



The Actuarial Profession
making financial sense of the future

How Valuable is Liquidity?

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How Valuable is Liquidity?

Working Party

2008 Working Party Report:

- All areas represented : Banking/Asset Management, Pensions & Life
- Responding to the ‘credit crunch’ – more like ‘liquidity crunch’
- Creating a scale and comparing financial institutions’ liquidity
- Making observations and drawing conclusions






How Valuable is Liquidity?

Setting the scene

- Set a scale :
 - **Assets** : Market size, complexity, # market participants, etc.
 - **Liabilities** : Nature of liabilities, options, contingent events
- High, Medium or Low?
- Compare typical balance sheets
- Good shape or bad shape?






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Asset liquidity

	Banks	UK Defined Benefit Pension Schemes	Life Insurers (Unit Linked)	Life Insurers (Annuities)	Life-Insurers (With-Profits)
Traded Equities	Very low	High	High	Very Low	High
Traded Bonds	High	Moderate	High	High	High
Property	Moderate	Moderate	High	Very Low	High
Private Equity	High	Moderate	None	None	Low
Private Debt / loans	Very high	Low	None	Very Low	Very Low
Mortgages	Very high	Low	None	Very Low	None
Structured Investments	High	Very low	Low	Very low	Very low
Commodities	Low	Low	Low	None	Very Low
FX	High	Moderate	Low	None	Low
Cash	High	Low	Low	Low	Low
Derivatives	Very high	Low	Low	Low	Moderate
Average Liquidity	illiquid 	moderate 	liquid 	moderate 	moderate 

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Liability liquidity

	Banks	Pension Schemes	Life Insurance Companies
Main Liabilities	Deposits and term funding in the bond markets (e.g. using floating rate notes, fixed rate bonds or securitisation)	Pensions payable to scheme members and their dependants	Benefits payable on death or disability, surrender, and maturity.
Options	Withdrawal of funds by depositors	Withdrawal / Surrender Early retirement Lump Sum Commutation Trivial Commutation Other Options	Surrenders / lapses Full / partial withdrawals Commutation of annuities Switches (for unit linked) Other Options
Contingent Events	Redemption of term funding	Death Ill-health retirement Redundancy Bulk Transfer Restructuring	Death Critical illness Disability Reinsurer default
Average Liquidity	liquid 	moderate 	Annuities  illiquid With Profits  moderate Unit Linked  liquid

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The impact of unconstrained investment

- US Endowment funds show high levels of illiquid investment...

