

# 14.09: Financial Crises

## Lecture 4: Understanding Banks' Losses: Moral Hazard or Mistakes

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# Why do financial institutions make losses?

- Key question for policy: The causes of bank losses.
- Two competing hypotheses:
  - 1 Mistakes: Optimism and neglected risks
  - 2 Moral hazard (of various forms).

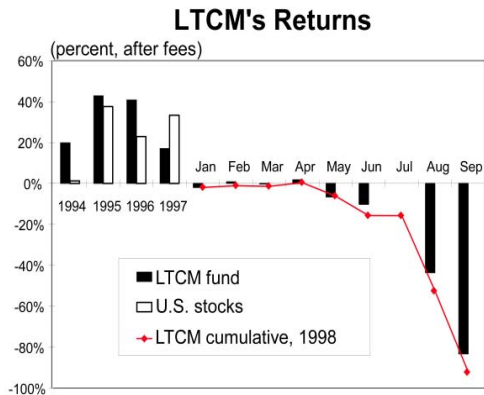
Today: Formalization, and comparison in the context of the recent crisis.

- Let us set the stage by analyzing LTCM's losses...

# Roadmap

- 1 Mistakes: Optimism and neglected risks
- 2 Moral hazard and reckless risk taking
- 3 Empirical evidence on insiders' beliefs
- 4 Revisiting moral hazard: Franchise value
- 5 Revisiting moral hazard: Looting

# What caused LTCM's losses?



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# LTCM's strategy: Relative value arbitrage

Recall that LTCM used relative-value trades with high leverage.

- Find two very similar assets,  $A$  and  $B$ , that trade at prices  $p_A < p_B$ .
- Buy  $A$  and sell  $B$ . Cash in when the prices converge.
- But shouldn't similar assets already trade at similar prices?
- That would be the case in an ideal world, but reality is a bit messier...

# Relative arbitrage opportunity: Siamese twins

- Lamont and Thaler (2003), “Anomalies: The Law of One Price...”
- Royal Dutch and Shell are stocks of the same company Royal Dutch/Shell.

*Figure 1*

## Pricing of Royal Dutch Relative to Shell

*(deviation from parity)*



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# Relative arbitrage is risky business

- Prices can be driven apart by preferences of investors for one stock over the other (e.g. because one stock is an index constituent and the other is not).
- Arbs like LTCM can try to profit from this. But not completely riskless.
  - It would be riskless if the arbs could hold the position forever.
  - But HFs have quite short horizons (redemptions in case of losses).
  - As Keynes said, “in the long run we are all dead” (including the Arbs).
- So the risk is that mispricing will worsen before prices eventually converge.
- The risk is quite serious for stocks (as you see from the graph) because there is no fixed date at which we can anticipate correct valuation.
- Bonds that have fixed maturity are a little less risky but still risky.

# LTCM's strategy: Relative value arbitrage

The success of LTCM's trades relied on two principles:

- 1 **Hedging:** Correlations within a pair,  $(A, B)$ , being high. Why?
    - So that  $p_A$  and  $p_B$  move together and  $p_A - p_B$  does not fluctuate much.
  - 2 **Diversification:** Correlations across different such pairs being low.
    - This ensures that “you did not put all your eggs in a single basket.”
- Risks can be much larger if these correlations are mismeasured, or if they change.



# LTCM trades not well hedged

- It seems that correlations within pairs were overestimated.

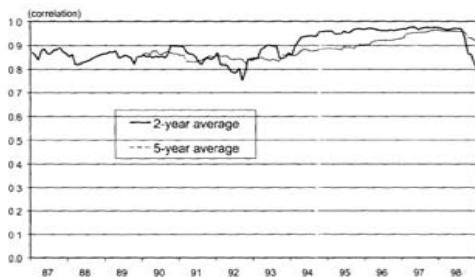


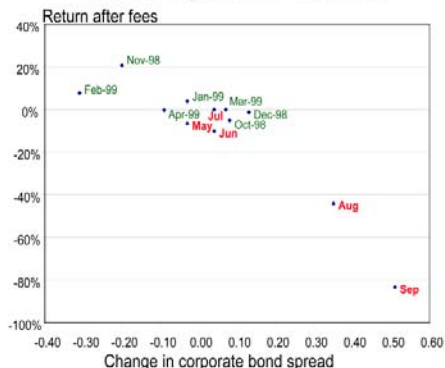
Fig. 8. Correlation between corporate and treasury yields

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- This leads to much larger risks than thought: A reduction in long asset prices not matched by a reduction in short asset prices leads to large losses in view of leverage.

