



BNP PARIBAS
CORPORATE & INVESTMENT BANKING

Feeling the Credit Squeeze



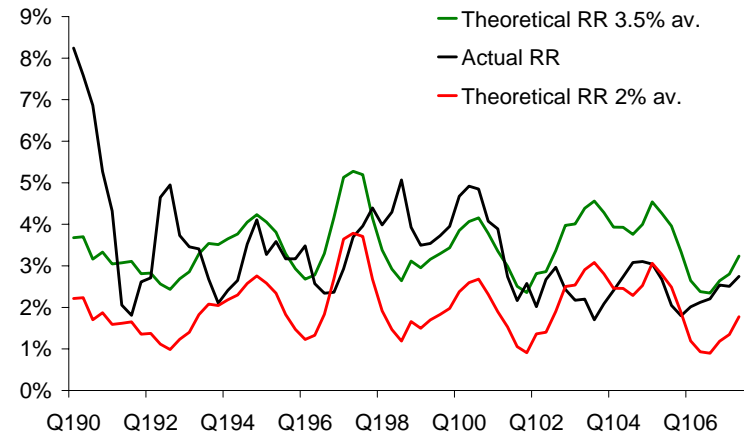
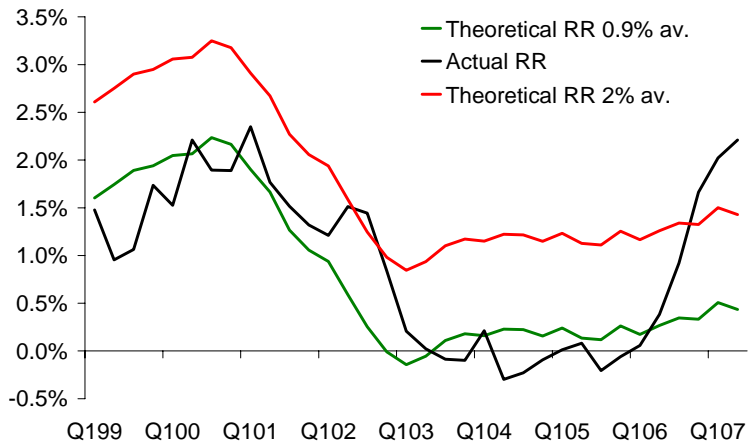
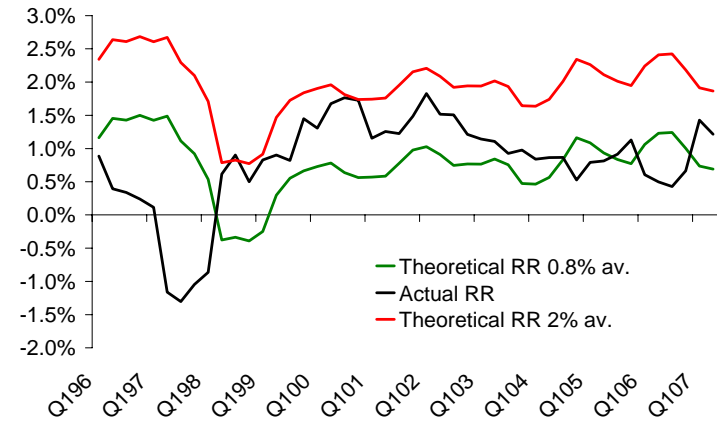
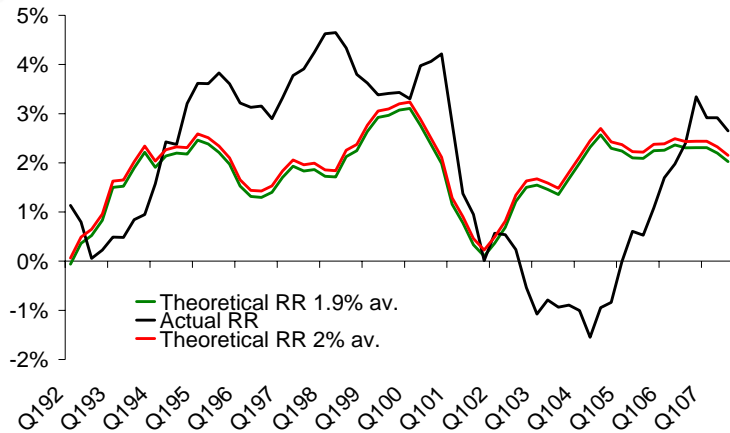
Professor Jagjit S. Chadha
University of Kent
5th February 2008



Liquidity Crunch and its aftermath?

- Growth generated savings to be cycled around the world
- Low interest rates stimulated liquidity
- Asset prices and debt levels bid up
- Impact of real economy on credit performance yet to show
- Risk has been re-priced to more sensible levels
- Policy dilemma: (i) offset shock to credit and money markets; (ii) manage re-organisations of bank supervision; (iii) resuscitate money markets.

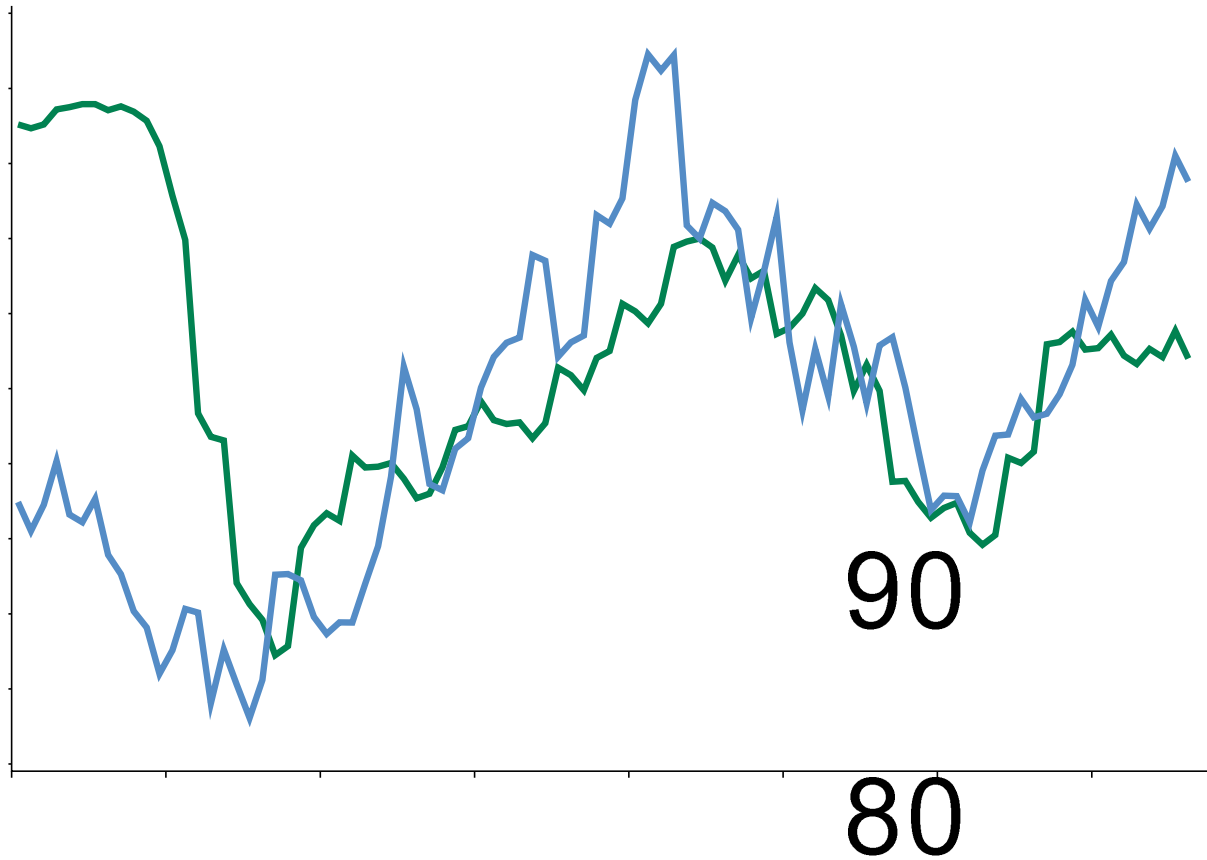
Policy Stimulus



- Policy rates loose in USA (top lhs) compared to equilibrium in mid-00s
- Japan loose policy (top rhs)
- EMU tensions clear (bottom lhs)
- UK also somewhat loose (bottom rhs)



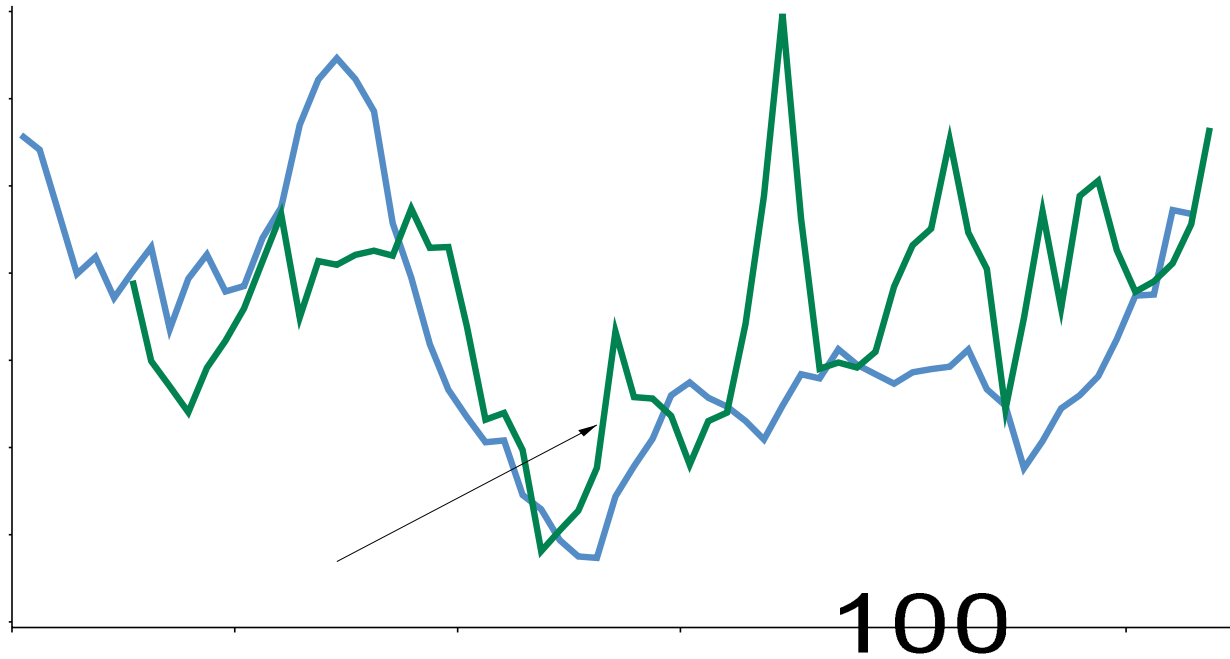
Liquidity Creation



- Many measures. From FX reserves to weighted M3 growth
- Growth has been high from 2006 onwards
- No strong connection to CPI...but to risk appetite



