Association of Consulting Actuaries

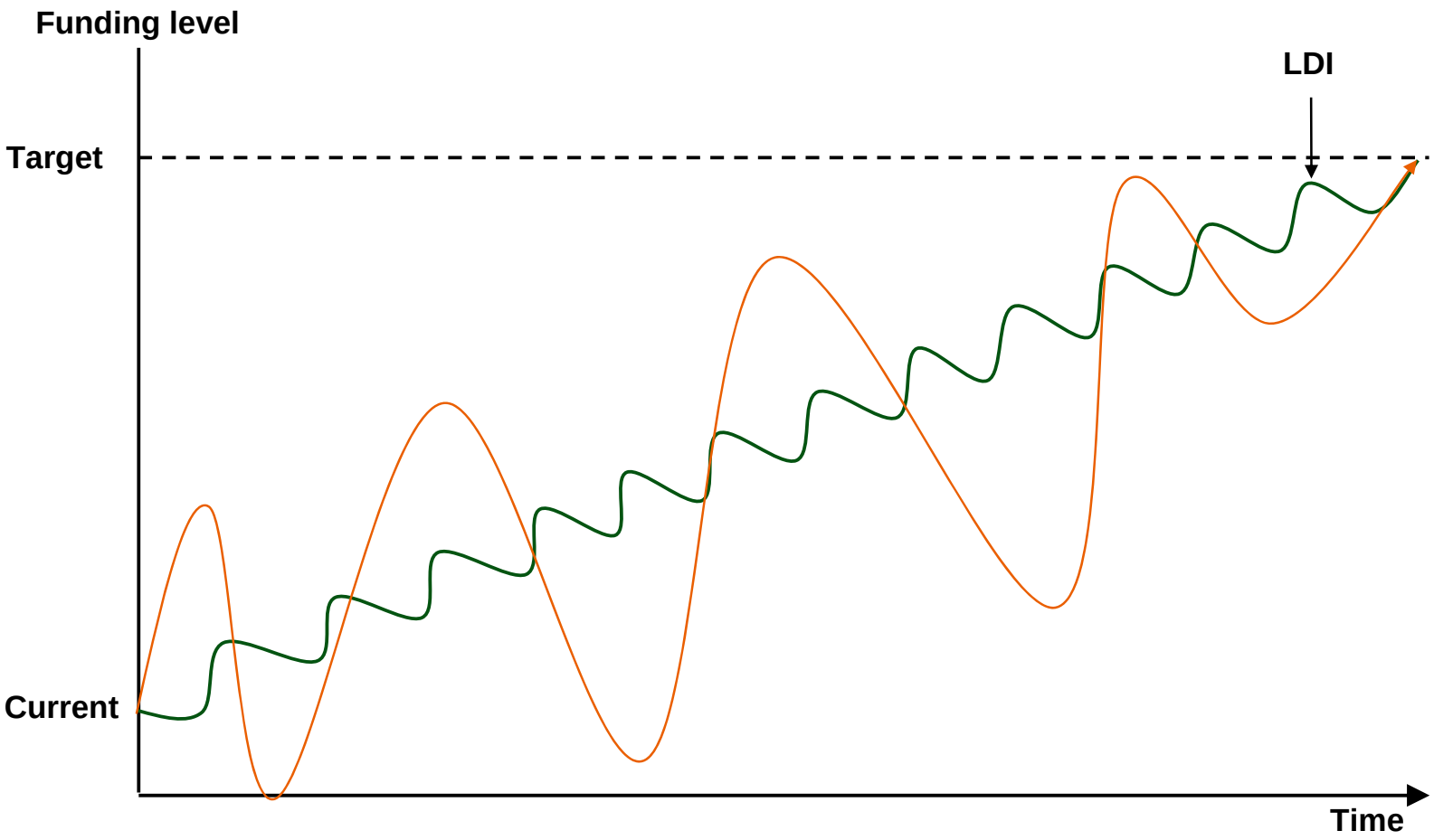
Trimming your Hedge: a Thorny Issue

Alvar Chambers

26 February 2009

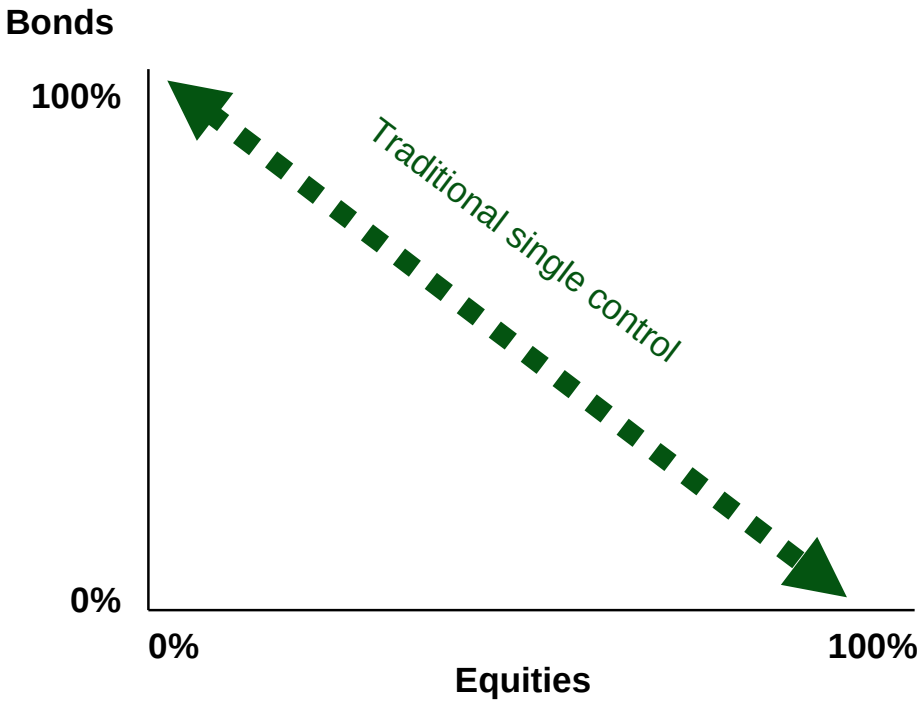
Insight INVESTMENT

LDI: achieving a smoother path to your funding objective