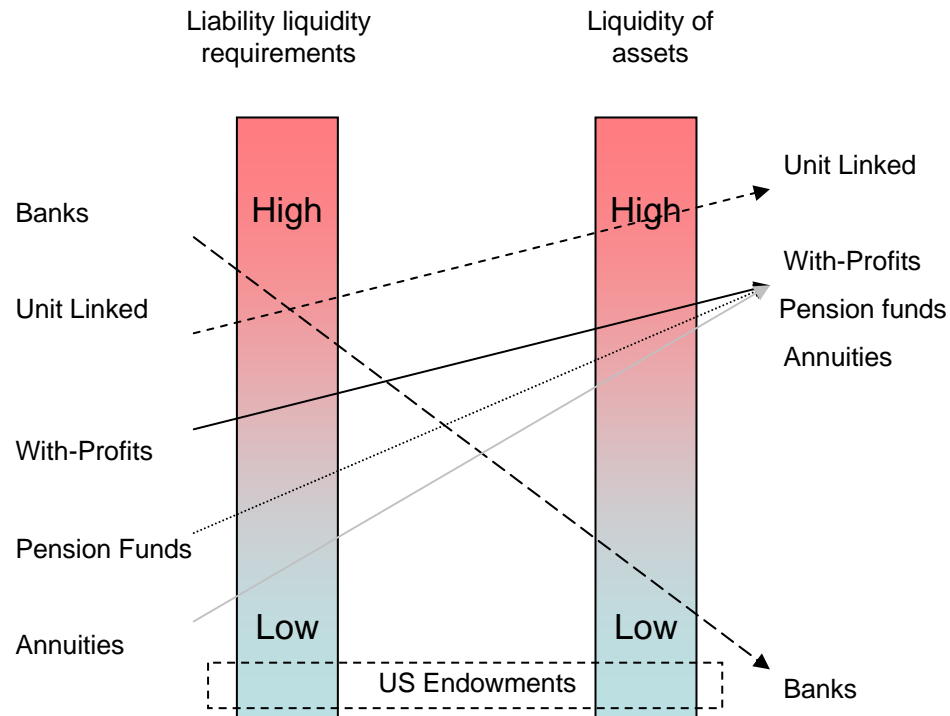


- ...and high achieved returns
- But, without constraints

Historical Evolution of the Asset Mix/Policy Portfolio						
	1980	1991	1996	2000	2007	2008
Equities						
Domestic Equities	66	40	36	22	12	12
Foreign Equities	-	18	15	15	11	12
Emerging Markets	-	-	9	9	8	10
Private Equities	-	12	15	15	13	11
Total Equities	66	70	75	61	44	45
Fixed Income						
Domestic Bonds	27	15	13	10	7	5
Foreign Bonds	8	5	5	4	3	3
High-Yield	-	2	2	3	3	1
Total Fixed Income	35	22	20	17	13	9
Real Assets						
Commodities	-	6	3	6	16	17
Real Estate	-	7	7	7	10	9
Inflation-indexed Bonds	-	-	-	7	5	7
Total Real Assets	-	13	10	20	31	33
Absolute Return and Special Situations	-	-	-	5	17	18
Cash	(1)	(5)	(5)	(3)	(5)	(5)
TOTAL	100	100	100	100	100	100

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Not a level playing field



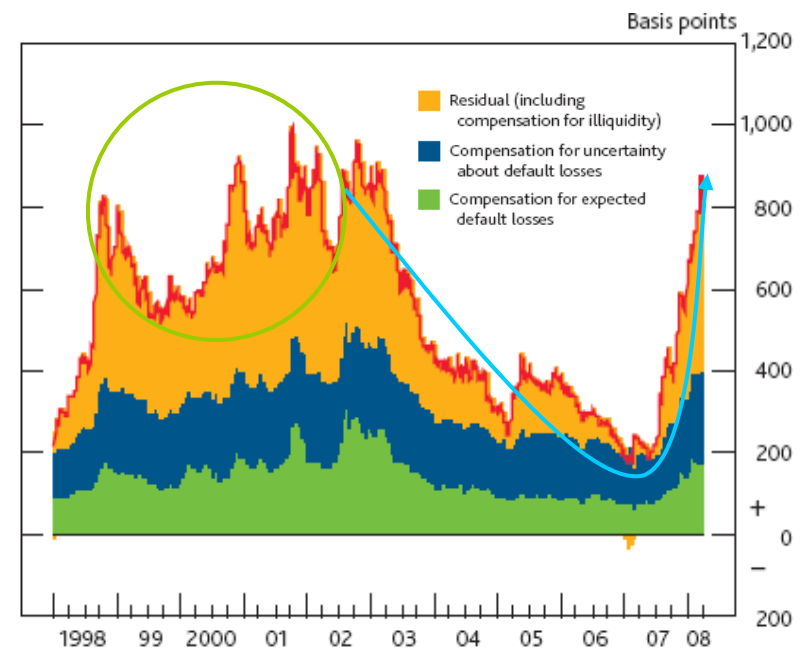
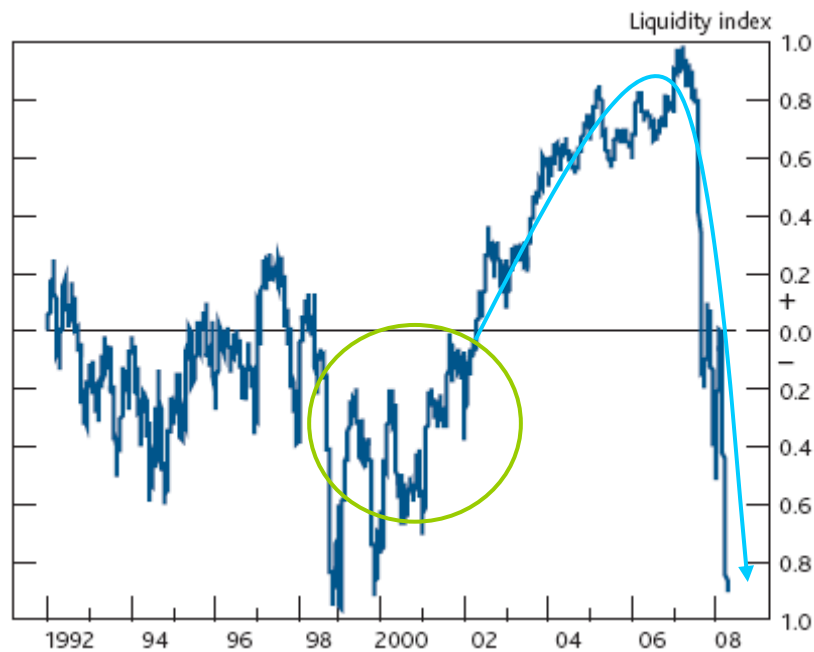
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Credit Crunch or Liquidity Crunch?