Liquidity injections: Fed and ECB



AC

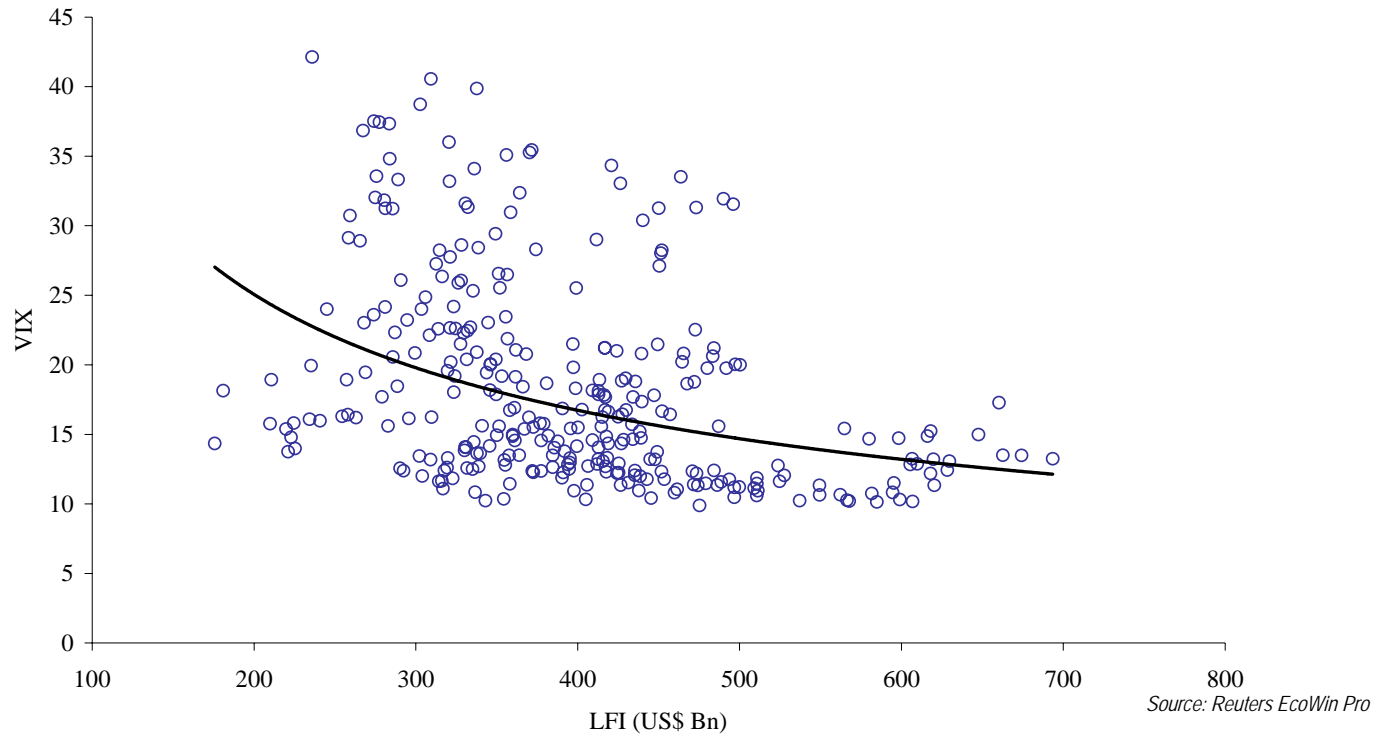
- Clear link between global liquidity and primary dealer financing of loan book
- Gearing now going into reverse...

75

Gearing of central bank liabilities by investment banks

50

Liquidity injections: Fed and ECB

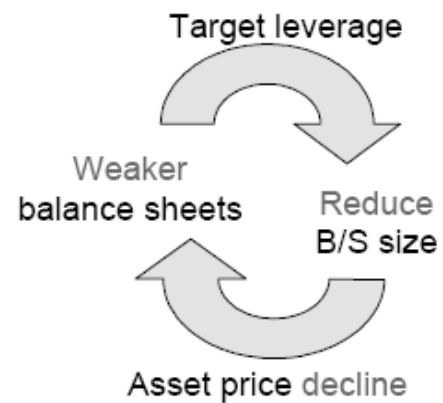
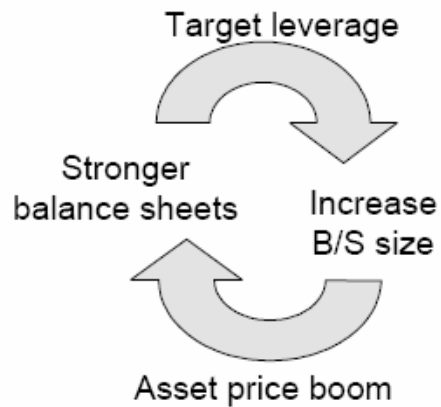


- Financing also related to reduction in expected volatility
-if volatility increases then so will financing and liquidity.

...tighter times ahead



Liquidity injections: Fed and ECB

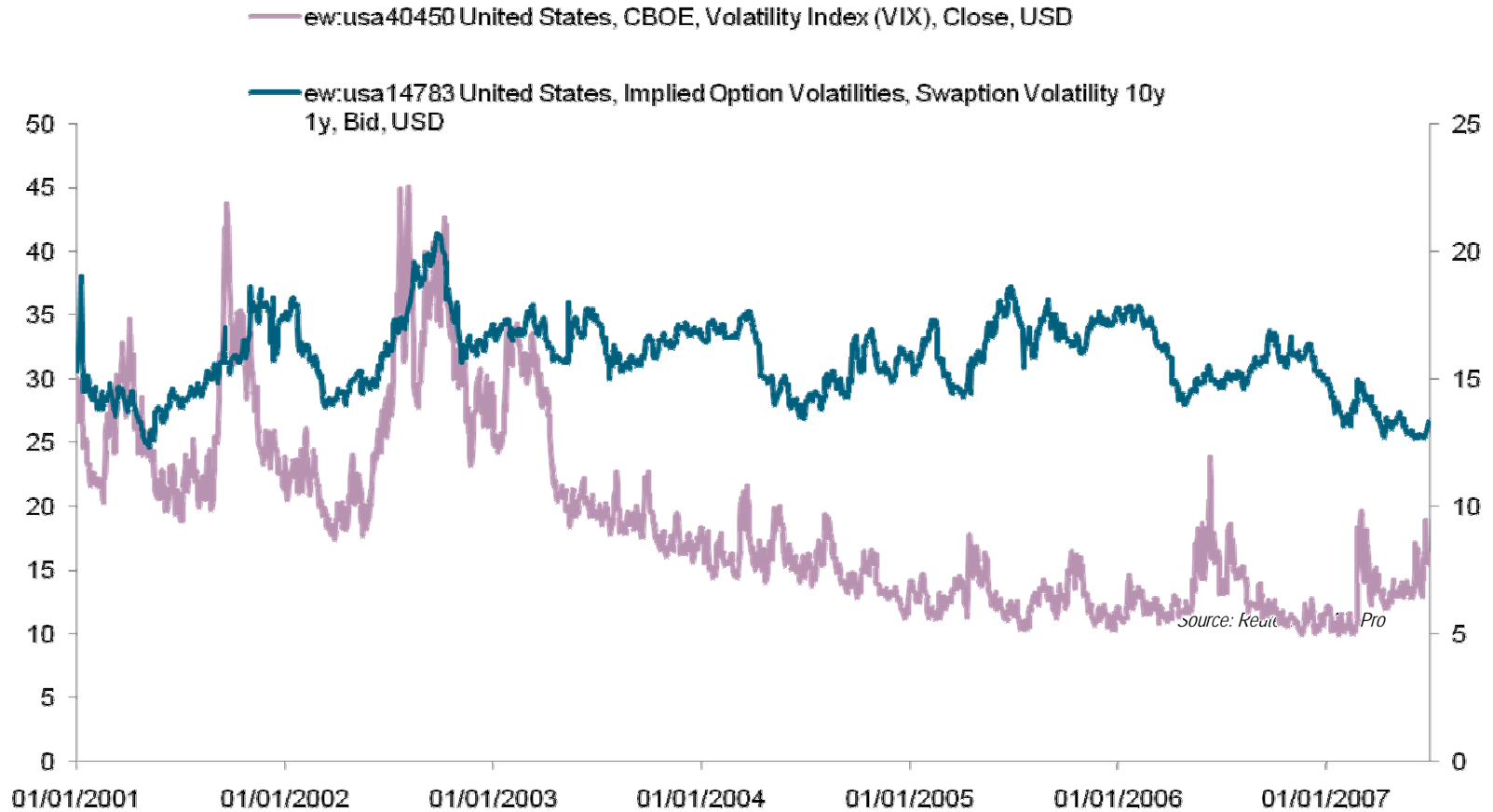


- Liquidity boosts asset prices
- Allows a feed back from asset prices to further liquidity creation