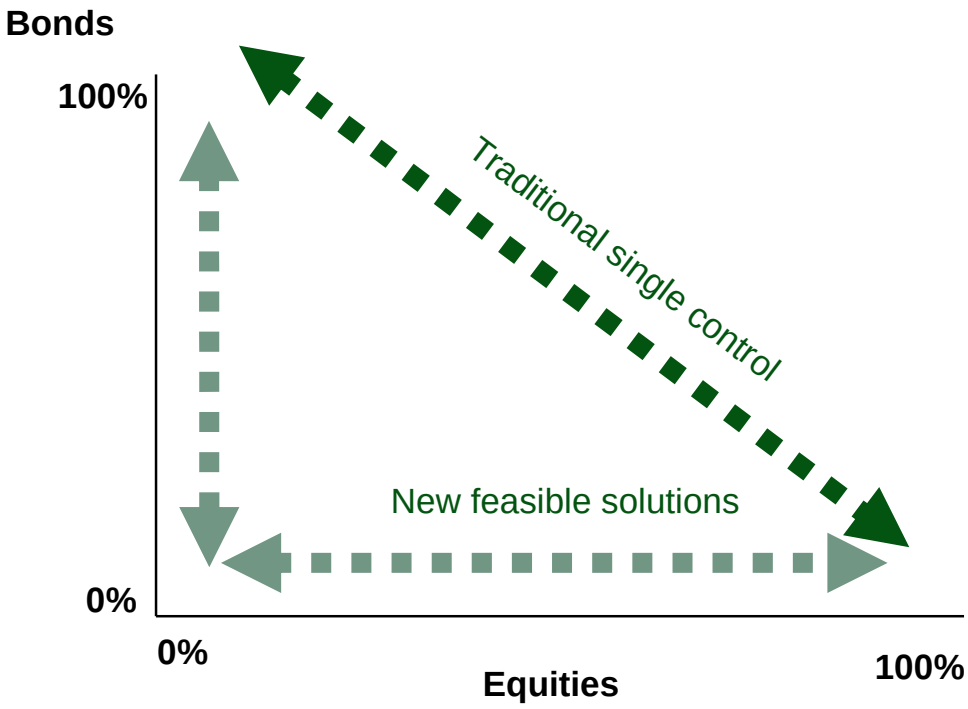


Avoiding the trade-off

Equities *or* "Bonds"

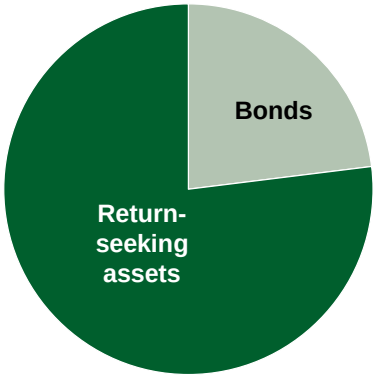


Equities *and* "Bonds"

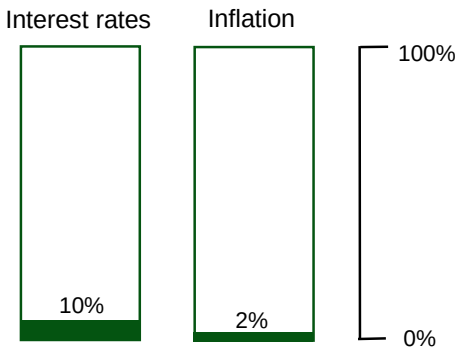