# LTCM trades not well diversified

## Explaining LTCM's Returns



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- Returns explained by a single factor  $\implies$  Correlations across pairs were underestimated.

# So why did LTCM make losses?

- So LTCM made mistakes—large blunders in risk management.
- Narrative accounts, e.g., Jorion, suggest that this was due to a form of optimism: They neglected subtle risks (too much focus on recent data etc.)
- But there is a more ominous alternative: Perhaps LTCM was careless because it anticipated a government bailout.
- Let us formalize the bailout argument and contrast with mistakes...

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- 5 Revisiting moral hazard: Looting

# How about moral hazard?

The moral hazard arguments take various forms:

- 1 **Compensation contracts:** Poor incentives for traders.
- 2 **Borrowing contracts:** Risk taking at the expense of financiers.
- 3 **Government guarantees:** Poor incentives for the institution as a whole.

# How about moral hazard?

1 and 2 are always an issue (MH is a fact of life), which is why the market has also devised various checks against them:

- 1 Traders' activity monitored by managers/risk management divisions...
- 2 Risk taking monitored by banks, restricted by collateral/debt covenants...
  - (Recall the H-T model: MH restricts  $\bar{\rho}$  but does not result in risk taking!)

The government has no comparative advantage in dealing with 1 and 2.

Focus on 3: Moral hazard caused by the government's presence itself.

# A framework for thinking about moral hazard

- For simplicity, suppose  $\bar{\rho} = 0$ : The pledgeability is so low that the bank invests only its own money. We will discuss  $\bar{\rho} > 0$  later.
- The bank insiders start with  $N_0$  and choose the type of project:

	Safe	Risky
High state	$\bar{R}_1$	$R_1^H > \bar{R}_1$
Low state	$\bar{R}_1$	$R_1^L = 0$

- The normal project gives  $\bar{R}_1$  regardless of the state
- The risky project returns higher in  $H$  but lower in  $L$ .
  - $R_1^L = 0$  for simplicity, but can also imagine as capturing amplification.
- Let  $\pi \geq 0$  denote probability the bank assigns to low state  $L$ .

# Interpretation of the framework

One interpretation for the recent crisis:

- “Safe”: Holding prime mortgages or other safe investments.
- “Risky”: Holding subprime mortgages.
- Low state: A large decline in the nation-wide house price index.
  - (See Gerardi, Sherlund, Willen (2008), “Making Sense of the Subprime Crisis.”: They claim Banks understood that a price drop would create losses, but they underestimated the probability of a large decline.)

An equivalent interpretation:

- “Safe”: Holding subprime mortgages plus CDS insurance.
- “Risky”: Holding subprime mortgages without CDS insurance.

You can also provide similar interpretations for the LTCM episode.



- To formalize moral hazard, suppose the parameters are such that

$$\bar{R}_1 > (1 - \pi) R_1^H \text{ or equivalently } \pi > \frac{R_1^H - \bar{R}_1}{R_1^H}. \quad (1)$$

- Banks assign sufficiently high probability to  $L$  that, absent government intervention, it is not profitable to keep a risky balance sheet.
- So without government, banks don't take risk. No crisis!
- Let us introduce government into the analysis.

# Bailouts: Government injects funds into banks

- Imagine state  $L$  is realized so that the bank's net worth is,  $N_1^L = 0$
- What happens to banks' investment,  $I_1^L$ ? What happens to loan to firms?
- Suppose the government can transfer wealth from financiers to banks.
- Would the government want to do that? Why?
- Bailout: Suppose the government transfers money to bank in state  $L$ , which raises the bank's effective return to some  $R_1^{L,bail} > 0$ .
- The transfer is financed by taxing financiers.
- (In practice, bailouts work somewhat differently. Will come back.)

# With government transfer: Banks might misbehave

- Suppose the parameters also satisfy,

$$\bar{R}_1 < (1 - \pi) R_1^H + \pi R_1^{L,bail}.$$

- The bailout is sufficiently large to make the risky project attractive.
- Anticipating the government bailout, the bank chooses to take risk.
- Government bailout creates (or at the very least exacerbates) crises!
- This is also known as “heads I win, tails you loose” principle.