..amplification of business cycle

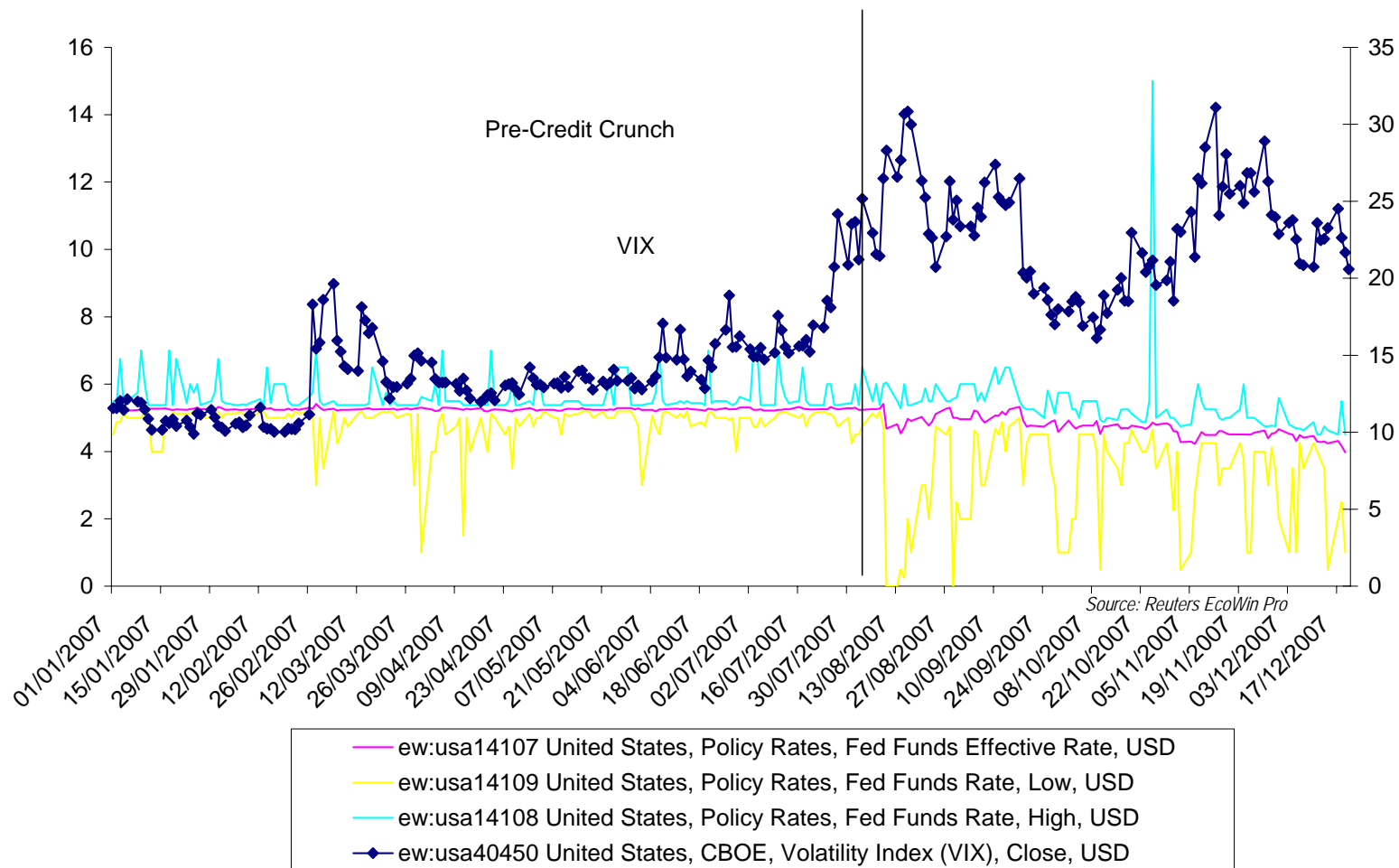


Falling Price of Risk



- The Great Moderation reduced expected cyclical volatility across advanced economies
- Liquidity was created
- Asset prices were supported by reduction in expected risk

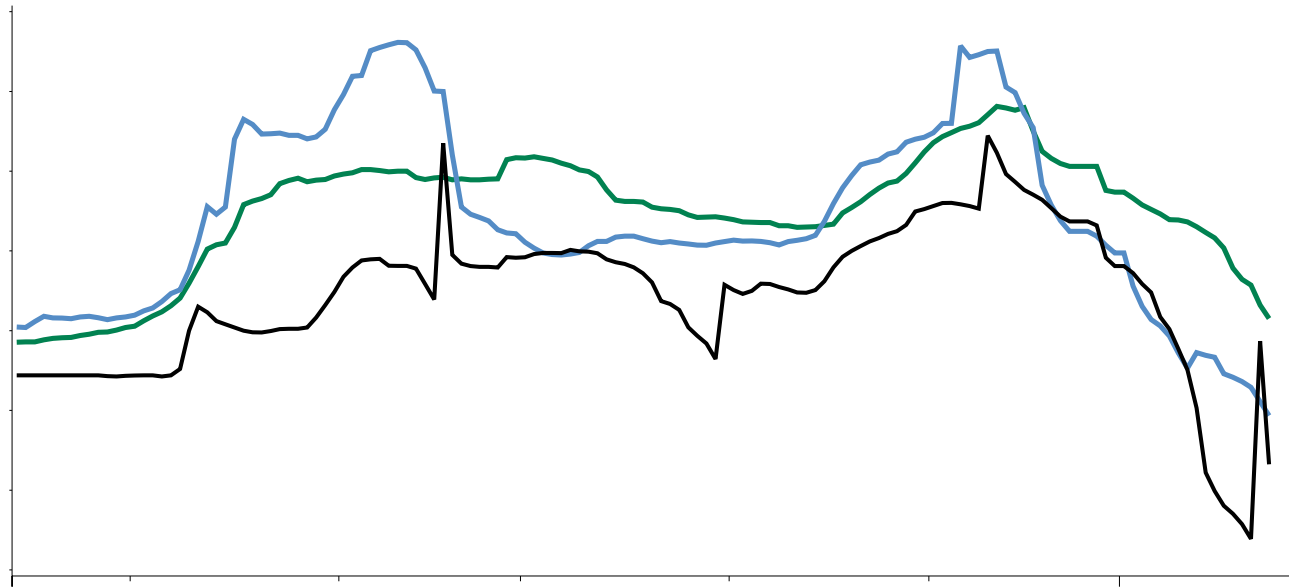
Financial Markets Uncertainty Spillovers



- In a series of shifts expected volatility in share prices ratcheted up
- Expected policy rate started to drift down after August 2007
- Central banks discounted paper and flooded the markets with liquidity



Money Market - Interbank



1.25

Source: Reuters EcoWin Pro

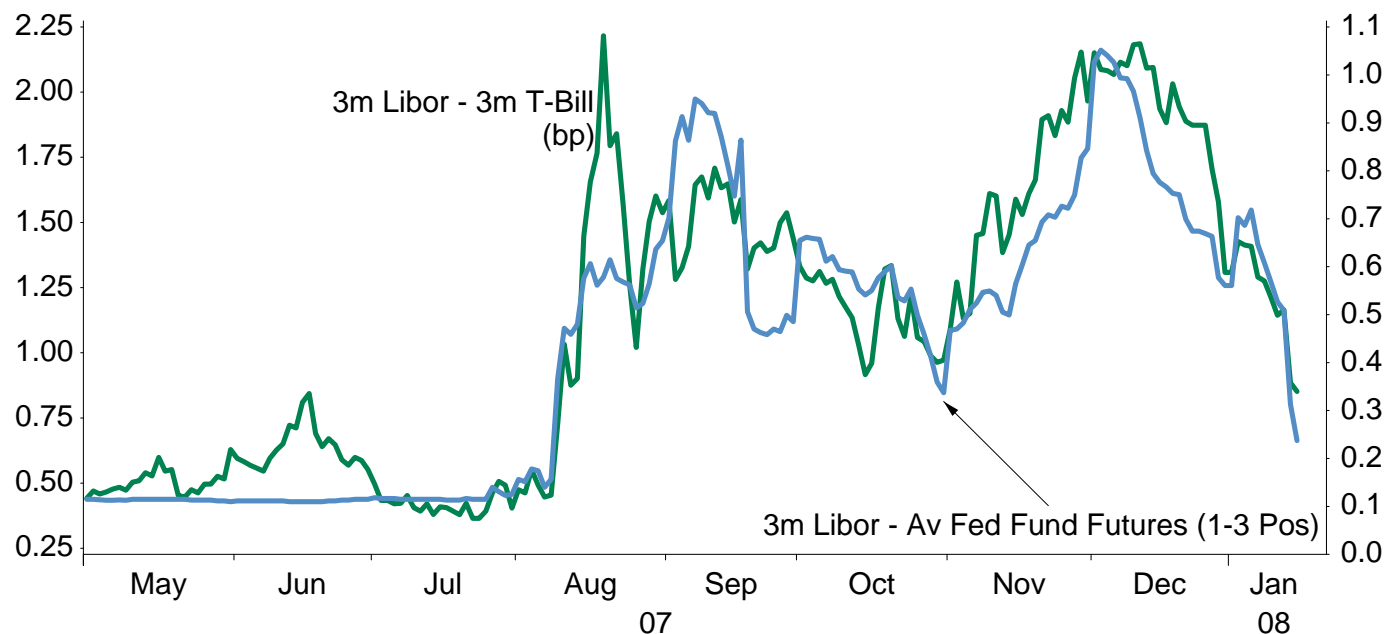


- 5 to 6 s.d. shocks to LIBOR → Northern Rock
- Overnight market has improved, end year was a crisis point
- Central banks drew a line in the sand
- But the calendar may have helped more?

1.00

0.75

US: Measures of Financial Stress

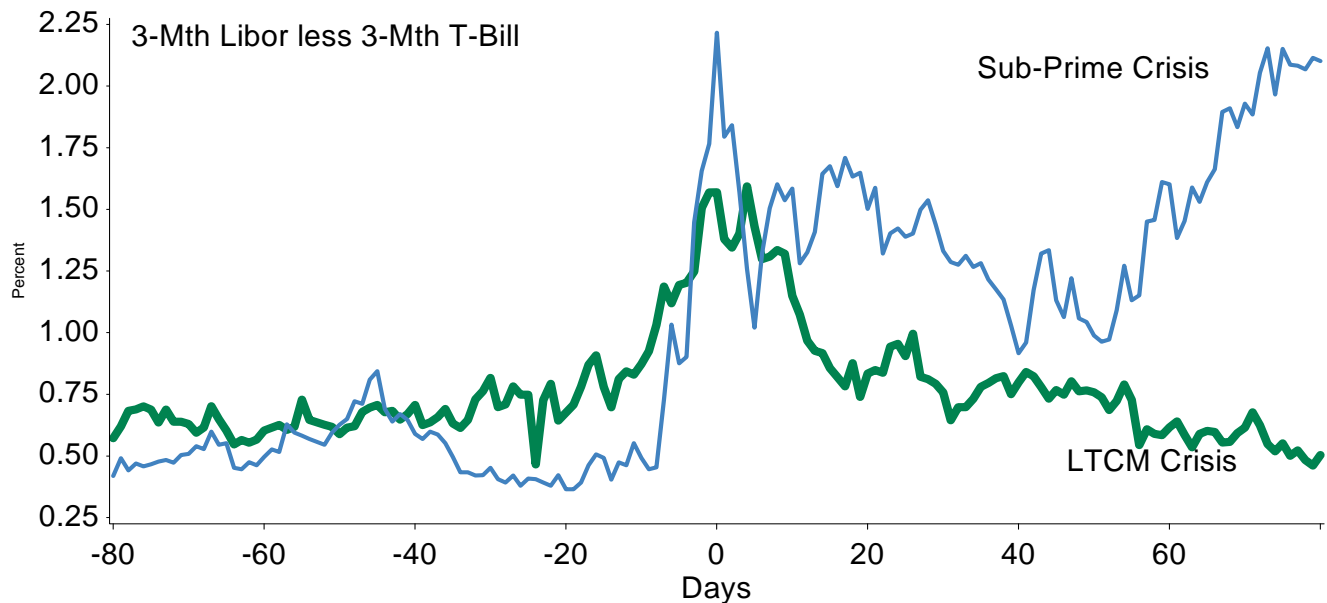


Source: Reuters EcoWin Pro

- While things have improved, since mid-December, we are far from normal
- What is needed is transparency about where the dead bodies are buried
- ...and that will take time, with substantial risks first
- Meanwhile credit spreads are widening, showing spread to real economy