Complete independence of hedging and return seeking decisions

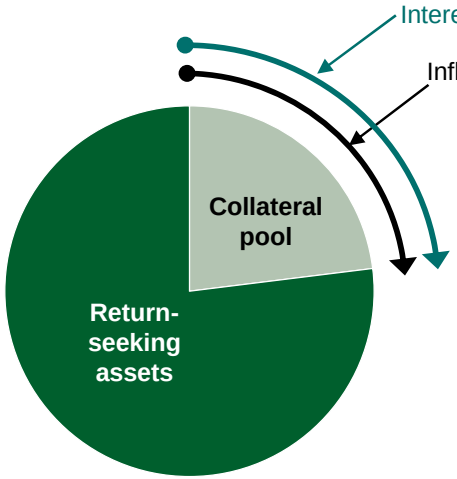
Previous strategy



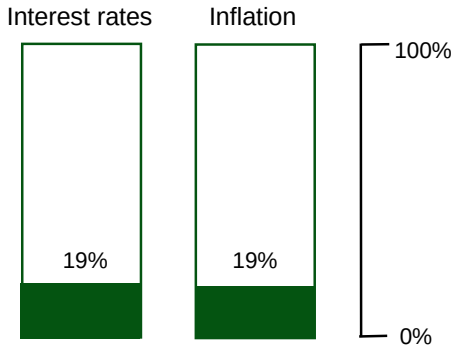
Liabilities (% hedged)



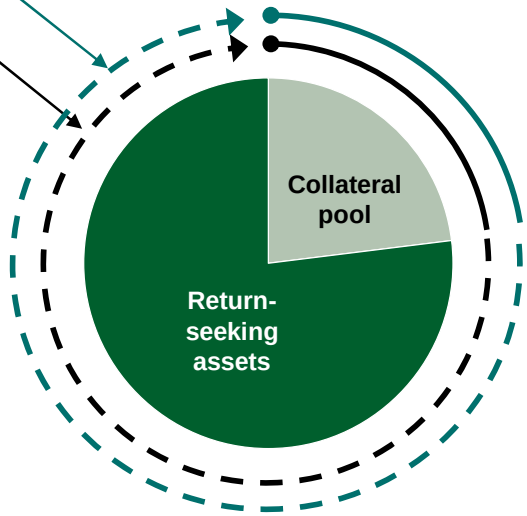
‘Better bonds’



