

# Credit Crunch: Causes, Effects & Implications

Ian Clarke, 29<sup>th</sup> May 2008

# Credit Crunch: Causes, Effects and Implications

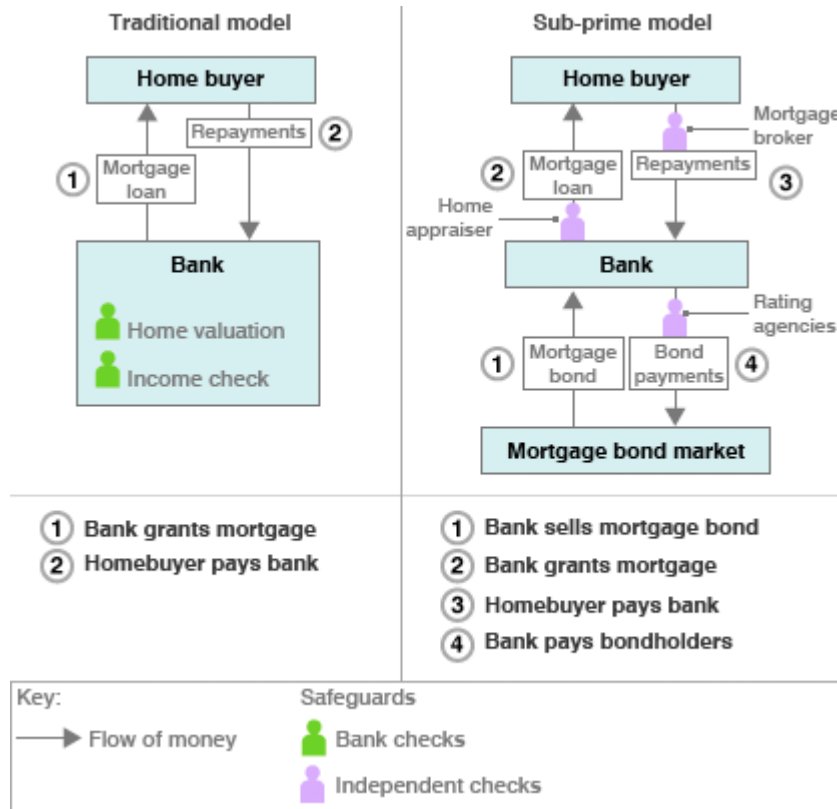
- A review of the causal process
- Impact of the Credit Crunch
- Longer term implications?

# The Credit Crunch: Causal Process

- Background
  - Sustained low-interest environment and liquidity
  - Residential asset bubble in U.S. (subprime)
  - Originate-and-hold mortgages to originate-and-sell
  - Mispricing of risk/Conflicted ratings agencies
- US sub-prime residential mortgage market
  - Problems began as early as Feb 2007
- Initially unknown exposures