Improvement relative to FF exaggerated by rate expectations

US: 3m Libor - 3m T-Bill Spread - Sliced



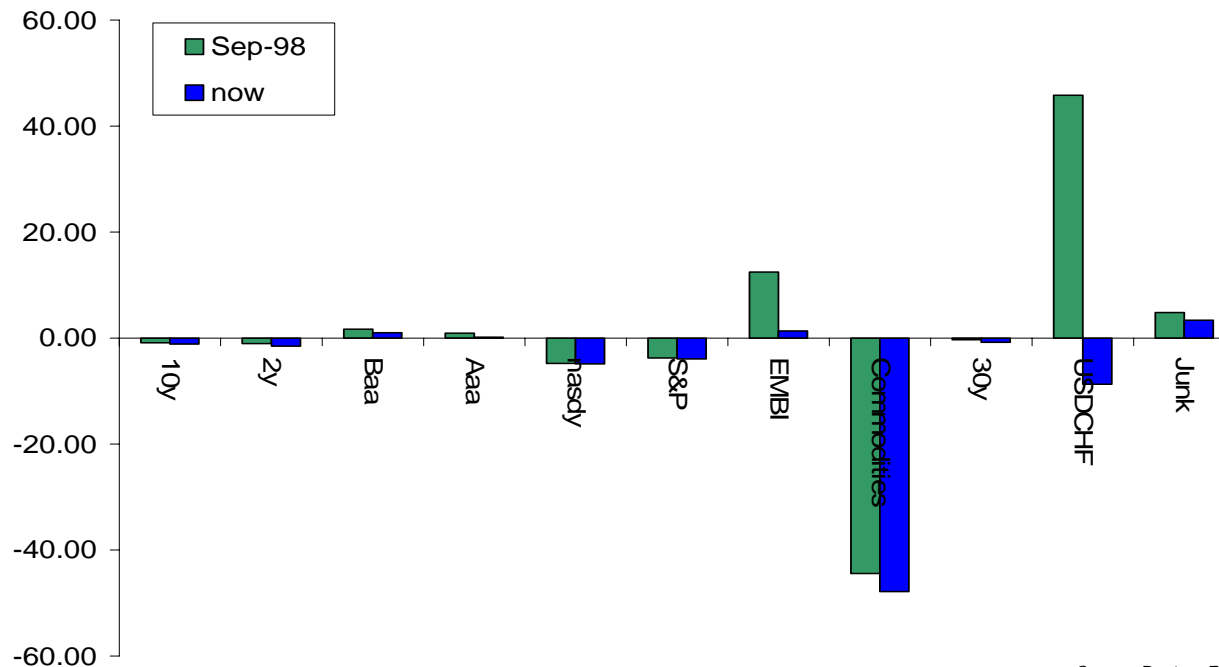
Source: Reuters EcoWin Pro

- LTCM crisis saw spread blow-out. Unwound after around a month
- Almost four months since start of subprime crisis...
- ...and TED spread remains at an exceptionally elevated level

This one has got legs



US: Asset Class Response LTCM vs August 2007



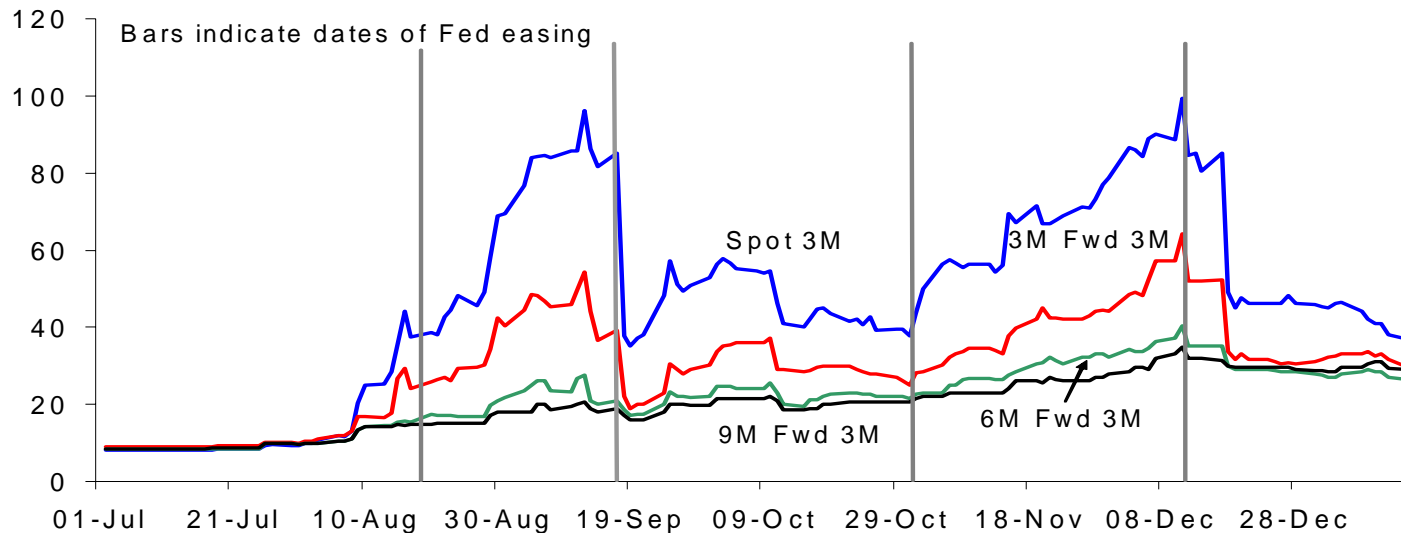
Source: Reuters EcoWin Pro

- LTCM crisis saw spread blow-out
- Commodities/Equities fell
- ...but Emerging and Swiss have not reacted in the same way

This one has got legs



Money Market - BOR/OIS Spreads

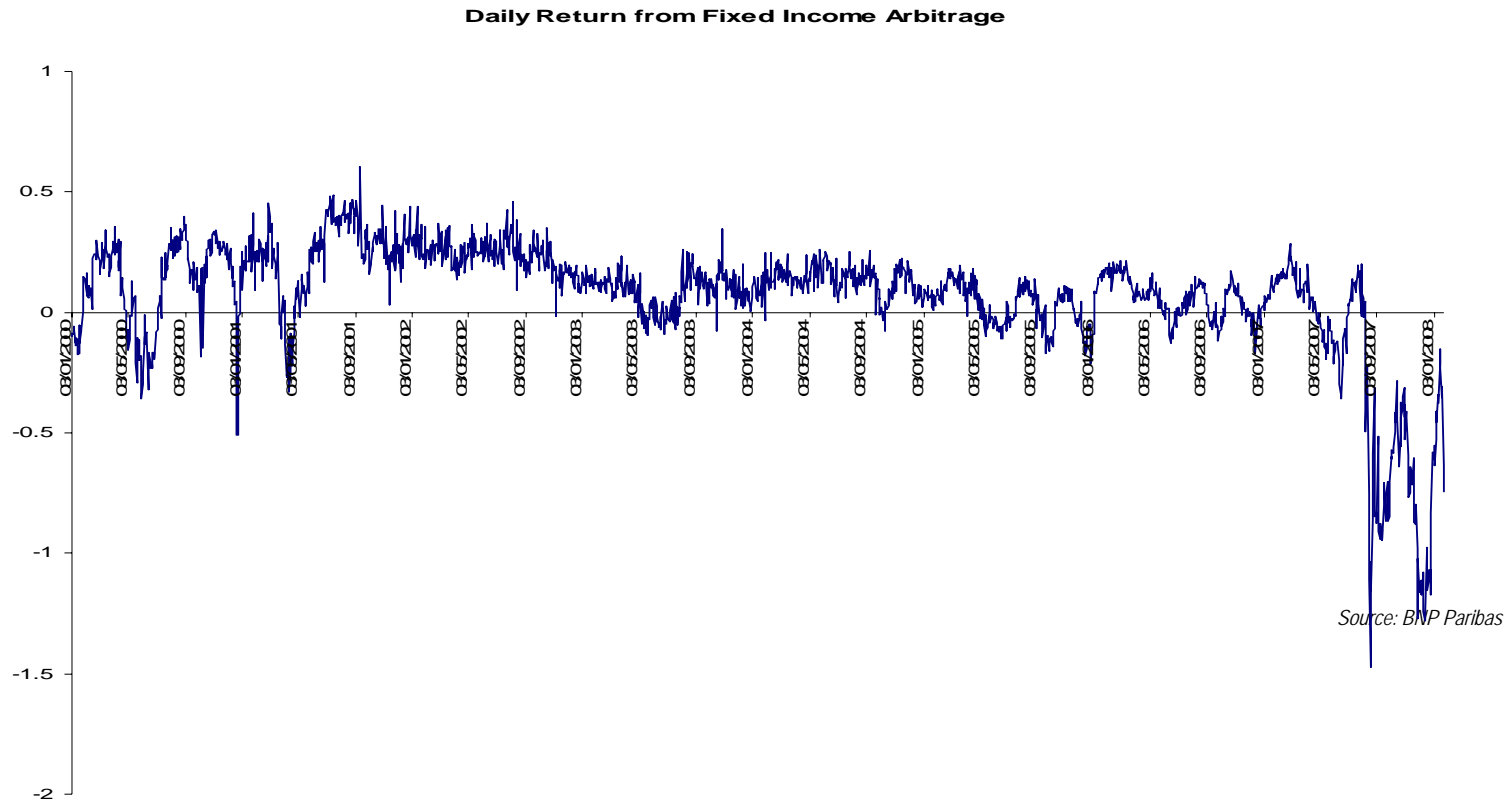


Source: BNP Paribas

- The spreads between interbank rates and overnight index swap rates have widened since the crisis started
- This reflects the higher counterparty risk and increased preference for term liquidity
- The spreads came down since late December
- Market still sees some permanency to the crisis



Money Market – Returns from Fixed Income Arb



- This trade gauges the return from supplying liquidity
- Swap CMS for LIBOR and short Treasury Bond for 3-month T-Bill
- The trade looks dead!