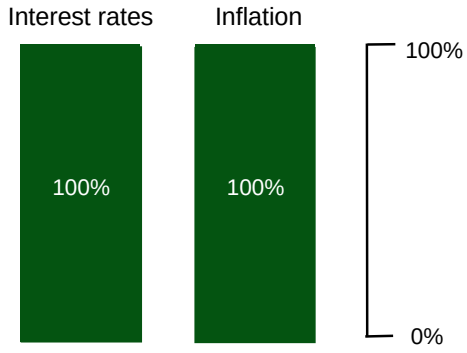
Liabilities (% hedged)



Extended hedge overlay



Liabilities (% hedged)



LDI in a credit-crunched world

Problems

- real rates unattractive
- LPI swap market broken
- liquidity poor and dealing spreads high
- money markets dysfunctional/meeting LIBOR challenging
- counterparty risk is real

Solutions

- “legging in” to rates and inflation, active management
- delta hedging
- flexible implementation strategies
- alternatives to cash
- robust collateral management

Opportunities

- Index-linked gilts cheap
- Credit spreads attractive for the investor with a long time horizon

Is now the time to be hedging real rate exposure?

20 year real swap rate

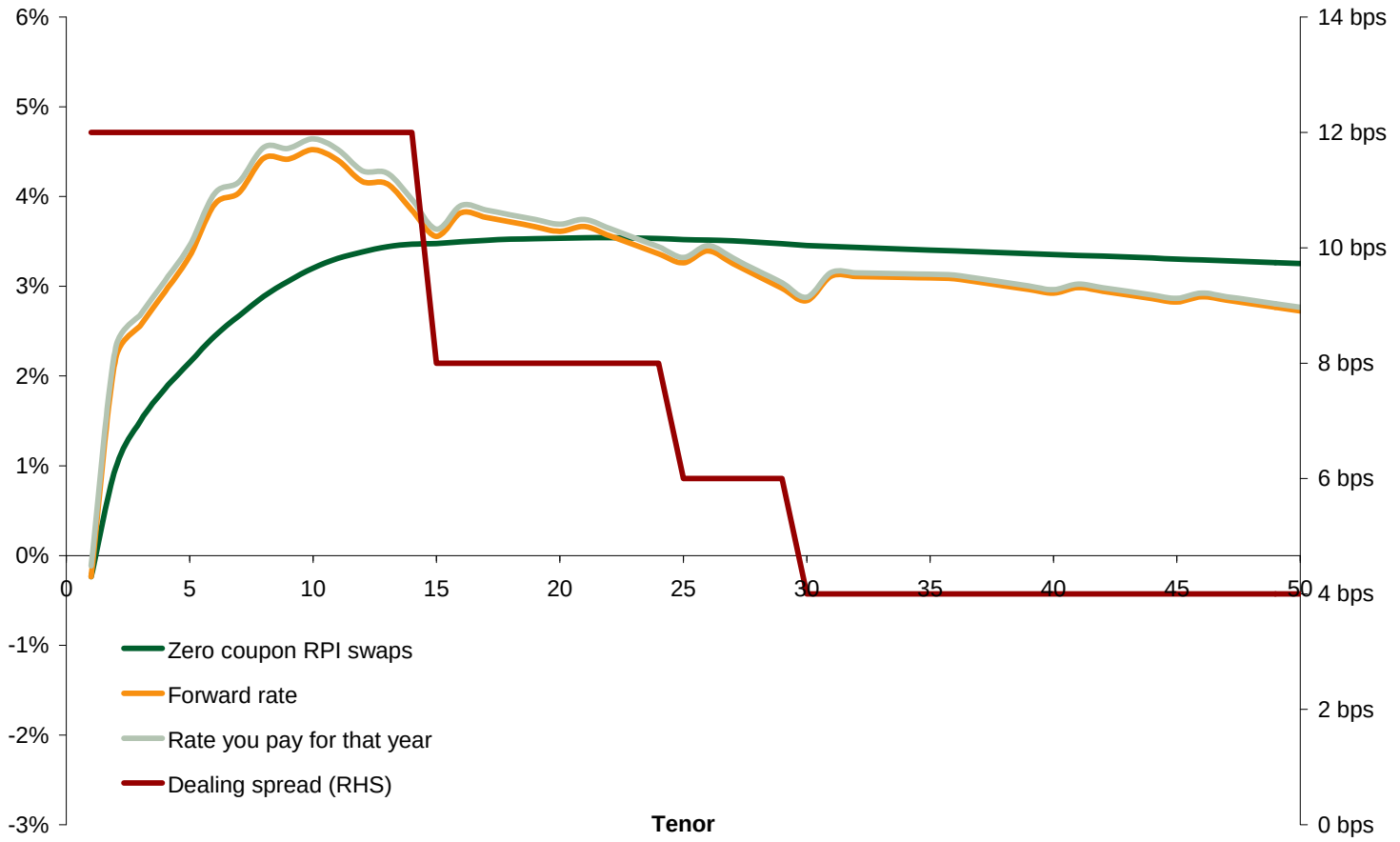


The cost of hedging inflation

20 year inflation swap rate



The state of the inflation markets



The LPI swaps market is broken

Hedging LPI(0,5)

- Limited supply of LPI(0,5) swaps has dried up
- Delta hedge requires rebalancing
- Rebalancing delta hedge generates profits if breakevens are volatile
- Carry cost of delta hedging if breakevens are stable

Hedging LPI(3,5)

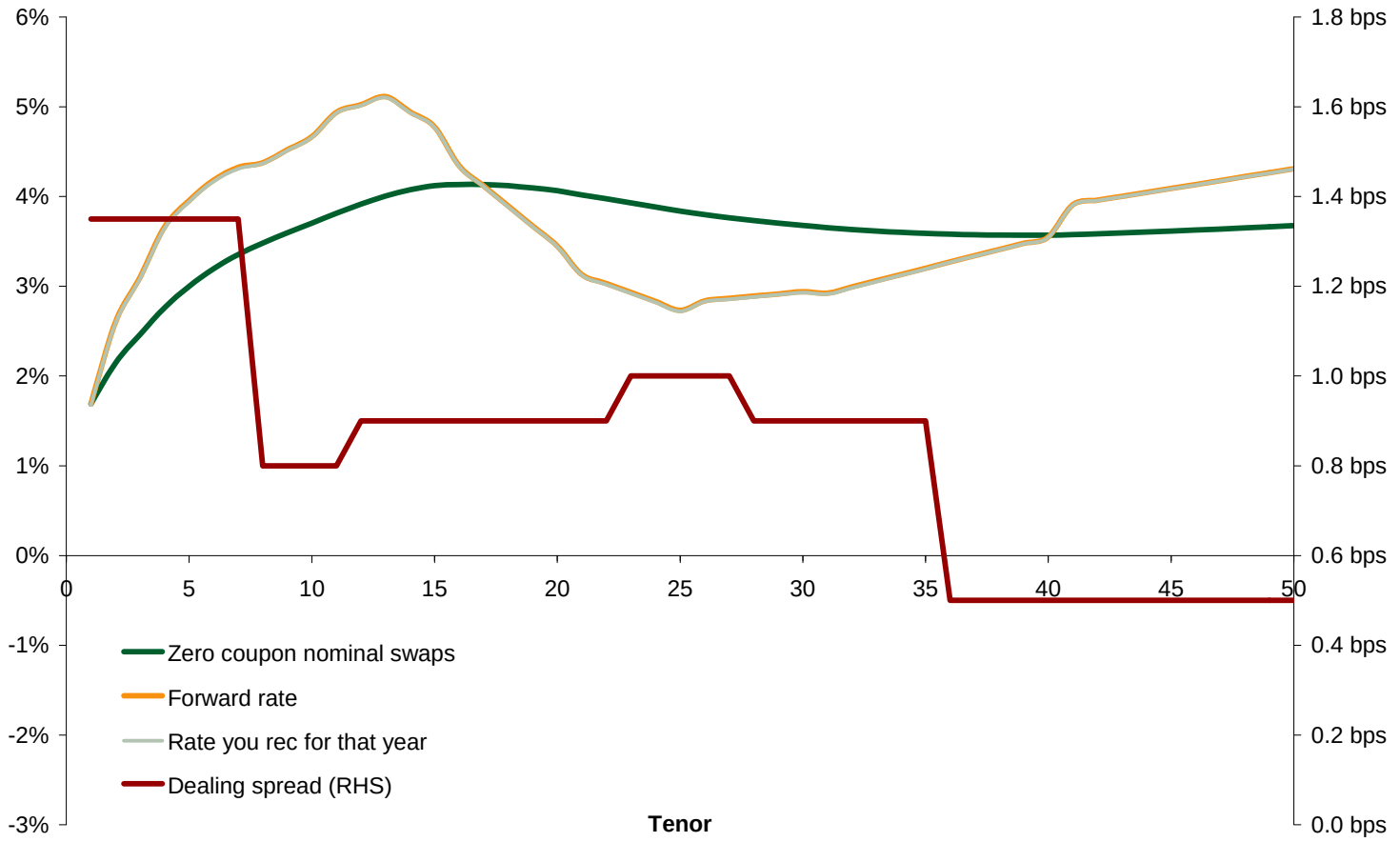
- LPI(3,5) swaps very illiquid at best of times – difficult to source and high dealing costs
- Rebalancing delta hedge generates losses if breakevens are volatile, carry pick up if breakevens stable
- However, inflation delta unstable if breakevens near 3% floor