# A strict no-bail-out-ever policy could prevent crises

- If we could commit to setting  $R_1^{L,bail} = 0$ , the crises would be averted!
- This type of commitment is difficult since it would be very costly for the economy in state  $L$ . In economics lingo, the policy is time-inconsistent.
- But suppose you could get around time-inconsistency, say by enacting laws that make bailouts very difficult. Would you want that?
- What are some potential problems with this no-bail-out-ever policy?

# The policy is not robust to the alternative: Mistakes

- Policy is not robust to the presence of neglected risks/mistakes.
- In fact, neglected risks/mistakes provide a natural alternative to MH.
- To illustrate this alternative using the above framework, suppose the converse of assumption (1) holds, so that

$$\bar{R}_1 < (1 - \pi) R_1^H \text{ or equivalently } \pi < 1 - \frac{\bar{R}_1}{R_1^H}.$$

- The insiders believe state  $L$  is so unlikely that holding risk is profitable.
- They choose “risky” even if  $R_1^{L,bail} = 0$ —since they view  $L$  as unlikely.
- They choose risky if they expect  $R_1^{L,bail} > 0$ . Whether there is a bailout has a small impact on the bank’s decisions since  $\pi$  is low.

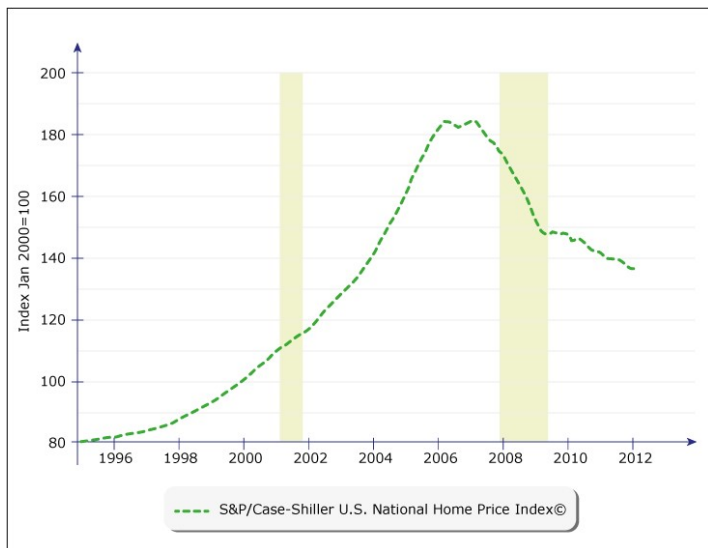
# Roadmap

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# How to test optimism vs moral hazard?

- Key difference between the two explanations is the bank's belief about crisis,  $\pi$ .
- Moral hazard: high  $\pi$ , deliberate risk taking. Mistakes: low  $\pi$ , neglected risks.
- In the subprime context: The probability of a nation-wide decline in house prices.
- Shouldn't banks have seen the collapse of the housing bubble coming?

# Wasn't the housing bubble obvious?



- How could the banks have missed this? Surely,  $\pi$  must be large.



# Beware the wisdom-after-the-fact

- The bubble is obvious only with hindsight. At the time, few people anticipated a large nation-wide decline in house prices.
- Watch “The Big Short”. How many pessimists were there? How were they treated by others—the conventional wisdom?
- During the boom phase, there are always justifications for high prices.
- Reinhart and Rogoff (2009) call this “This Time is Different.”
- For a narrative account, read the paper by Gerardi, Foote, Willen (2010): “Reasonable people did disagree: Optimism and pessimism about the US housing market before the crash”
- We need to do something more systematic to gauge the insiders’  $\pi$ .

# Lessons from Titanic: A AAA-rated ship

From Shleifer (2011), AFA address:

- When built, Titanic was described as the safest, largest ship ever.
- **Insiders and financiers were on board: They believed it was safe.**
- Radio operators ignored warnings of icebergs nearby.
- Many lifeboats on board, enough for 1/3 of passengers. Consistent with regulation.
- 1500 people died. Some rescue boats were not full. **Almost all the crew died.**

The insiders of Titanic, as well as the regulators, seemed to have low  $\pi$ .