Subprime Losses So Far

US&Canada

Date	Company		Loss (USD bn)
Jan	Citigroup	Writedowns and consumer credit losses in Q4	18.10
Dec	Morgan Stanley	Writedowns due to subprime losses	9.40
Dec	Freddie Mac	Losses expected in Q4	10.00
Dec	CIBC	Write down of investments linked to the US mortgage market & expected subprime-related writedowns in 2008	2.98
Dec	Bank of America	Provision expense for loan losses and writedowns expected	3.30
Oct	Morgan Stanley	Losses over the last two months on portfolio of mortgage-related investments	3.70
Oct	Merrill Lynch	Writedown on mortgage-backed securities	7.90
Oct	Citigroup	Writedowns related to credit losses	6.50

Europe

Dec	UBS	Further writedown of subprime investments	10.00
Dec	RBS	Charge related to subprime exposure	3.00
Nov	KfW-IKB	Set aside to cover losses at IKB Deutsche Industriebank	3.40
Nov	HSEC	Set aside for bad debts in its US consumer finance business	3.40
Oct	UBS	Losses and writedowns on trading positions in the US subprime residential mortgage-backed securities	3.60

Other			20.10
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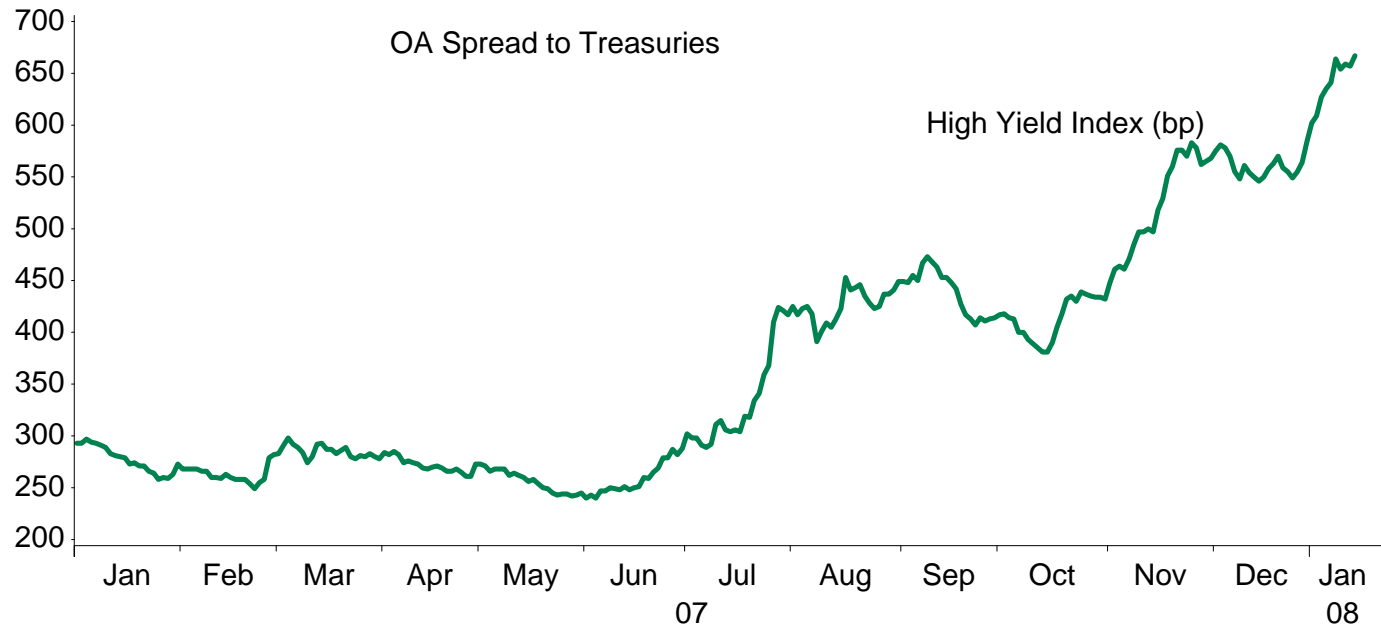
Total			105.4
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Source: Earnings and press releases, FT, Forbes, Bloomberg, Daily Telegraph, Times, Nikkei, BNP Paribas

- Losses have intensified further since the start of the crisis
- Nearly 70% of the realized losses concentrated in the US
- There is still a few hundred billion losses to come



US: High Yield Spreads



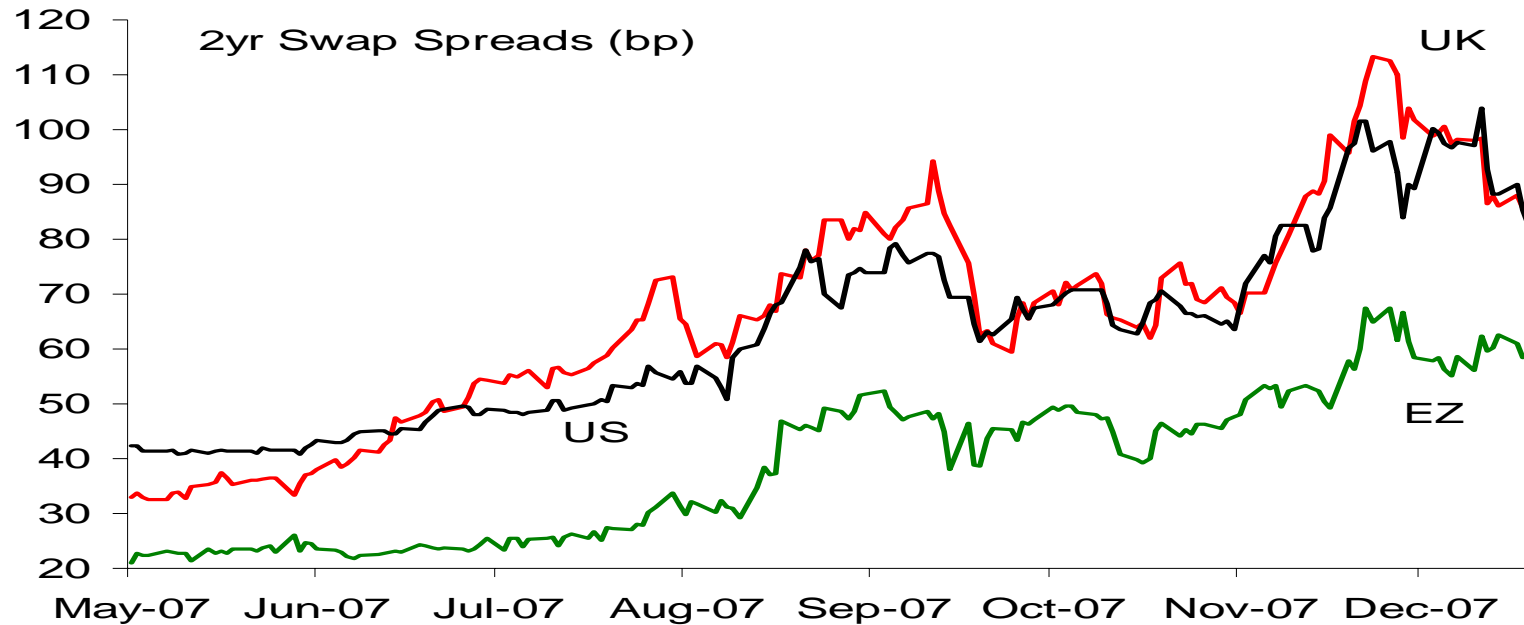
Source: Reuters EcoWin Pro

- Corporate spreads the best bellwether of a recession
- Spreads have been rising at an alarming pace