The cost of hedging interest rate exposure

20 year interest rate swap rate



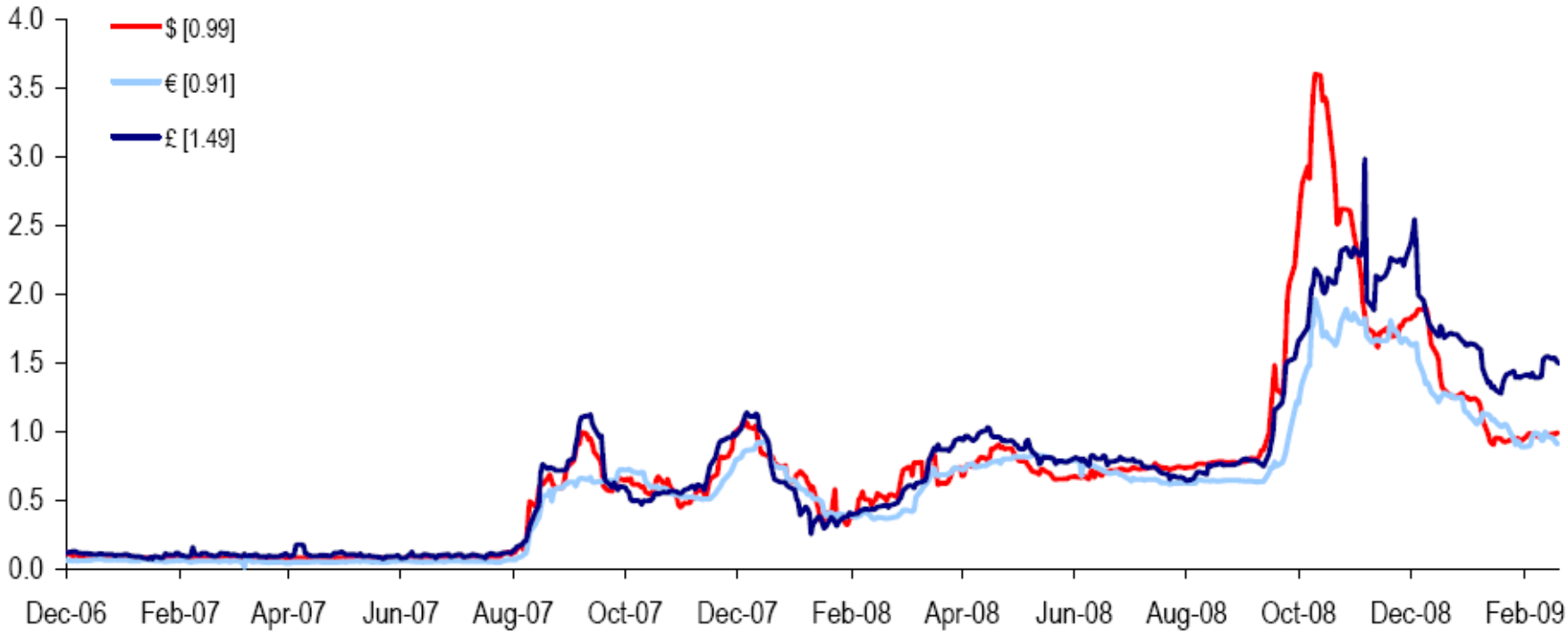
The state of the nominal markets