- 2007 – 2008 Liquidity Crisis (“Credit Crunch”)
 - Cracks appeared early 2007 – mortgage lender liquidity dried up in the US
 - Counterparty concerns went global
 - Asset liquidity generally dried up
 - Regulators intervened with unprecedented liquidity
 - Financial institutions’ solvency fell, credit ratings declined and some went bust

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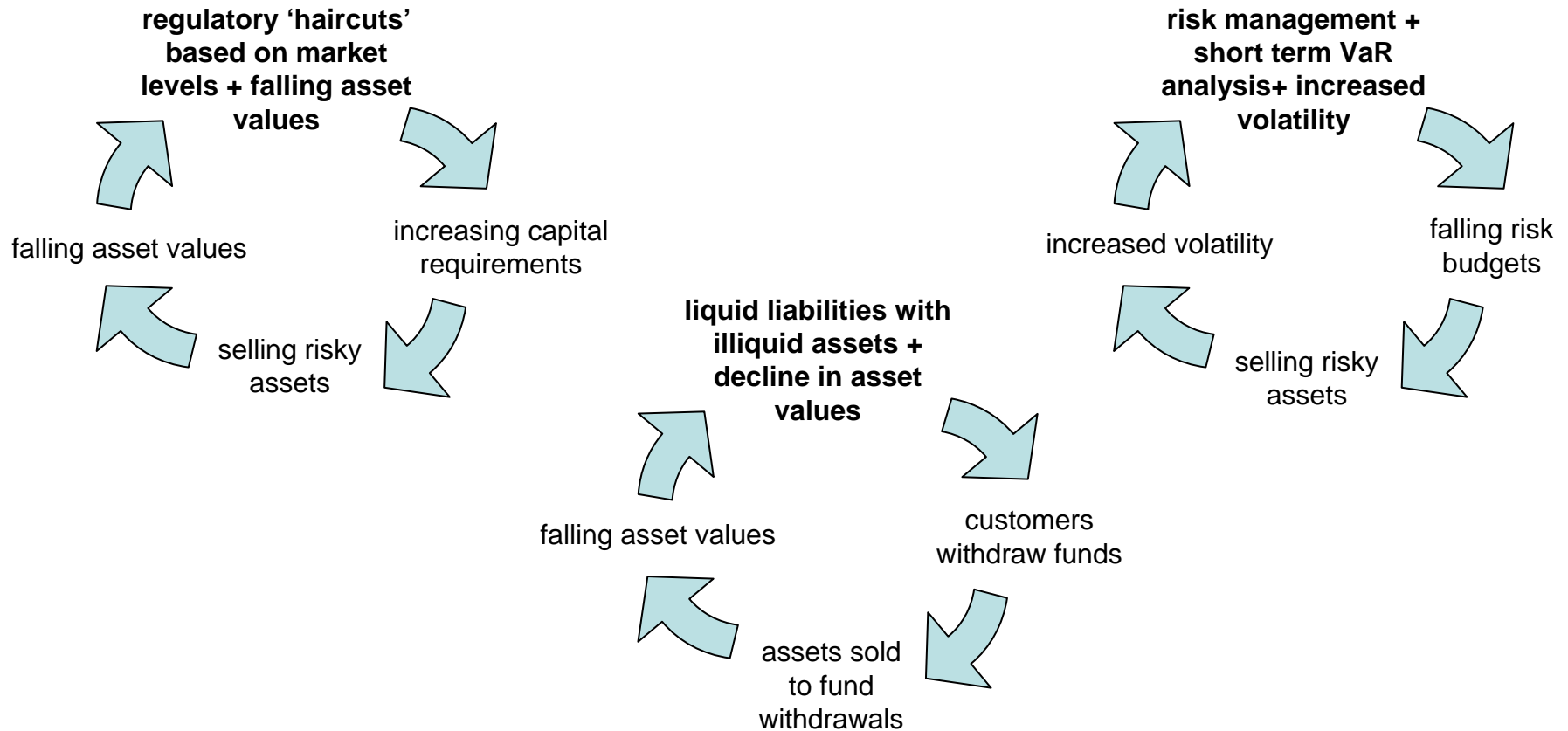
Liquidity varies over time...fear and greed?