Meanwhile, the credit market continue to deteriorate



Swap Spreads Rising



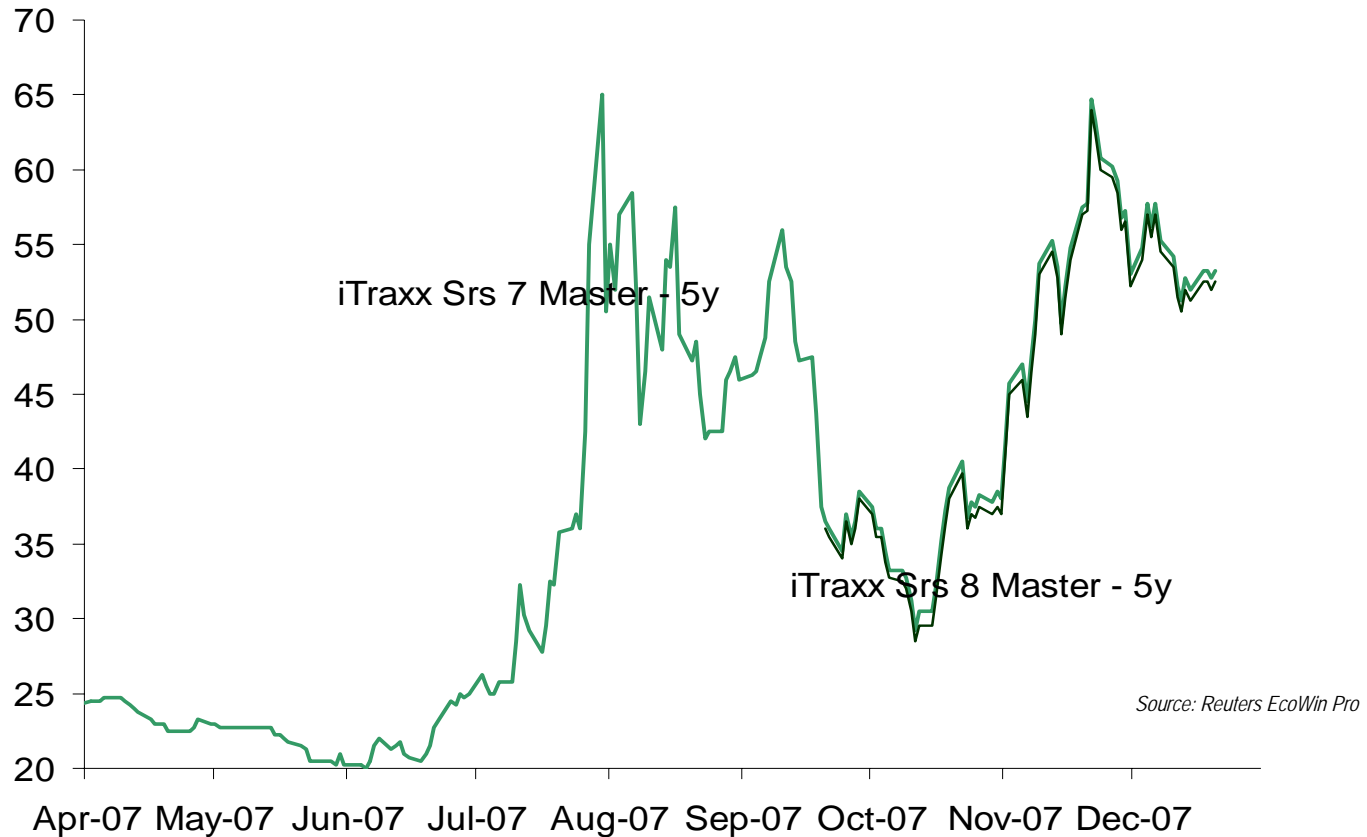
Source: Reuters EcoWin Pro

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EZ: High Yield Spreads

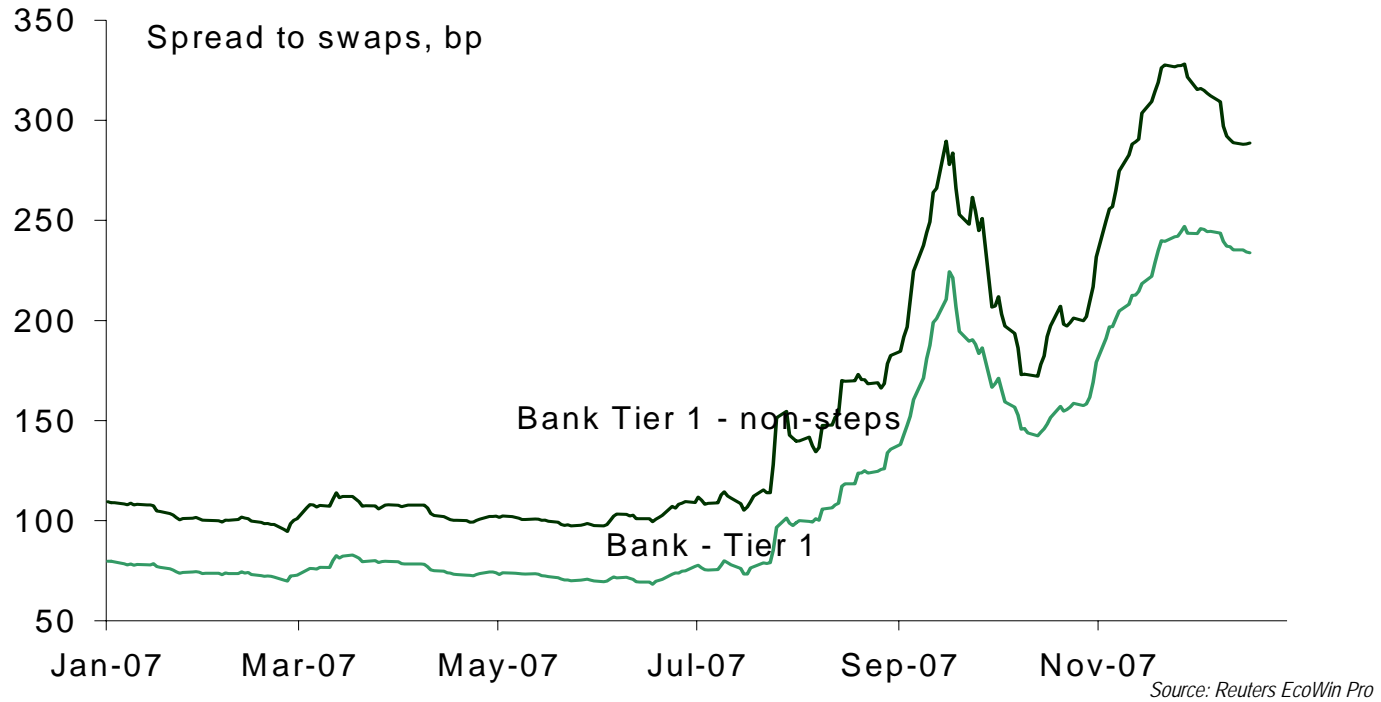


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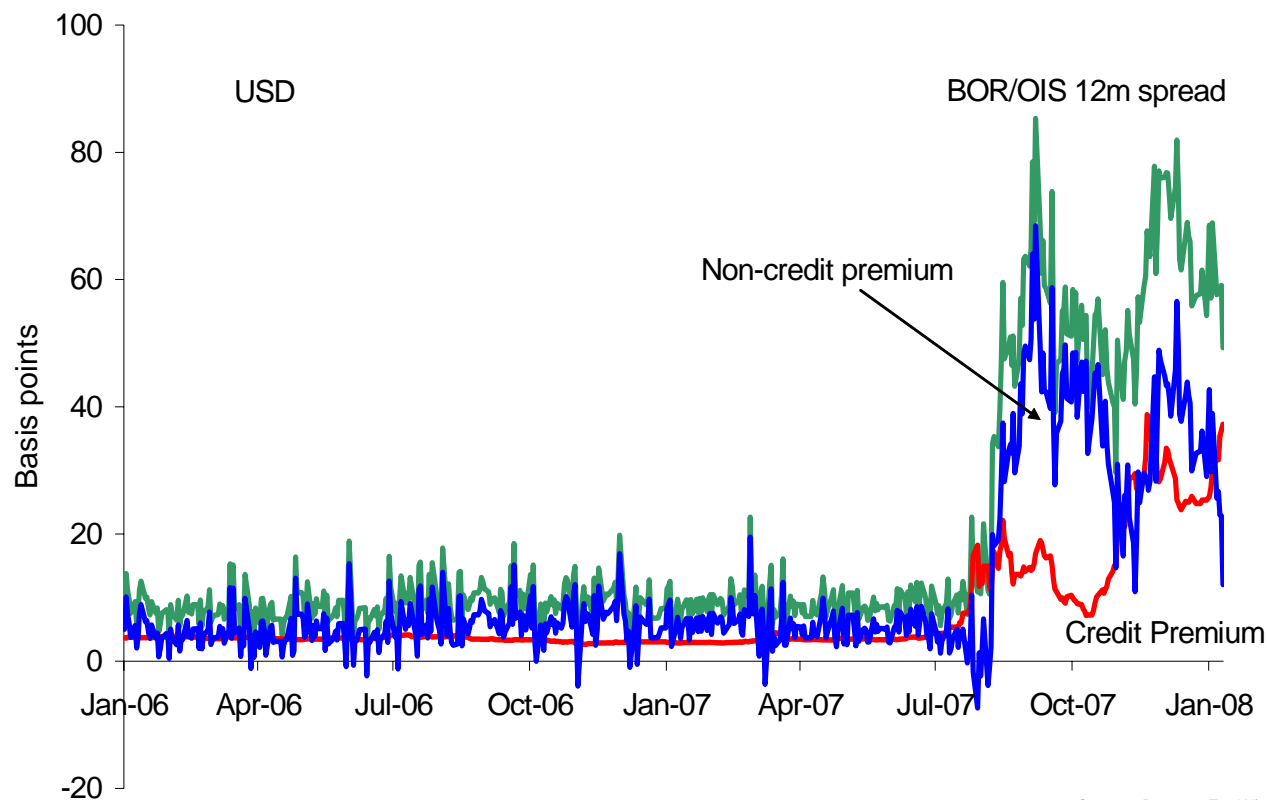
UK: High Yield Spreads



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Meanwhile, the credit market continue to deteriorate

Decomposing US BOR/OIS Spread



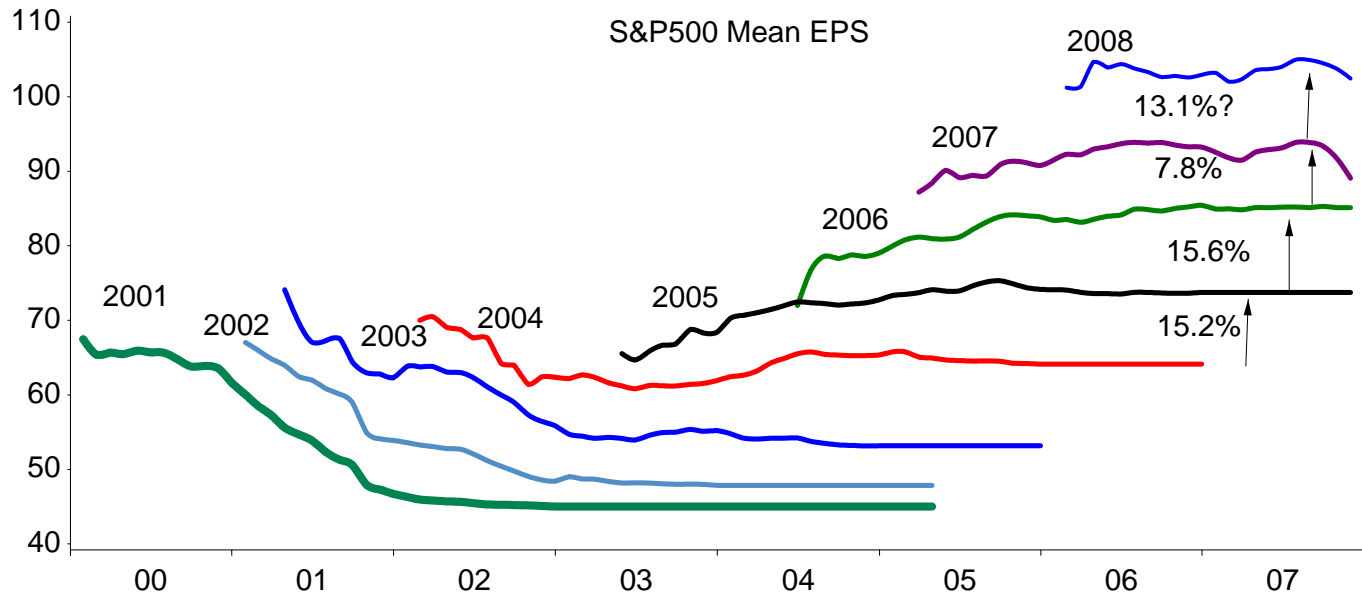
Source: Reuters EcoWin Pro

- We can decompose the spread into a credit and a non-credit (ie liquidity) part
- The credit premium is rising as worries about the real economy increase
- Liquidity is as good as it has been since the crisis started

Liquidity Crisis metamorphoses into CREDIT CRUNCH



Priced For Perfection



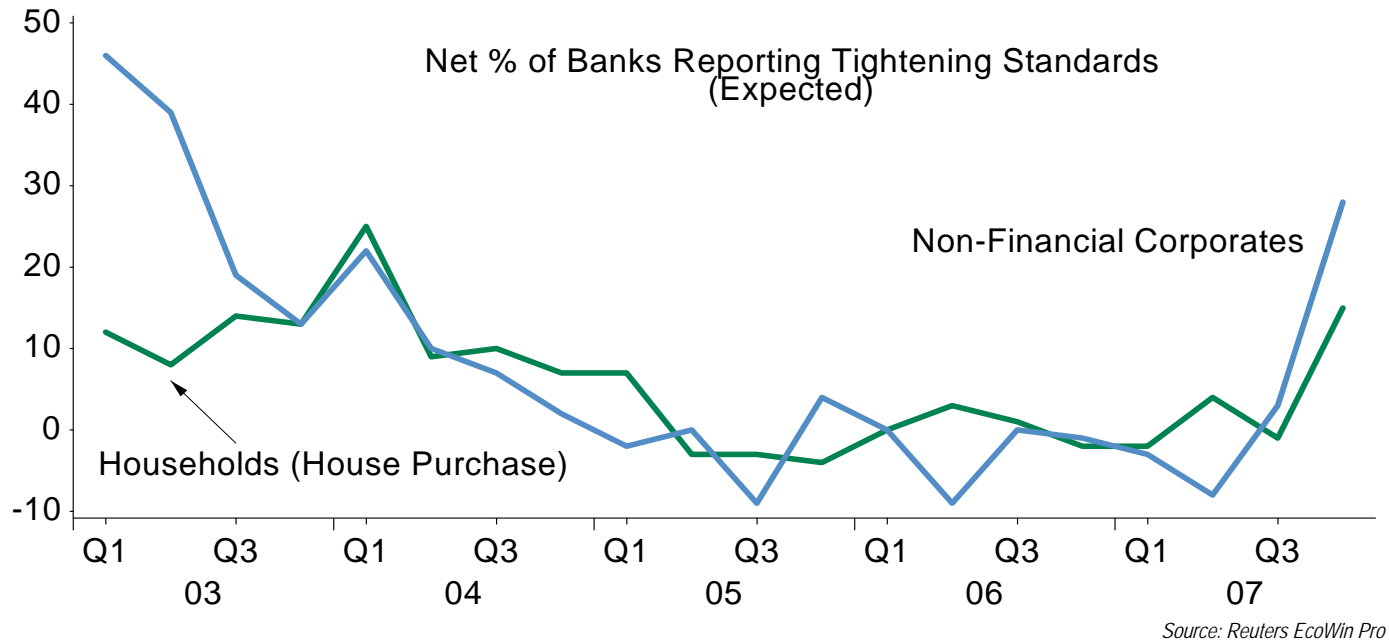
Source: Reuters EcoWin Pro

- Earnings estimates continue to look too high even allowing for buybacks
- EPS growth of nearly 7.1% this year followed by 13% next year??
- Downward surprise not supportive for investment