Money markets have improved

… but transmission mechanisms are still not fixed

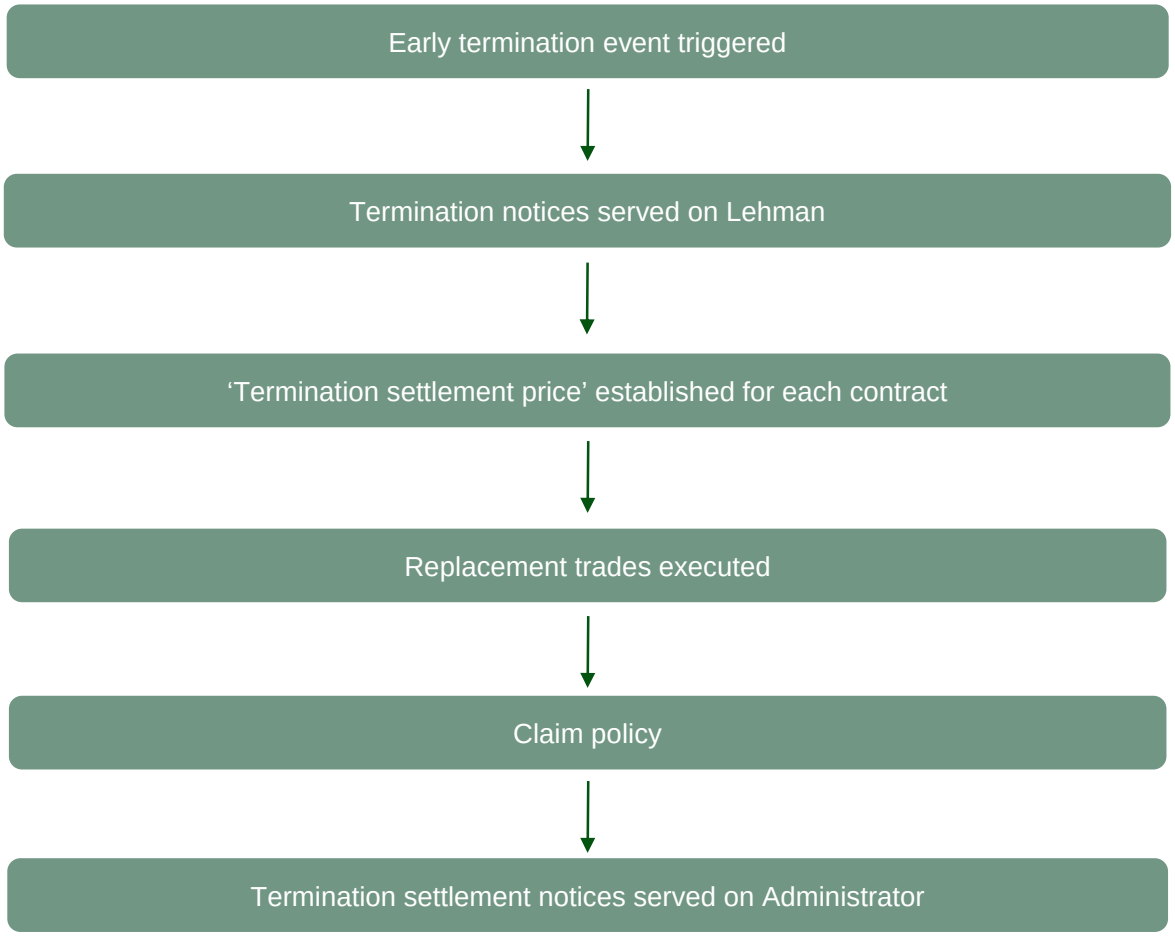
3m Libor - 3m OIS; liquidity premia proxy
rate, percent