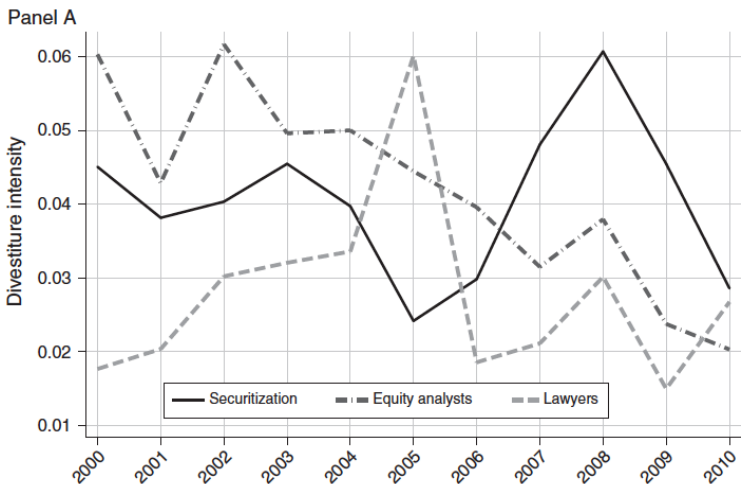
# Were insiders on board during the subprime crisis?

- A similar analysis can help us to gauge  $\pi$  during the subprime crisis.
- Look at insiders' **own portfolios**, i.e., what they did with their money.
- Moral hazard, high  $\pi$ , suggests would be careful with own portfolio.
- Mistakes, low  $\pi$ , suggest would take risks also with own portfolio.
- Cheng, Reina, Xiong (AER, 2014) analyze personal housing transactions of midlevel managers in securitized finance (CDOs etc) in 2004-2006.
- They use equity analysts and lawyers as comparison groups...

TABLE 1—PEOPLE

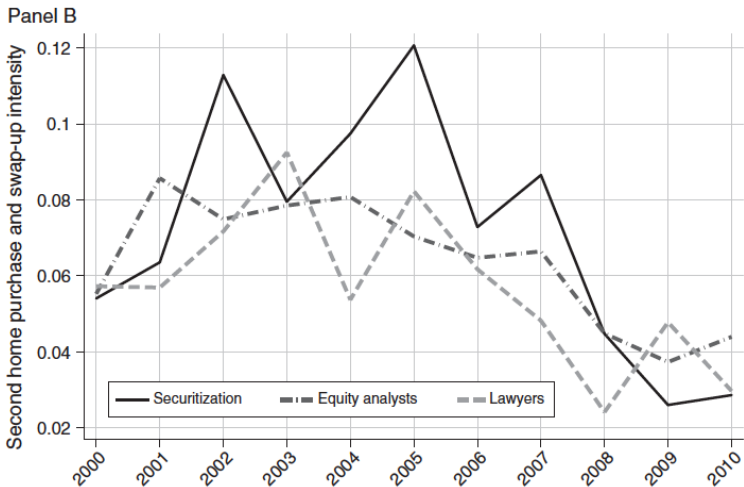
Sample	Securitization	Equity analysts	Lawyers
<i>Panel A. Number of people</i>			
Number of names	613	469	406
Not midlevel manager	13	—	—
Not housing	94	—	—
Not found in public records	29	16	3
Multiple found in public records	50	27	3
International	27	25	0
Deceased	0	1	0
People in sample	400	400	400
Person found, but no homes owned	58	82	42
People who sold all properties before 2000	3	1	0
People who only own homes beginning after 2010	3	4	3
People in sample owning at least one home, 2000–2010	336	313	355
Unconditional rate of homeownership	0.84	0.78	0.89

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- Divestiture: Sale of a home (could be second or first home),
- Securitization managers were less likely to sell in 2004-2006.



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- They were also more likely to buy a second home, or swap up into more expensive home, well until 2008.
- The results are robust to various econometric checks.