Forward Earnings Estimates Too High



E.g. Eurozone: BLS – Tighter Credit Conditions

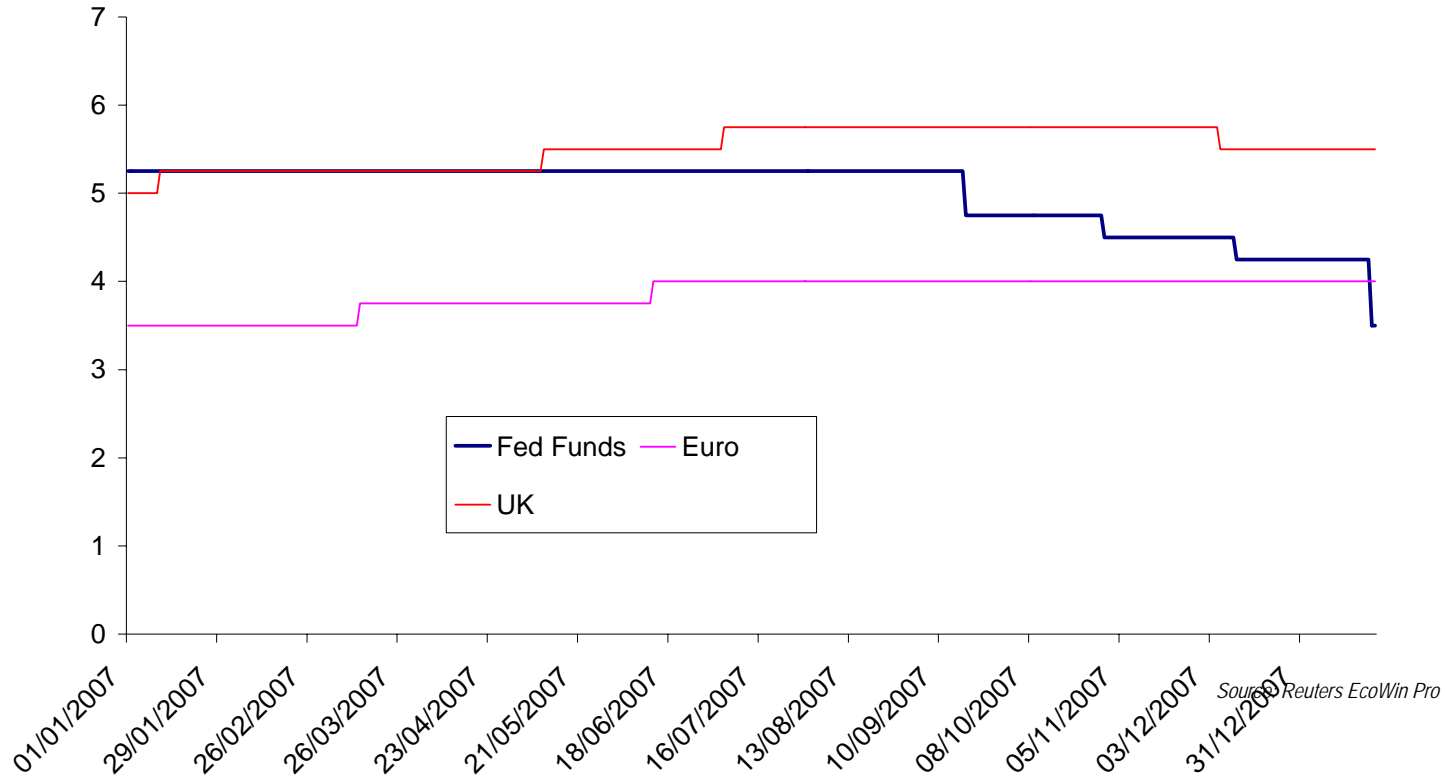


- The Bank Lending Survey showed a pronounced change in bank attitudes
- This was at end-September – conditions must have worsened since

Tightening up



Policy path – US, Euro and UK

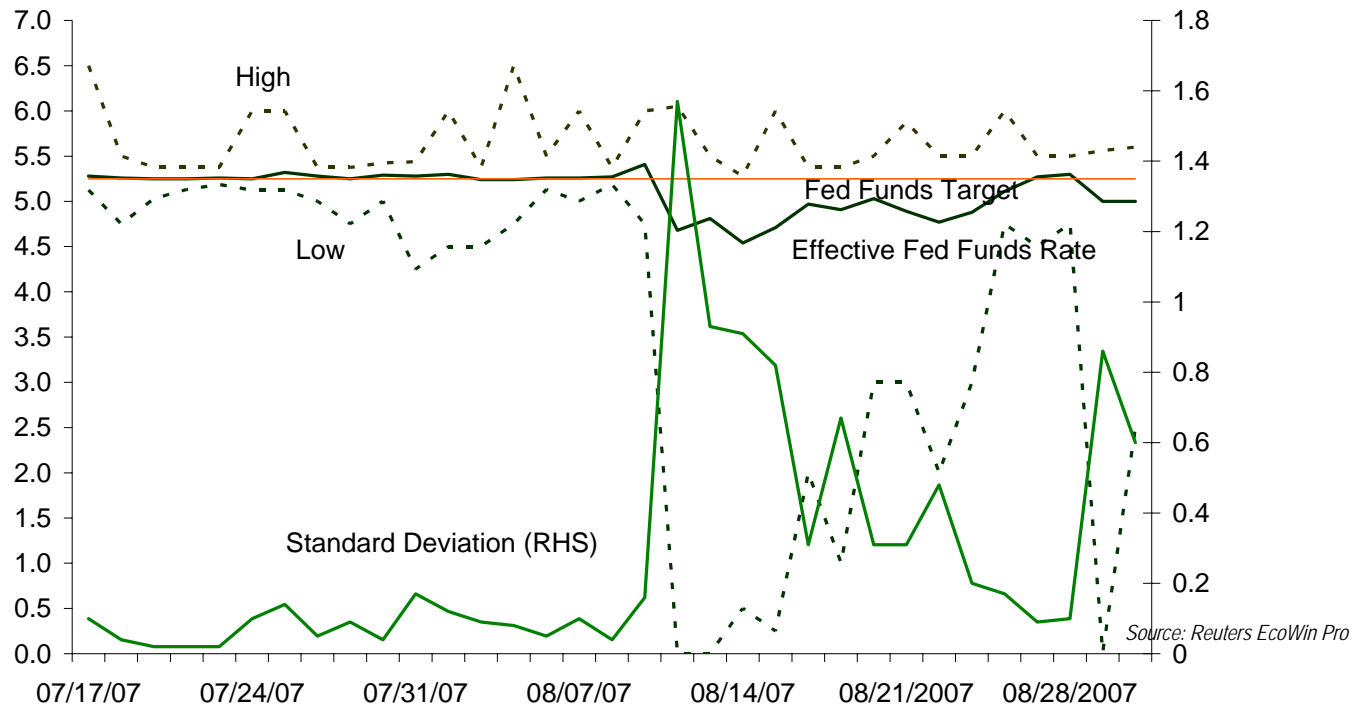


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Tightening up



US Fed: Interaction of money markets and policy

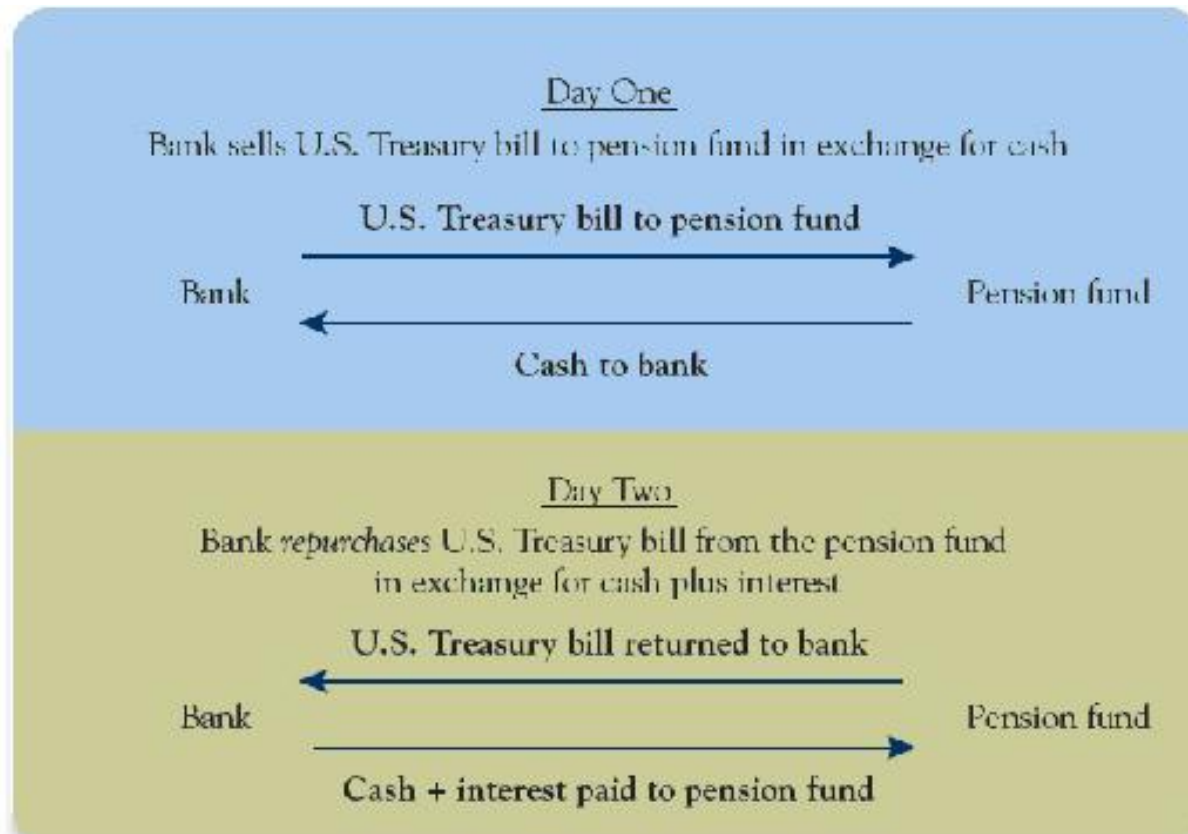


- Heavy discounting and leading to primary brokers after August 7th
- Effective Fed Funds fell far below the target...