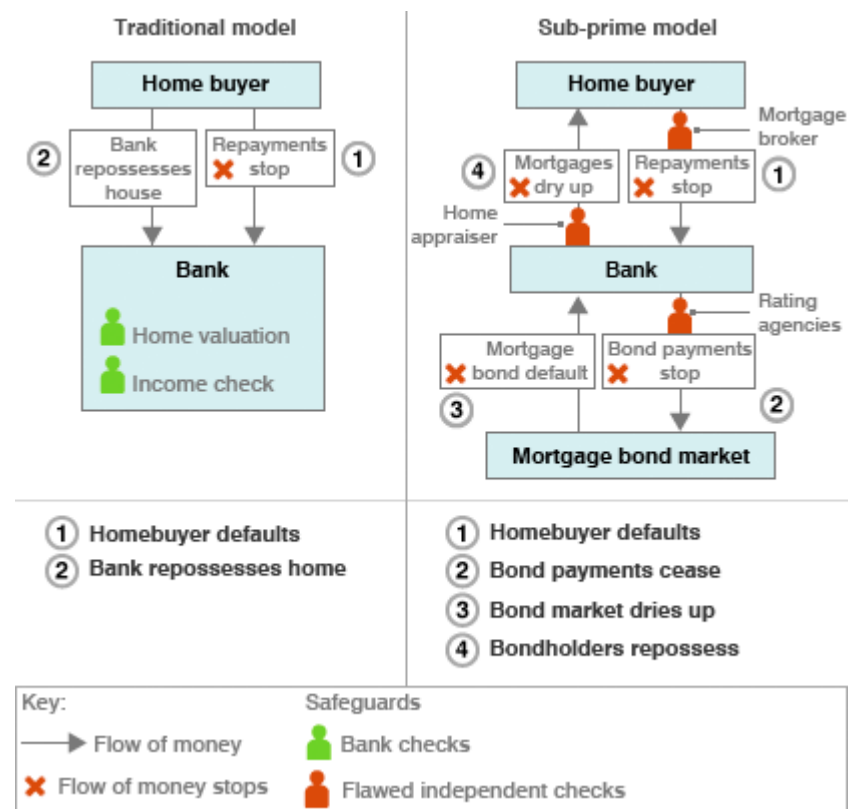
# Sub-prime debt: The simple mechanics

## Regular repayments



Source: BBC

## Problems in repayments



Source: BBC

# Impact of the Credit Crunch on the Debt Market

- Liquidity
  - Interbank lending, Bond issuance, Bank lending, Leveraged borrowing,
- Leverage
  - Lending moves to a more conservative basis
- Cost of Funds
  - Easier to assess based on pricing of pre-existing debt such as bonds
  - Asset Backed Debt

# Impact of the Credit Crunch: Irish Stock Market

- 1997-2007 Irish stock market consistently returned 8% p.a.
- Lost €26bn in value during 2007
- Why was the Irish stock market so badly affected?
  - Further volatility in the market as a result of speculation

# Impact of the Credit Crunch: Liquidity

Reflected in Interbank lending margins

## LIBOR Risk Free Differential



# Impact of the Credit Crunch: Leverage

## Leverage squeeze

### Western Europe LBOs & Recaps: Average Debt to EBITDA Ratios

Quart	Tot. Debt:EBITDA	Sr. Debt:EBITDA
1 Q02	4.38	3.42
2 Q02	3.76	2.80
3 Q02	4.37	3.35
4 Q02	4.21	3.21
1 Q03	3.47	3.07
2 Q03	4.26	3.32
3 Q03	4.39	3.32
4 Q03	4.07	3.28
1 Q04	4.35	3.17
2 Q04	4.55	3.46
3 Q04	4.09	3.25
4 Q04	4.81	3.80
1 Q05	4.67	3.94
2 Q05	4.68	3.84
3 Q05	4.94	3.93
4 Q05	5.43	3.97
1 Q06	5.40	4.28
2 Q06	5.06	4.02
3 Q06	5.11	4.08
4 Q06	5.34	4.22
1 Q07	5.51	4.64
2 Q07	6.12	4.84
3 Q07	6.46	5.03
4 Q07	5.31	3.92

