
SAL 2006-4 M7	Subprime	22,222,222	80360WAM4	BBB	Baa2	BBB	4.1	6/25/2006	7/25/2036	ALS
SASC 2006-EO1A M8	Subprime	22,222,222	80360RAN3	BBB	Baa2	BBB	5.2	7/17/2006	7/25/2036	EMC
SASC 2006-CP11 M7	Subprime	22,222,222	80350UAN9	BBB	Baa2	BBB	3.7	4/25/2006	4/25/2036	AURA
SURF 2007-BC1 B2	Subprime	22,222,222	84752BAG2	BBB	Baa2	BBB	4.9	1/24/2007	1/25/2038	WCC
SVHE 2006-EO2 M8	Subprime	22,222,222	83611XAM6	BBB	Baa2	BBB	4.6	10/28/2006	1/25/2037	OLS
SVHE 2006-CP11 M7	Subprime	22,222,222	83611MMF2	BBB+	Baa2	BBB	3.6	3/10/2006	3/25/2036	OOMC
SVHE 2006-CP12 M7	Subprime	22,222,222	83611MMT2	BBB	Baa2	A	3.6	4/7/2006	5/25/2036	OOMC
SVHE 2006-CP13 M7	Subprime	22,222,222	83611MPS3	BBB	Baa2	BBB	3.7	8/10/2006	6/25/2036	WMB
SVHE 2006-CP15 M8	Subprime	22,222,222	83612CAN9	BBB	Baa2	BBB	4.2	6/19/2006	7/25/2036	WMB
ABSH 2006-HE7 M9	Subprime	22,222,222	04542QAP2	BBB	Baa2	BBB	4.4	11/10/2006	11/25/2036	SPS
BSAS 2006-HE2 M8	Subprime	22,222,222	07389MAP2	BBB	Baa2	BBB+	4.4	1/30/2006	11/25/2036	EMC
CMLT 2007-AMC1 M8	Subprime	22,222,222	17311BAL7	BBB	Baa2	BBB	4.6	3/30/2007	1/25/2038	CWHL
FFML 2007-FF1 B2	Midprime	22,222,222	32028TAN7	BBB	Baa2	BBB	4.8	1/26/2007	1/25/2038	HLS
NSAC 2006-HE2 M8	Subprime	22,222,222	44328BAP3	BBB+	Baa2	BBB	4.3	1/30/2006	1/25/2036	SPS
HEAT 2007-1 M8	Midprime	22,222,222	43710LAN4	BBB	Baa2	BBB+	4.5	2/1/2007	5/25/2037	SPS
LBMLT 2006-8 M8	Midprime	22,222,222	54251UAN6	BBB	Baa2	A	4.4	9/1/2006	9/25/2036	WMB
LBMLT 2006-9 M8	Midprime	22,222,222	54251WAN2	BBB	Baa2	BBB	4.4	10/12/2006	10/25/2036	WMB
NLM 2006-HE8 B3	Subprime	22,222,222	59023XAN6	BBB	Baa2	BBB	4.6	12/28/2006	11/25/2037	WCC
NLM 2006-CP11 B2	Subprime	22,222,222	59023YAN1	BBB	Baa2	BBB	3.8	8/25/2006	8/25/2037	OOMC
NLM 2007-HE1 B2	Subprime	22,222,222	59023FAP3	BBB	Baa2	BBB	5.2	1/26/2007	11/25/2036	SM
COMLT 2006-3 M9	Subprime	22,222,222	80360WAM4	BBB	Baa2	BBB	4.0	10/27/2006	2/25/2037	WMB
SASC 2006-WP3 M9	Subprime	22,222,222	80360FAN6	BBB	Baa2	BBB	4.3	8/25/2006	8/25/2036	ALS
SVHE 2006-CP14 M7	Subprime	22,222,222	83611YAN4	BBB	Baa2	BBB+	3.6	6/25/2006	6/25/2036	OOMC

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What did investors know?