Tightening up



US Fed: Mechanics of a Repo

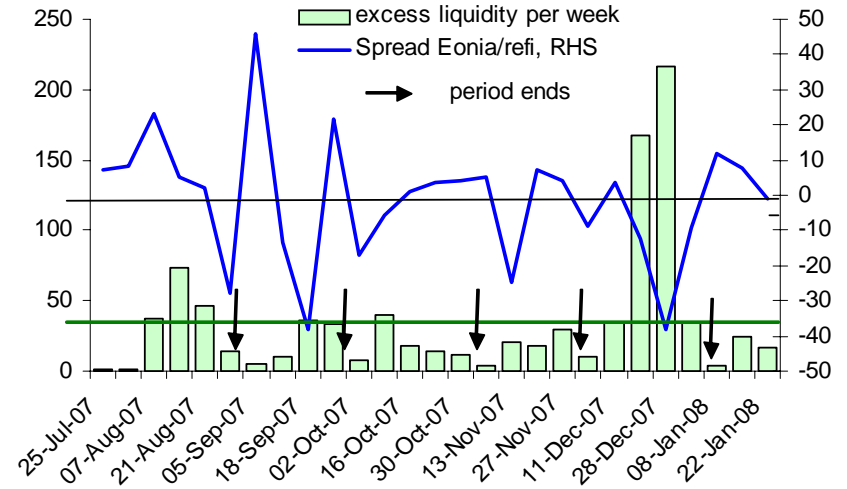
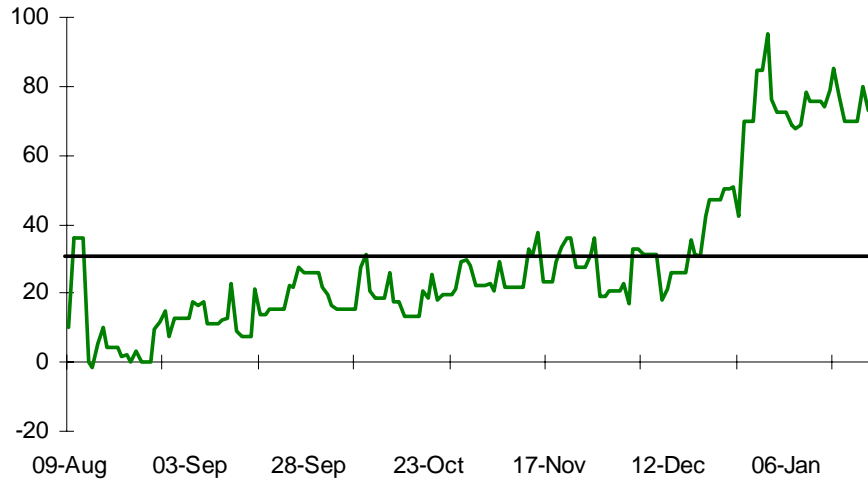


- Central banks or banks themselves can smooth asset-liability positions
- At what interest rate and what if the collateral “stinks”...

Market can seize...



Liquidity injections: Fed and ECB



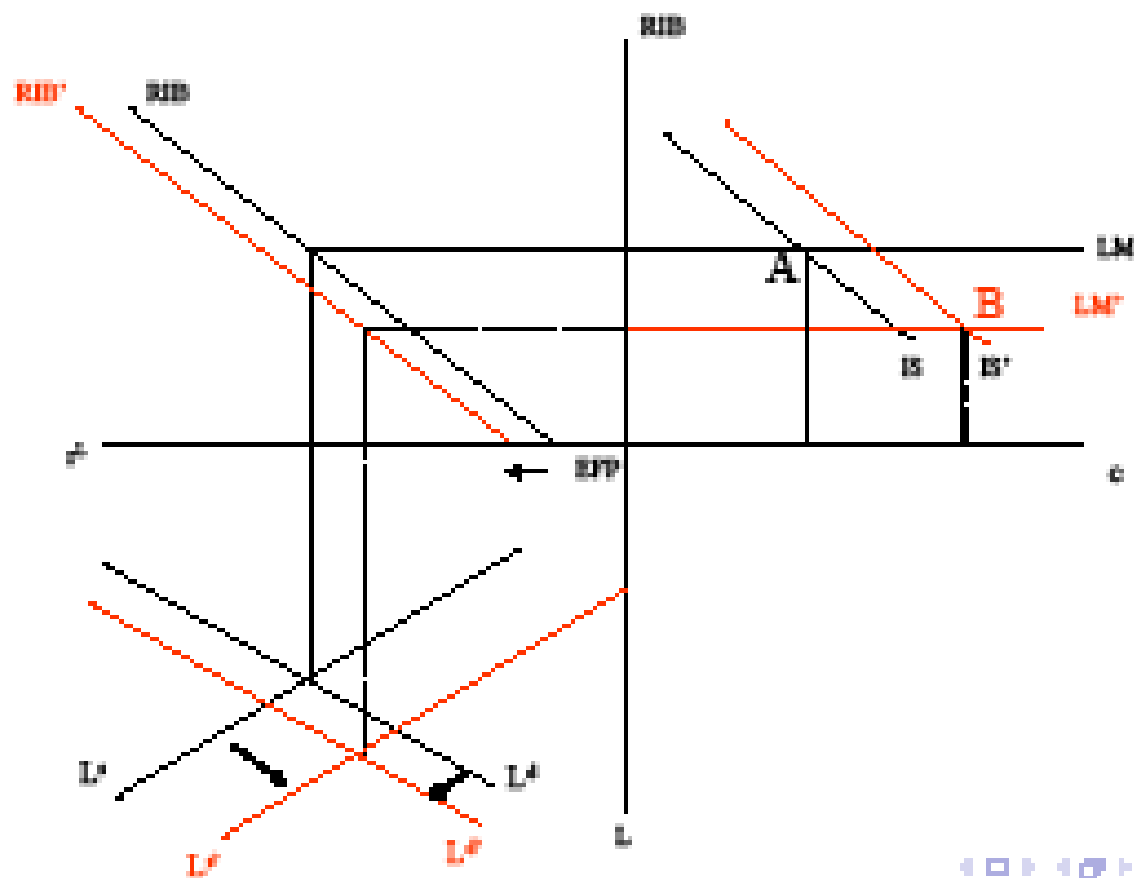
- LHS: Fed Net Cash Accumulated
- RHS: ECB excess liquidity supplied

A purge for the money markets...



Productivity Shock: An IS-LM-LR Perspective

A Productivity Shock – Inflation Targeting

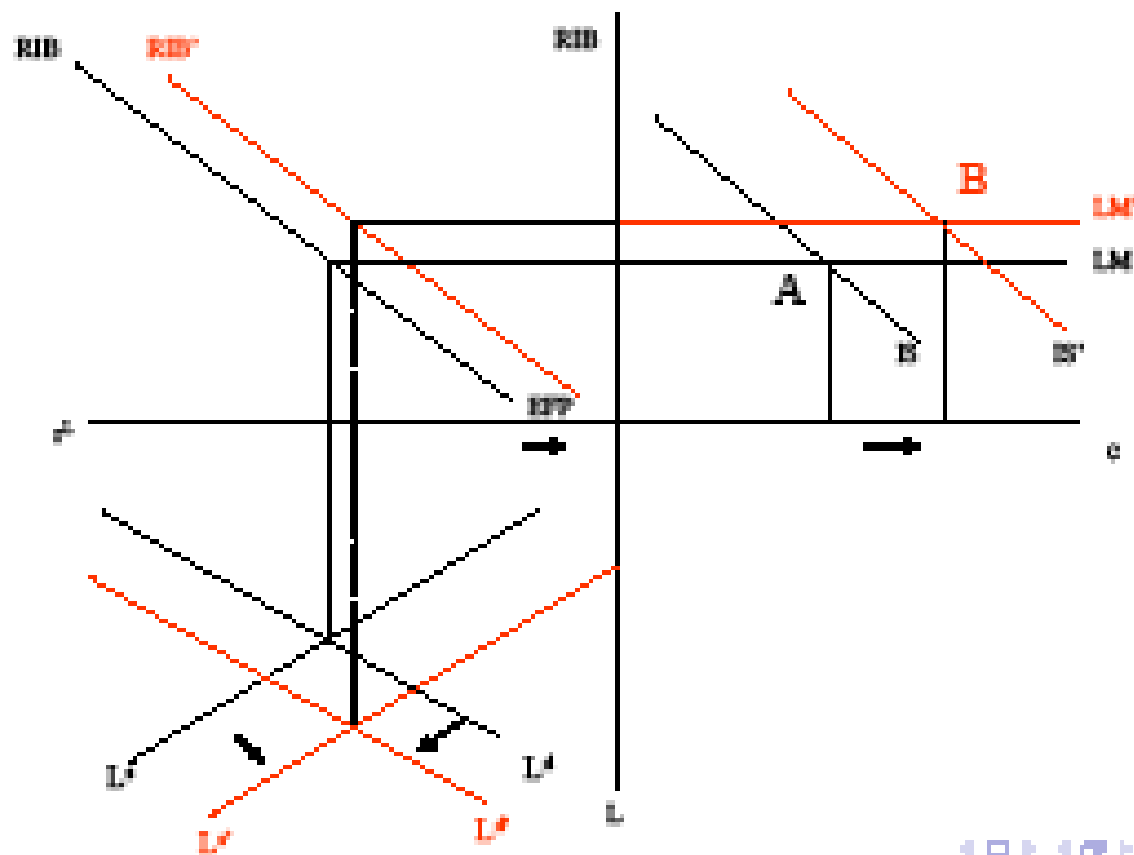


Retail and Credit market rates set in lower lhs quadrant



Monitoring Shock: An IS-LM-LR Perspective

A Monitoring Shock – Inflation Targeting



...disconnected from policy



Potential Solutions

- Increase transparency of who has taken losses
 - Reluctance to take such big losses immediately
 - Losses are mounting

- Avoid fire sale liquidations that impose losses on financial system and impair capital
 - Super SIV problems – lack of critical mass, pricing of assets, distrust of motives, ‘vultures’ want cheaper assets
 - Super SIV has not arrived

- Central bank action
 - Supply plentiful liquidity
 - Cut rates and steepen yield curve
 - Exactly what has happened in US and UK

- Capital injections into banks – e.g. from Asia
 - Exactly what has happened in US and UK