**REUTERS** 

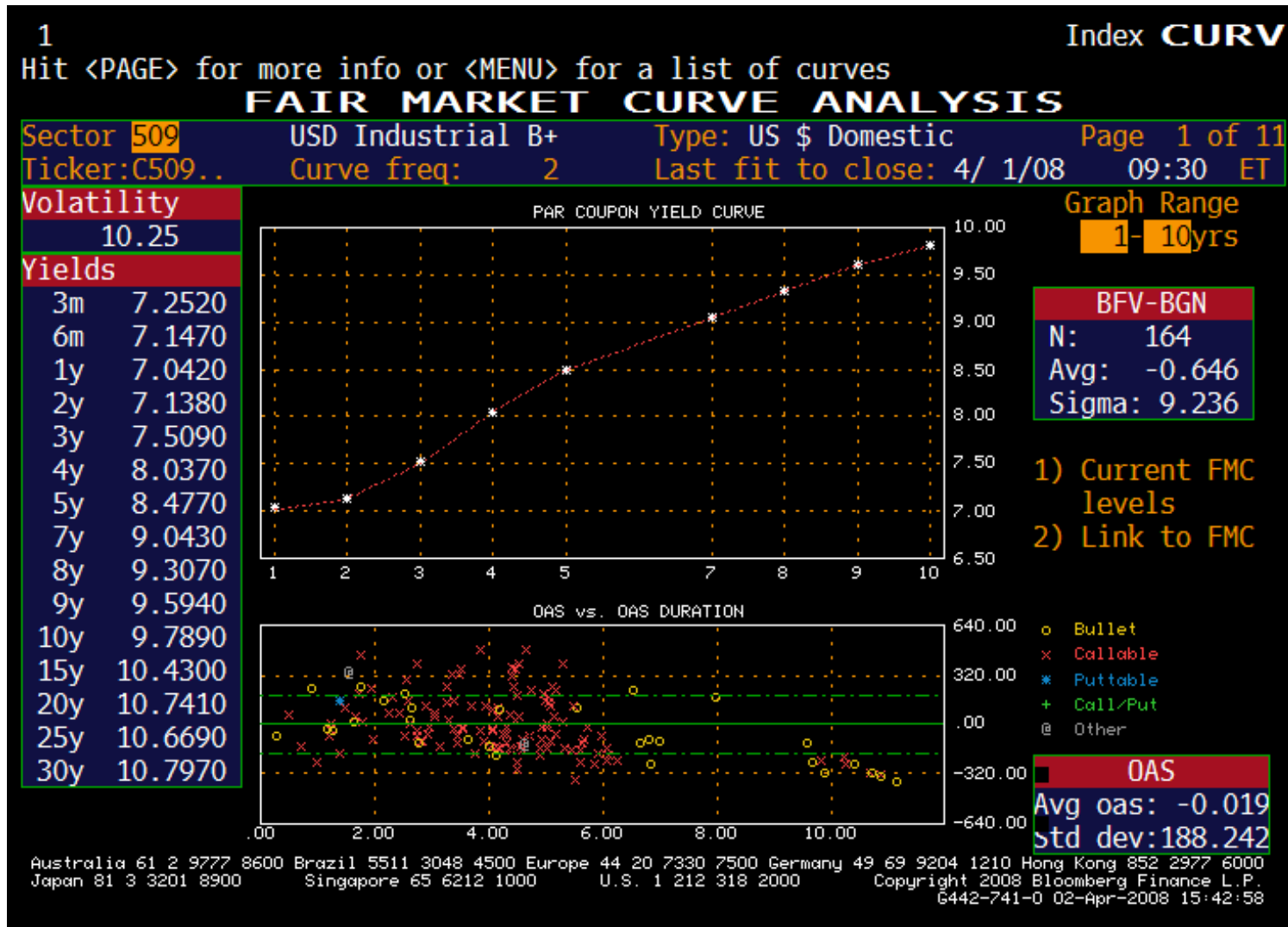
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# Impact of the Credit Crunch: Leverage

Still a huge volume of Sub-Investment Grade debt in market (primarily US)



# Impact of the Credit Crunch: Leverage

And even some sub-investment grade bonds still being issued

<HELP> for explanation. Corp SRCH

Sorted by Issue Date, Coupon, Maturity.

## Bond Search

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Descriptive Display Edit Columns Options Sort Search Results: credit crunch impact