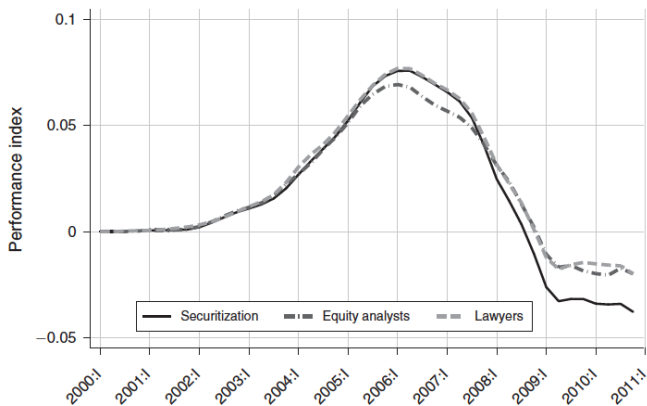


FIGURE 4. TRADING PERFORMANCE INDICES

*Notes:* This figure plots the average performance index, defined as the initial-wealth-weighted average difference between the cumulative return on the self-financed trading strategy and the buy-and-hold return of the initial stock of houses, where 2000:1 is taken as the initial quarter, for each group.

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# Some insiders seem to be on board during the crisis

- This suggests securitization managers were at least as optimistic about housing as the general public,  
 $E^{\text{insiders}} [Q_1^{\text{house}}] \geq E^{\text{public}} [Q_1^{\text{house}}]$ .
- This rules out  $\pi \simeq 1$ : Insiders didn't see an imminent crash.
- It does not definitively prove that  $\pi$  is low (which is not easy).
- But reconciled more easily with  $\pi$  being low than  $\pi$  being high.



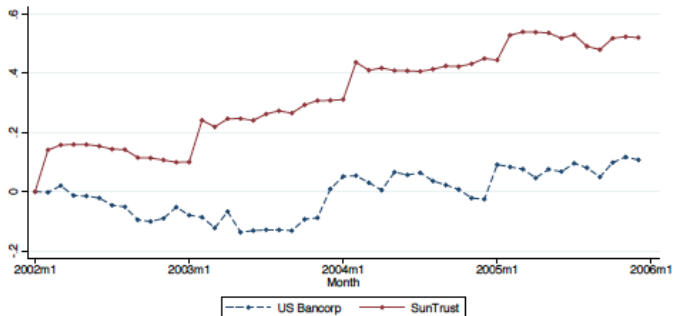
# How about top management?

- Ma (2013): a similar exercise with bank CEOs.
- Main idea: More optimistic CEOs are less likely to exercise their bank's stock options, as well as to sell their stocks, essentially speculating on their bank's success.
- Proxy for optimism by using CEOs' exposures to own bank's equity in 2002-2006.
- Mistakes/neglected risks suggest: Banks with more optimistic CEOs (indicative of low  $\pi$ ) would have greater real estate exposures before the crisis, and make greater losses during the crisis.
- A case study that compares two banks, US Bancorp (less optimistic CEO) and SunTrust (more optimistic CEO), illustrates Ma's more systematic results.

Figure 3: Comparisons of US Bancorp and SunTrust

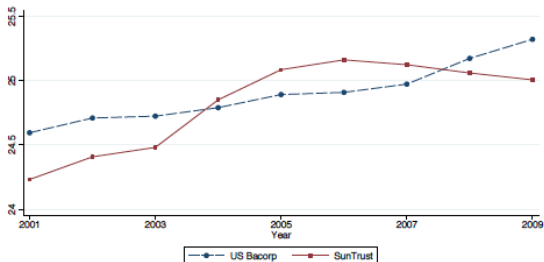
Panel A plots the log equity holding change of Grundhofer (US Bancorp) and Humann (SunTrust) since January 2002. Panel B plots the the log of the total amount of loans backed by real estate held by US Bancorp and SunTrust from 2001 to 2009. The slope is approximately the annual growth rate. Panel C plots the stock prices of these two firms from 1998 to 2012.

Panel A. Equity Holding Change of Grundhofer (US Bancorp) and Humann (SunTrust)

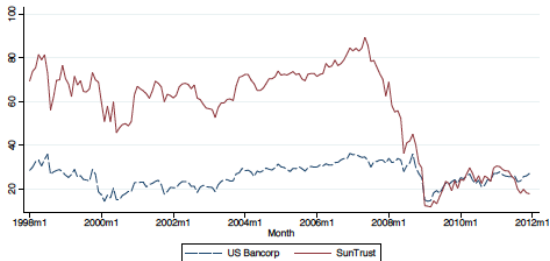


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Panel B. Log Loans Backed by Real Estate of US Bancorp and SunTrust



Panel C. Stock Prices of US Bancorp and SunTrust



Courtesy of Yueran Ma. Used with permission.