- A lot.
- At origination:
<http://www.sec.gov/Archives/edgar/data/1375560/000119312506194735/dfw>
- After origination <http://www.ctslink.com/>

Eager Investors: Lehman Brothers

- Brookings Papers on Economic Activity, Fall 2008: 69–145.
Joint with Gerardi, Lehnert and Sherlund.
- Lehman Brothers: “U.S. ABS Weekly Outlook,” August 15, 2005.
- “HEL Bond Profile Across HPA Scenarios”

#	Name	Scenario	Loss	Probability
(1)	Aggressive	11% HPA over the life of the pool	1.4%	15%
(2)		8% HPA for life	3.2%	15%
(3)	Base	HPA slows to 5% by end-2005	5.6%	50%
(4)	Pessimistic	0% HPA for the next 3 years 5% thereafter	11.1%	15%
(5)	Meltdown	-5% for the next 3 years, 5% thereafter	17.1%	5%

- Actual HPA: -10% annualized from Q4, 2005 to Q4, 2008
- Forecast losses as of 2/2009 in 2006-1 ABX from JPM:
23.44% (assuming -30% HPA in 2009!)

The Abacus Deal

- Goldman Sachs arranged a deal:
- Bet on whether a collection of subprime backed securities would default.
- Who was long on such securities?: Insiders
 - Bear Stearns
 - Merrill Lynch
 - Lehman Brothers
 - Citigroup
 - AIG
- Who was short?
 - Paulson and Company

Was Paulson & Co. an insider?

- No.
- Paulson had no experience in real estate

"Paulson was a merger-arb guy and suddenly he has strong views on housing and subprime," [a potential investor] recalls. "The largest mortgage guys, including Vranos at Ellington, one of the gods of the market, were far more positive on subprime." (Zuckerman loc. 2281)

What was Paulson's strategy?

- Not based on “inside information” about the deals
- Believed that the key to mortgage defaults was house prices:

Paulson and Pellegrini concluded that the only way their trades would work was if the U.S. real estate market had reached unsustainable levels and began to fall...

- Big insight – “Eureka” moment.

Housing prices had climbed a puny 1.4 percent annually between 1975 and 2000, after inflation was taken into consideration. But they had soared over 7 percent in the following five years, until 2005. The upshot: U.S. home prices would have to drop by almost 40 percent to return to their historic trend line. (Zuckerman, loc 1936).

The chart [showing that house prices would fall 40 percent] was Paulson's Rosetta stone, the key to making sense of the entire housing market.

Bubbles and policy

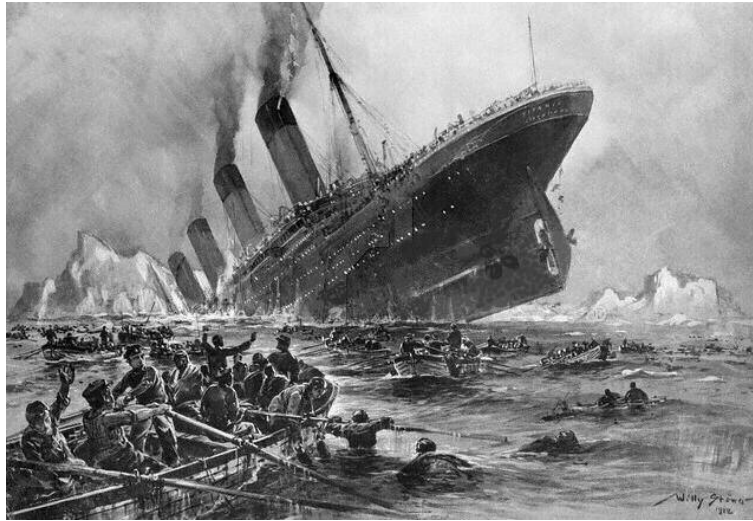
- Bubbles are like earthquakes
 - We cannot predict when they will happen.
 - We cannot stop them once they've started.
 - Large movements in asset prices occur far more frequently than theory predicts.

- But that doesn't mean we can't protect people

“The 1989 earthquake near San Francisco in California was of similar magnitude to Haiti's but killed just 63 people, mainly because the buildings there are designed to withstand the shock.” (The Economist Feb. 20, 2010.)

- “Structures” can withstand an economic earthquake.
 - Can this homeownership survive a 30% fall in house prices?
 - Can this bank survive a 30% fall in house prices?
- Well understood in 2005 that a big fall in prices would lead to massive defaults by subprime borrowers
 - An acceptable risk for a lender?

Disaster and policy



- Many people died because of shortage of lifeboats.
- Proposal: Steamship Company must disclose number of lifeboats.
- But the ship was “Unsinkable.”
- Solution: Require ship to have enough lifeboats for everyone.

Willen (Boston Fed)

On the origins of the crisis

May 5, 2010

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The slide you’ve all been waiting for...

- The end.