101 Securities Shown

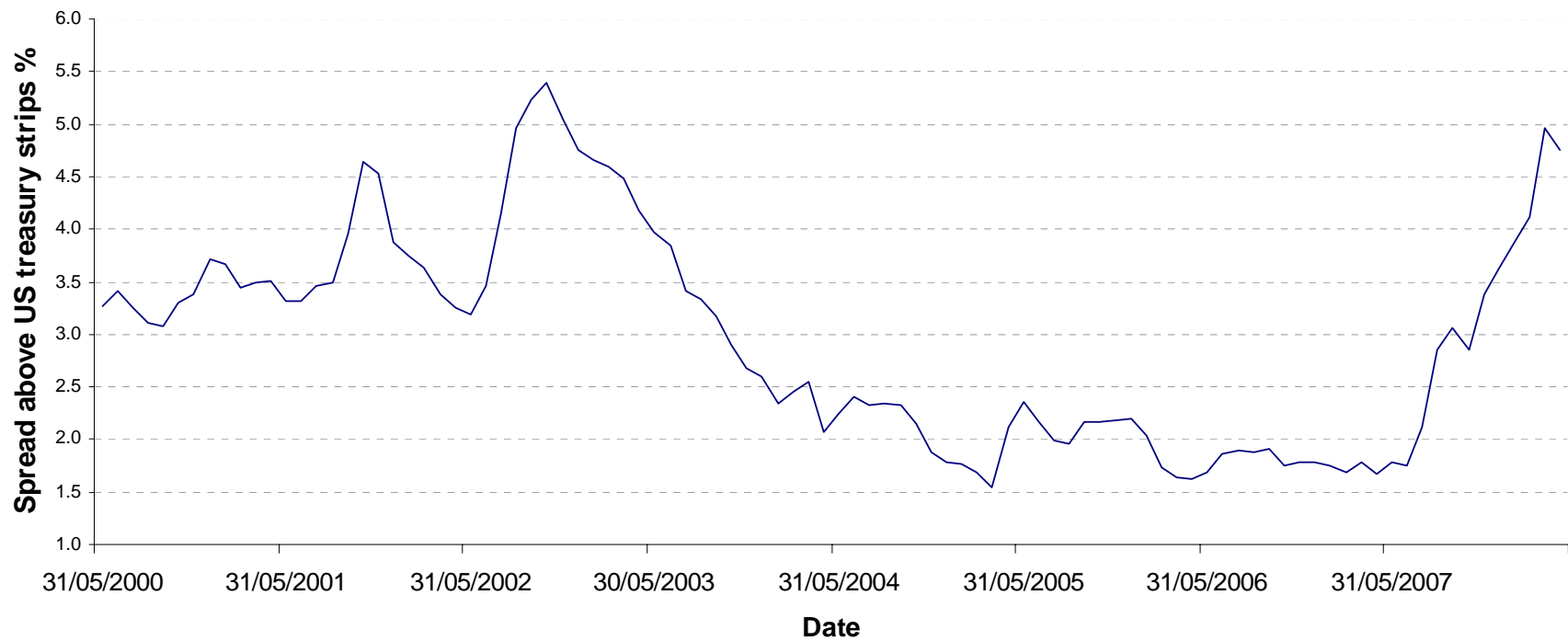
Issuer	Coupon	Maturity	Comp Mty Type	Issue Date	Amt Iss (MM)
1)AAR CORP	2.250	03/01/16	NR CONVERTIBLE	02/11/08	112
2)FORBES ENERGY	11.000	02/15/15	B CALLABLE	02/12/08	205
3)FORBES ENERGY	11.000	02/15/15	NR CALLABLE	02/12/08	205
4)FORBES ENERGY	11.000	02/15/15	NR CALLABLE	02/12/08	205
5)SEMINOLE TRIB FL	8.030	10/01/20	BBB- CALL/SINK	02/21/08	105
6)VWR FUNDING INC	10.250	07/15/15	CCC+ CALLABLE	02/21/08	675
7)CHAPARRAL ENERGY	8.875	02/01/17	NR CALLABLE	02/25/08	325
8)CLAIRE'S STORES	9.250	06/01/15	CCC+ CALLABLE	02/26/08	250
9)CLAIRE'S STORES	9.625	06/01/15	CCC+ CALLABLE	02/26/08	350
10)PARALLEL PETE	10.250	08/01/14	CCC+ CALLABLE	02/28/08	150
11)ROCK-TENN CO	9.250	03/15/16	NR CALLABLE	03/05/08	200
12)ROCK-TENN CO	9.250	03/15/16	BB- CALLABLE	03/05/08	200
13)CENTRAL EUROPEAN	3.000	03/15/13	NR CONVERTIBLE	03/07/08	310
14)REGAL ENTERTAIN	6.250	03/15/11	NR CONVERTIBLE	03/10/08	200
15)ALLIANCE IMAGING	7.250	12/15/12	NR CALLABLE	03/11/08	150
16)STILLWATER MNG	1.875	03/15/28	NR CONV/PUT/CALL	03/12/08	181
17)DOLLAR GENERAL	10.625	07/15/15	NR CALLABLE	03/17/08	1175
18)COEUR D'ALENE	3.250	03/15/28	NR CONV/PUT/CALL	03/18/08	230
19)CHARTER COMM OPT	10.875	09/15/14	B- CALLABLE	03/19/08	545
20)CHARTER COMM OPT	10.875	09/15/14	B- CALLABLE	03/19/08	545

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 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2008 Bloomberg Finance L.P.  
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# Impact of the Credit Crunch: Cost of Funds

