Lessons from the Credit & Liquidity Crunch
RISK AND INVESTMENT CONFERENCE

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THE GRAND, BRIGHTON

"A sound banker, alas, is not one who foresees danger and avoids it, but one who, when he is ruined, is ruined in a conventional way along with his fellows, so that no one can really blame him." John Maynard Keynes

Lessons from the Credit & Liquidity Crunch

- The credit crunch has impacted on various sectors where actuaries work
  - Banks
  - Asset managers
  - Insurance firms
  - Pension funds
- We have attempted to
  - Analyse these impacts
  - Suggest lessons to be learned
  - Consider how actuaries can contribute to their implementation

The Credit and Liquidity Crunch

2004 - 2007	2007					2009
Benign economic conditions	**US Sub prime crisis**	**Liquidity freeze**	**Capital Constraints**	**Equity market falls**	**Govt Intervention**	**Real economy impact**
Prolonged period of low interest rates propelled growth of cheap credit to unsustainable levels	Affordability issues and shifts to higher mortgage rates caused significant volumes of defaults on US sub-prime loans	Banks and corporates froze term funding and capital constraints led banks to turn to central bank funding	Capital Raising became difficult and banks and corporates turned to central banks for funding	Equity markets which unlike other asset classes had been performing well experienced sudden and dramatic falls	Financial firm failures and government intervention	Non- financial firm failures

Our analysis is based around 7 factors

Chosen to reflect key areas which either caused or exacerbated the crisis:

1. Inappropriate leverage
2. Adequacy of disclosures
3. Due diligence
4. Valuations and the pricing of risk
5. Governance/Business models
6. Liquidity
7. Impact of interventions

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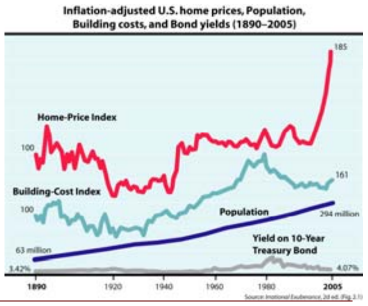
It started with a bubble!

- The crisis began in the US housing market
- Prices had reached an all time high
- People began to think it would last forever



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Banks - *Impact*

- The Banks were the first to get into difficulty due to:
  - Inadequately control of risks
  - Over-confidence in the housing market
  - Too great a reliance on models
  - Inadequate controls on mortgage brokers/salesmen
  - Insufficient capital reserves
  - Failure to understand the all risks they were running
  - Remuneration which encouraged risk taking

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Banks – *Lessons Learned*

1. Leverage is the reason Banks exist – but must be controlled
2. Disclosure is needed for markets to efficiently allocate capital – but also need to avoid panics
3. Due diligence must not simply rely on historical relationships (or credit ratings)
4. Valuations should include testing of all underlying assumptions
5. Governance/Business models must change to avoid option style pay-offs which simply reward risk taking
6. Liquidity problems can be reduced through diversification of sources of funding
7. Interventions must be a last resort and must not reward the risk takers

Insurers - *Impact*

- GI insurers losses concentrated in a few sectors most notably financial guarantee
- Greater challenge for Life insurers:
  - Falling equity markets
  - Rising corporate bond yields (£271bn of exposure)
  - Falling gilt yields
  - Offset to some extent by lower with-profit pay-outs
  - Minimum returns may be difficult to achieve

Insurers – *Lessons Learned*

1. Leverage typically not an issue (discouraged by FSA rules) apart from some collateral management problems
2. Only isolated cases of buying products based on inadequate information
3. Due diligence – perhaps to much reliance on credit ratings
4. Pricing of risks – life insurers should carefully consider allowances for default risk / liquidity premium in discount rates
5. Governance – some evidence that insurers were slow to react to the developing crisis (more real time monitoring required?)
6. Little evidence of Liquidity problems seen
7. Insurers have benefited from the interventions – in particularly the prevention of significant corporate bond defaults in UK banks

Asset Managers - *Impact*

- Have faired relatively well although they have faced issues:
  - Profits have been hit due to ad valorem fees
    - Due mainly to asset value falls rather than withdrawals
  - High leverage has caused problems at some hedge funds
    - Due to negative returns, increased cost of funding and tighter margin/collateral requirements
  - Valuation of some assets has been a major challenge

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Asset Managers – *Lessons Learned*

1. Leverage magnifies losses as well as gains and must be coupled with strong risk management
2. Questions about adequacy of disclosure of risks in some products
3. Due diligence - if you don't understand it, don't buy it!
4. Pricing of risks often failed to consider the impact of increased correlations in a crisis (stress tests/scenario analysis is important)
5. Governance - counterparty risk needs to be monitored and managed closely
6. Fund liquidity demand needs to be managed (don't assume there will always be a market in underlying assets)
7. Greater protection of banks may encourage retail investors to hold more money in cash

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Pension Funds - *Impact*

- Going into the credit and liquidity crunch:
  - Pension funds had high equity exposures
  - Pension risks higher up the corporate agenda;
  - Generally lower levels of return expected from asset classes;
  - People living longer with expectations that these improvements would continue
- So were typically under-funded and high risk

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Pension Funds – *Lessons Learned*

1. Leverage problems through exposure to equities and hedge funds – more active risk management needed?
2. Seek greater engagement with underlying investments (effective monitoring / communication with managers)
3. Trustees' due diligence is of managers (rather than assets)
4. Risk assessment done using ALM models which were unlikely to predict the impact of the credit crunch (judgement/experience is valuable!)
5. Governance issues have been moving up the agenda due to increased complexity – but typically decision making is too slow
6. Liquidity tends to be careful considered by pension funds and this should continue – well placed to take advantage of opportunities that arise
7. Pension funds will need to factor in the impact of interventions into their investment considerations

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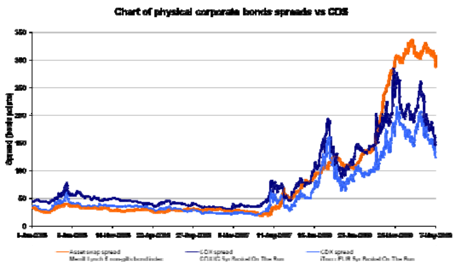
Liquidity crisis impact on corporate bond prices



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Common *Lessons Learned*

1. The switch from gains to losses can be rapid and unpredictable - leverage use must be coupled with strong risk management!
2. Greater levels of disclosure from financial services firms should be sought
3. Avoid over-reliance on third-parties and historic data for due-diligence
4. Valuations for all assets may not be available in extreme market conditions – use models with care (remember stress test/scenarios)
5. Governance in the area of incentives to take risk needs to change, more real time risk monitoring may also have helped
6. Liquidity may not be there when you need it – diversify and have a contingency plan!
7. Interventions should be used as a last resort and some institutions must be allowed to fail!

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How can Actuaries help going forward

- Risk aversion, prudence and fiduciary concerns
  - Skilled to consider risks from large number of angles
  - Actuarial skills for Chief Risk Officers in banks?
- Technical skill set
  - Influence in product design
  - Develop investment / risk management frameworks
- Management skills and professionalism
  - High ethical standards
  - Ensure products lives up to representations at sale

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Lessons from the Credit & Liquidity Crunch

- Authors
  - Shajahan Alam
  - Craig Gillespie
  - Chris Harvey
  - Brandon Horwitz (Chair)
  - Alison Sandy

"You only find out who is swimming naked when the tide goes out"…
Warren Buffet

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