	Log Change Loans Backed by Real Estate (02–05)				
	(1)	(2)	(3)	(4)	(5)
Log Holding Change (02–05)	0.305*** (0.0781)	0.267*** (0.0748)	0.340*** (0.121)	0.300*** (0.111)	0.275** (0.105)
Dividend Yield as of 2002		-4.477*** (1.489)		-1.717 (2.653)	-1.521 (2.566)
Volatility as of 2002		0.200 (0.283)		0.431 (0.326)	0.422 (0.308)
RE Loans/Assets by 2002		-0.123 (0.166)		-0.254 (0.183)	-0.262 (0.174)
Size (log assets) by 2002		-0.0203 (0.0140)		-0.0272* (0.0143)	-0.0290** (0.0138)
Log Holding Change (98–01)			-0.0330 (0.0202)	-0.0444* (0.0242)	-0.0400* (0.0211)
RE Loan Growth (98–01)			0.304** (0.137)	0.254** (0.111)	0.249** (0.109)
FHFA Index Change (02–05)					0.386 (0.252)
Constant	0.411*** (0.0246)	0.656*** (0.190)	0.272*** (0.0564)	0.519*** (0.181)	0.441*** (0.181)
Observations	142	136	77	76	76
R-squared	0.076	0.170	0.204	0.304	0.339

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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- More optimistic CEOs' banks increased real estate loans by more.

	Holding Period Return (2007–2009)				
	(1)	(2)	(3)	(4)	(5)
Log Holding Change (02–05)	-0.213** (0.0838)	-0.200** (0.0871)	-0.217** (0.105)	-0.300** (0.133)	-0.333** (0.165)
Dividend Yield as of 2002		2.747 (1.903)	0.842 (1.909)		1.566 (2.289)
Volatility as of 2002		-0.200 (0.197)	-0.337 (0.252)		-0.295 (0.265)
Pre-Crisis Beta		-0.0621 (0.122)	-0.0657 (0.151)		0.178 (0.221)
RE Loans/Assets by 2002			-0.900*** (0.250)		-0.714** (0.288)
Size (log assets) by 2002			-0.00607 (0.0219)		0.0230 (0.0278)
Log Holding Change (98–01)				-0.00163 (0.0300)	-0.0235 (0.0291)
Constant	-0.451*** (0.0317)	-0.426*** (0.110)	0.129 (0.281)	-0.433*** (0.0417)	-0.275 (0.306)
Observations	166	160	135	94	78
R-squared	0.029	0.053	0.178	0.040	0.236

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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- Stock prices of the banks with more optimistic CEOs fell by more.
- The more on board CEOs were, the deeper the ship did sink!

# Most insiders seem to be on board during the crisis

- The evidence on beliefs is more consistent with mistakes (due to optimism and neglected risks) than moral hazard.
- There are also other, more theoretical, reasons to be skeptical of the earlier version of the moral hazard argument.

# Roadmap

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# Problems with the basic moral hazard argument

The basic MH argument is too extreme for a couple of reasons:

- 1 Owners/shareholders do not necessarily benefit from a bailout...
  - Read the HBS case study of JP Morgan and Bear Stearns.
  - What happened to Bear's shareholders' wealth after the bailout?
  - The bailout did benefit Bear's creditors/financiers. Could formulate a more sophisticated version with  $\bar{p} > 0$ , and financiers make low interest loans to Bear.
  - More reasonable. But still requires high  $\pi$  (by financiers as well insiders).



2. Dynamic considerations might push against reckless risk taking.
  - **Franchise value:** Future stable profits due to banking services.
  - Banks' such as Bear Stearns and JP Morgan build franchise-reputation over time to provide (highly profitable) intermediation services...