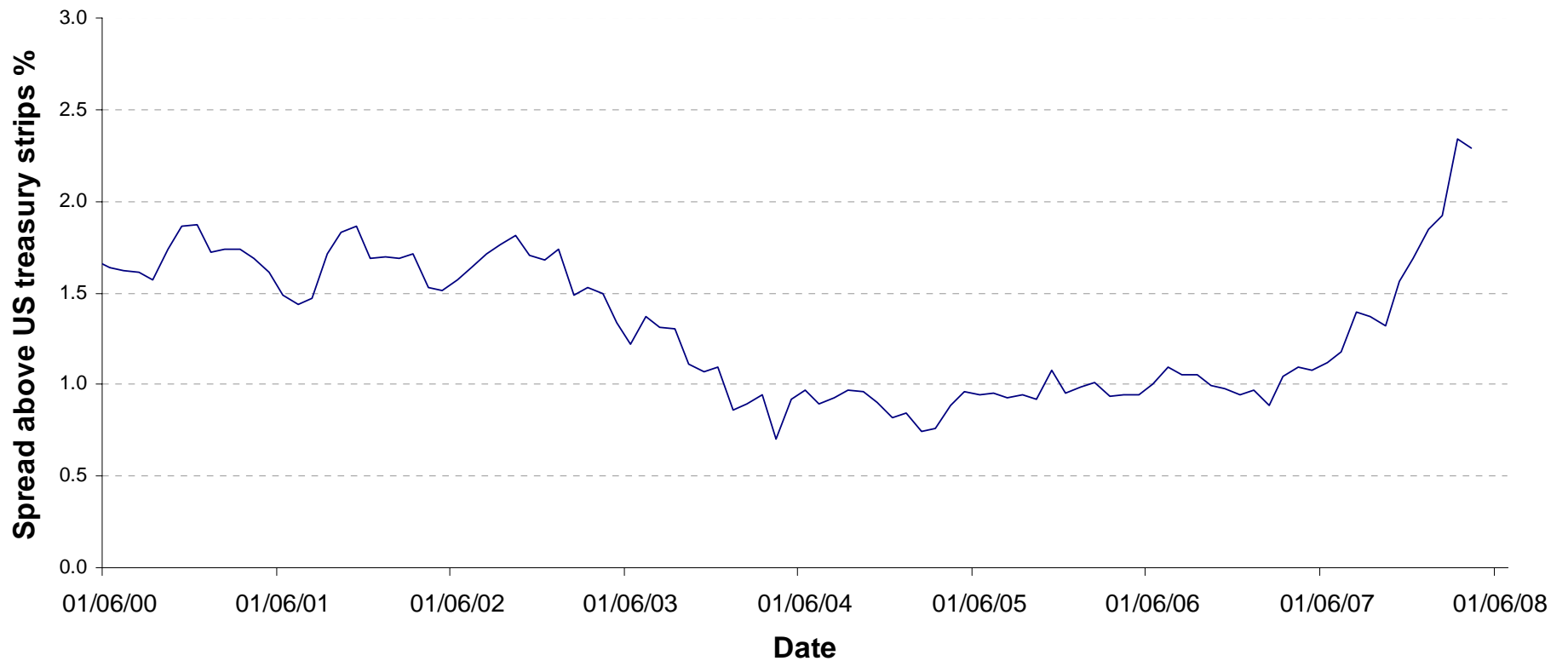
Important to place increased cost of funds in historical context

### US\$ BB 5Y Spreads over time



# Impact of the Credit Crunch: Cost of Funds

## US\$ BBB 5Y Spreads over time



# Impact of the Credit Crunch: Cost of Funds

But we have witnessed more than a doubling of the risk margins which have applied in recent years