Source : Bank of England (2008)

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Vicious and virtuous liquidity circles

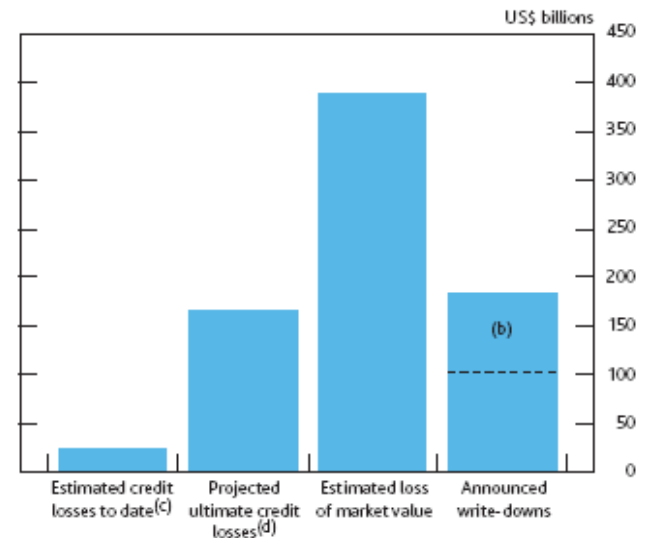


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Vicious circles in practice...

- BoE highlighting (1) long term market levels and (2) the impact of a vicious circle

But credit losses from the turmoil are unlikely to ever rise to levels implied by current market prices unless there is a significant deterioration in fundamentals, well beyond the slowdown currently anticipated. That is because prices are likely to reflect substantial discounts for illiquidity and uncertainty that have emerged as markets have adjusted but which should ease over time. While market-based estimates and the write-downs announced by firms may be unduly pessimistic, if such concerns persist there is a risk they could become self-fulfilling.

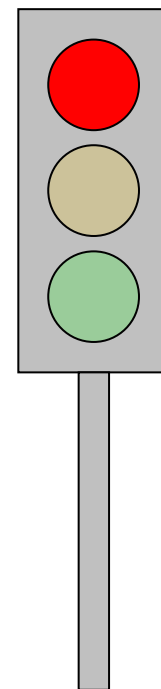


Source : Financial Stability Report, April 2008, Bank of England (2008)

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Threats...stating the obvious?

- Bubbles are pre-emptive to crashes (and falls in liquidity)...early warning?
- Regulators do not have crystal balls – their rules for liquidity may not be enough when markets collapse
- Formulaic liquidity management is the weakest form – must consider what is appropriate too
- Liquidity of complex assets falls most...management beware!



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Echoed by the regulators...



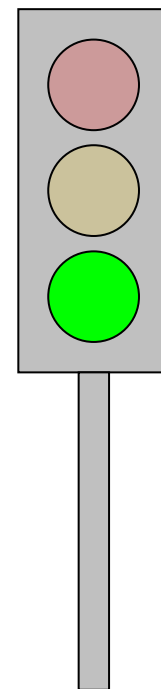
- During the crisis :
 - Firms had expanded too quickly with increasingly lax credit underwriting procedures
 - Firms relied too passively on external views of credit risk (rating and pricing)
 - Dependence on historical data in VaR-based measures unlikely to capture severe shocks
 - Firms that avoided significant loss identified different correlations in markets between benign and stressed market conditions

Source : Senior Supervisors Group, Observations on Risk Management Practices during the Recent Market Turbulence (March 2008)

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Opportunities

- Bubbles are pre-emptive to crashes ... tactical opportunity?
- Long term investors can take on more liquidity premia...but need to change performance assessment
- Supplement market consistent approach with long term assumptions in risk assessment increases survivorship



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Conclusion

- ***It is valuable*** when...
 - You need it (and can pay for it)
 - You have it (and are prepared to invest)
 - But it is not a static risk...
 - ...too many assume it is stable...
 - ...therefore needs active management to exploit or avoid failure

How Valuable is Liquidity?

Further work

- Proposing good liquidity governance procedures
- Measuring the liquidity of institutions, and
- Optimizing investment returns to incorporate liquidity risk as a source of returns