# Bear Stearns' revenue breakdown

**Exhibit 4** Bear Stearns & Co., Income Sheet Data, as amended, 2004-2007, and unaudited Q1 2008 (in \$ million, except EPS and ratios)

(FY ending November 30)	Q1 2008 (unaudited)	2007	2006	2005	2004
Revenues	3,427	16,151	16,551	11,552	8,422
Capital Markets	1,036	3,919	7,322	5,722	5,305
Institutional equities	811	2,158	1,962	1,446	1,088
Fixed income	66	685	4,190	3,293	3,147
Investment Banking	159	1,076	1,170	983	1,070
Global Clearing Services	253	1,200	1,077	1,029	894
Wealth Management	200	830	858	681	628
Private client services	161	602	522	453	442
Asset management	39	228	335	228	187
Other	-10	-4	-29	-21	-15
Interest Expense	1,948	10,206	7,324	4,141	1,609
Net Revenues	1,479	5,945	9,227	7,411	6,813

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# Bear Stearns revenue breakdown

- The revenues from fixed income (CDOs etc) are the largest.
- However, there are sizeable revenues also from other divisions, e.g., investment banking, clearing services, wealth management...
- If Bear didn't make losses in fixed income portfolio, it would presumably continue to make these other revenues **year after year**.
- Think of the franchise value  $V^F$  as the present discounted value of these revenues.
- After a failure and bailout, Bear insiders lose  $V^F$ . They are transferred to JP Morgan (to the extent that they did not disappear altogether).
- Would franchise value make moral hazard more or less severe?

# Franchise value can provide discipline against MH

- Think of the Bear management as comparing  $V^F + \bar{R}_1 N_0$ , with

$$(1 - \pi) (R_1^H N_0 + V^F) + \pi R_1^{L,bail} N_0.$$

- Choose the safe action as long as

$$\underbrace{\pi V^F}_{\text{potential loss of franchise profits (forever)}} > \overbrace{\left( (1 - \pi) R_1^H + \pi R_1^{L,bail} - \bar{R}_1 \right) N_0}^{\text{net profits from fixed income (one-time)}}$$

- When  $\pi > 0$ , then  $V^F$  pushes strongly against risk taking. The moral hazard argument more difficult to sustain.
- When  $\pi \simeq 0$ ,  $V^F$  has little effect. Mistakes due to neglected risk/mistakes can cause crises even with high  $V^F$ .

# Why did franchise value not discipline Bear Stearns?

Page 12 of Bear Stearns case: “Within the bond business,...,key lieutenants were in fierce disagreement over how best to manage the extent of Bear’s mortgage related securities holdings. Bear’s head of stock sales and trading, as well as the company’s head of proprietary trading, argued that the head of Bear’s mortgage division needed to reduce his holding: “Cut the positions, and we’ll live to play another day,” said the head of proprietary trading. Schwartz, however, was reluctant to unload billions of dollars worth at prices that seemed to be unreasonably low and possibly not reflective of their true value.”

- This paragraph illustrates the crux of the franchise value argument.
- And how FV discipline can be lost due to mistakes by top management.
- Schwartz replaced Jimmy Cayne as CEO in January 2008.

# JP Morgan revenue breakdown

Exhibit 9 JP Morgan Chase & Co., Selected Financial Data (as amended), 2004-2007 (in \$ million, except EPS and ratios)

	Q1 2008	2007	2006	2005	2004
Revenue, net	16,890	71,372	61,999	54,248	42,736
Income from Continuing Operations	-	15,365	13,649	8,254	4,260
Net pretax income from continuing operations	3,535	22,808	19,886	11,839	5,856
Net income	2,373	15,365	14,444	8,483	4,466
Operating earnings by line of business					
Investment Bank	-87	3,139	3,674	3,673	2,948
Retail Financial Services	-227	3,035	3,213	3,427	2,199
Card Services	609	2,919	3,206	1,907	1,274
Commercial Banking	292	1,134	1,010	951	608
Treasury and Securities Services	403	1,397	1,090	863	440
Asset Management	356	1,966	1,409	1,216	681
Corporate	15	1,775	842	-3,554	61

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# Did franchise value discipline JP Morgan?

- The franchise value items appear to be even greater for JP Morgan.
- This could be one reason why, Jamie Dimon (CEO), insisted on more careful risk management and a “fortress balance sheet”.
- Liquidity/capital exceeded regulatory requirements (and competitors’)!
- Note also that JP Morgan acquired Bear assets (its franchise value) cheaply: There are rewards to being strong in a crisis!
- This provides further discipline against moral hazard. Why?