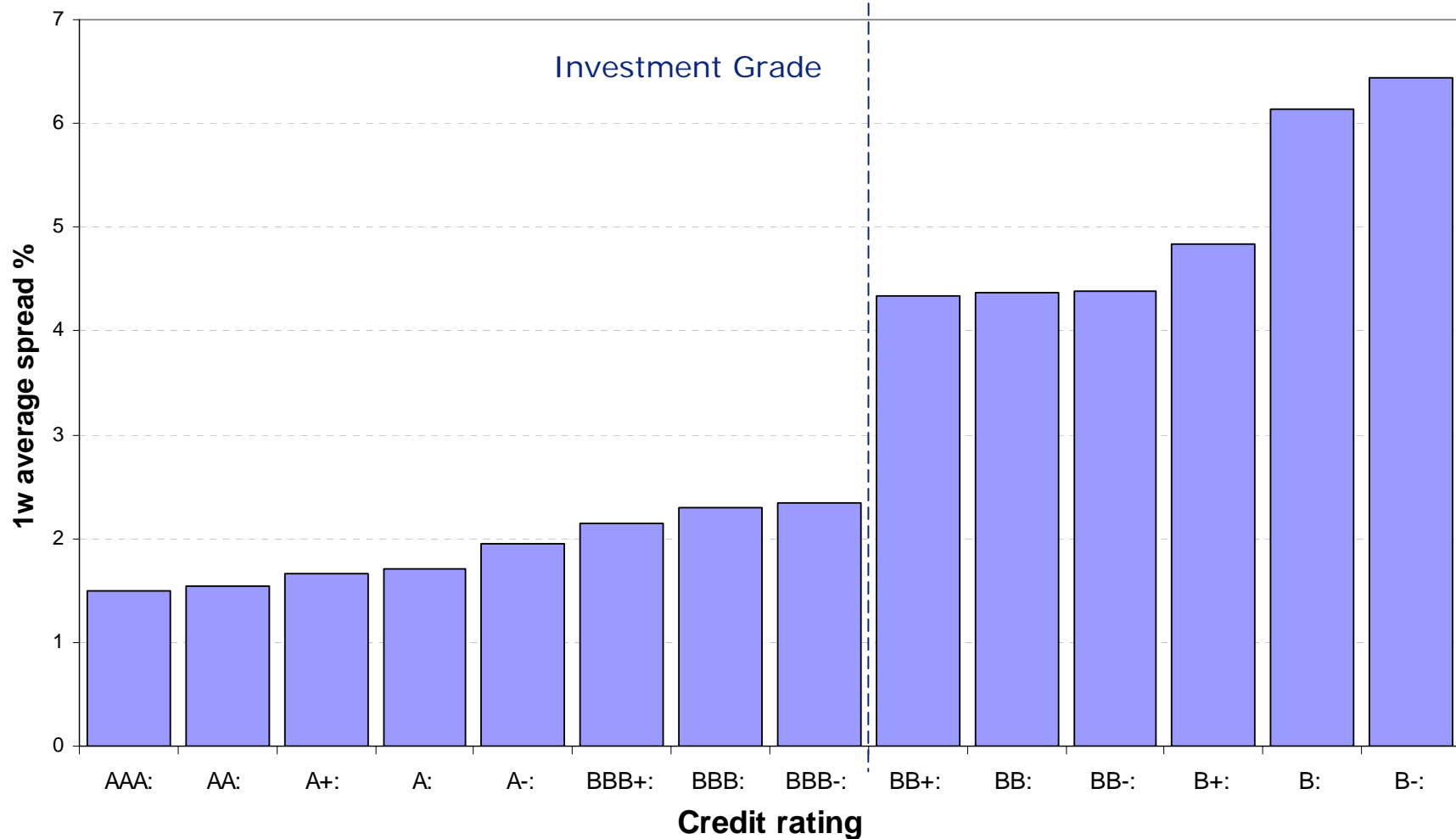
**US\$ BB 5Y Spreads over time**



# Impact of the Credit Crunch: Cost of Funds

“Flight to Quality” can be seen in risk margins for various ratings

US Industrial : Average Risk Margins (Week to 26 May 2008)



# Longer Term Implications

- What will be the economic impact?
- Other Implications
  - Capital Adequacy Levels in Banking industry
  - Credibility of LIBOR
  - Rating Agencies
  - Risk Modelling as a whole?

# Longer Term Implications

## Capital Adequacy Levels in Banking industry

- Tier 1 capital ratio of 8% (6% on a core Tier 1 basis) is increasingly seen as the comfort level for European banks.
- In April Royal Bank of Scotland announced Europe's biggest ever rights issue (£12bn).
- Irish banks have so far resisted undertaking rights issues

<b>Bank</b>	<b>Core Tier 1 Capital Adequacy Ratio March/April 2008</b>
<b>UK</b>	
Barclays	5.1%
Royal Bank of Scotland	4.5% (pre rights issue)
<b>Ireland</b>	
Anglo Irish	8.5%
AIB	7.5%
Bank of Ireland	5.7%



# Longer Term Implications

## LIBOR

- Questions in the market regarding the credibility of LIBOR.
  - LIBOR calculated as an average of what 16 banks think their own funding costs are rather than on the basis of actual deals.
  - As long-term funding deals dried up, banks increasingly relying on estimation when submitting their figures.
  - No evidence that banks kept LIBOR low but there is at least a perception in the market that some banks have an incentive to report lower figures.
- EURIBOR?

# Longer Term Implications

## Rating agencies

- Agencies act as market regulators and as a sales force while providing independent opinions
- Did rating agencies methodologies keep up with increasingly sophisticated debt instruments issued by banks?

# Longer Term Implications

## Risk Modelling

- “ A really complicated model must be right”
  - Endogenous risk
- So what is the point of (say) Basel II Guidelines requiring a greater and greater degree of modelling?