# Did Dimon see the crisis coming?

- Even JP Morgan made some losses in the mortgage market.
- Page 7: “Looking back, Dimon noted that, “Our biggest mistake was assuming that home prices would go up for a decade without losses. We loosened up our standards. Once prices stopped rising, losses mounted. We need to write a letter to the next generation saying that there’s a reason why we loan only 80% LTV on a home.”
- So even Dimon did not fully see the crisis coming.
- But he seemed to have the sense that *something* could go wrong ( $\pi$  relatively high) in a complex economic environment and company.
- Ma (2013): Heterogeneity in  $\pi$  also reflected in CEOs’ own portfolio...



Table 10: CEO Equity Holdings of the Largest Banks

This table presents the equity holdings of CEOs of the largest commercial and investment banks. Since Thomson Reuters does not maintain data for delisted firms, numbers presented here are taken directly from the firms' proxy filings. Before 2006, firms did not disclose information on the properties (exercise price and expiration date) of the options in the proxy filings, so the options are not delta-weighted, and include both exercisable and unexercisable options. For this reason, I do not add up stocks and options to compute total equity holdings. All numbers are as of the beginning of the specified year.

Firm	Executive	CEO Term	Stock (b.2002)	Options (b.2002)	Stock (b.2006)	Options (b.2006)
Bear Stearns	James Cayne	1993-2008	4,702,840	211,864	5,909,483	761,165
Lehman Brothers	Richard Fuld	1994-2008	4,239,658	2,906,640	4,473,624	1,700,000
Merill Lynch	Stanley O'Neal	2003-2007	73,209	2,108,157	1,189,614	2,523,919
Morgan Stanley	Philip Purcell	1997-2005	2,442,416	3,433,120	2,198,315	1,910,948
Goldman Sachs	Henry Paulson	1999-2006	3,997,960	361,043	4,032,743	680,474
Citigroup	Charles Prince	2003-2007	752,618	1,067,851	1,485,983	1,137,411
Bank of America	Kenneth Lewis	2001-2009	536,168	3,580,000	486,872	5,580,000
JPMorgan Chase	William Harrison	2002-2005	1,078,141	5,060,747	802,571	5,929,369

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- Ma (2013): “The patterns in Table 10 are also consistent with (the earlier results for commercial banks). CEOs at the worse-performing banks generally had larger ex ante increases in equity holdings, while CEOs at the better-performing banks had smaller increases.”
- The exception is Dick Fuld of Lehman Brothers.

# Taking stock from franchise value and MH

- $V^F$  provides discipline against moral hazard, especially when  $\pi$  is high.
- Makes it harder to have crises with high  $\pi$  and reckless risk taking.
- This also suggests moral hazard can be a real concern when  $V^F$  is low.
- $V^F$  could be low, for instance, if the bank is almost sure to fail regardless of its actions (it had already made big mistakes and too late to save).
- In these cases, a more sinister version of MH can apply: **Looting**.

# Roadmap

- 1 Mistakes: Optimism and neglected risks
- 2 Moral hazard and reckless risk taking
- 3 Empirical evidence on insiders' beliefs
- 4 Revisiting moral hazard: Franchise value
- 5 Revisiting moral hazard: Looting

# Looting: An extreme version of MH

- Looting (loosely): Extracting value directly (paying dividends to owners, transferring money to friends etc) from a bank that is very likely to fail.
- Extreme MH: Transfer at date 0 as opposed to state  $H$  of date 1.
- Akerlof and Romer (1993): Looting might be relevant for the Savings and Loan crisis of 1980s (as well as other crisis episodes in other countries).

# Looting/MH during the S&L crisis?

- Many thrifts (small banks) were or close to being bankrupt in 1980s.
- They were also not profitable due to increased competitiveness earlier.
- These observations suggest that their  $V^F$  might have been quite low.
- Regulatory action was delayed, and the ultimate cleanup happened only in late 1980s and early 1990s. MH is a real concern.
- Combined with a lack of accountability, looting could well be an issue.

## Lessons:

- Beware of moral hazard in situations with low franchise value.
- MH *during* a crisis (as opposed to before) might be a bigger concern. Swift regulatory action/bailout can actually *mitigate* moral hazard!

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## 14.09 Financial Crises

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