Source: Citigroup

Lehman collapse

Rigorous, well rehearsed process can protect pension schemes' interests



How can you mitigate counterparty credit risk?

Daily bi-lateral collateralisation

- Zero thresholds and independent amounts
- Low minimum transfer amounts

Dedicated collateral team separate from front office

Invest in systems infrastructure

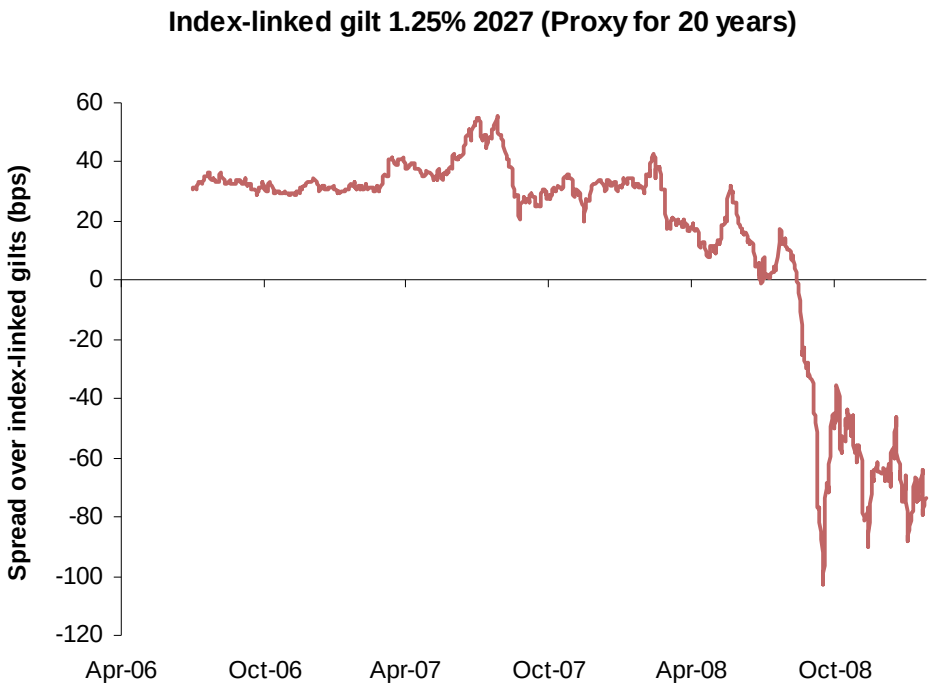
- automate the end-to-end daily collateral management workflow
  - System holds and applies terms of your CSA
  - Input daily independent swap valuations
  - Revalue collateral on mark-to-market basis
  - Issue automated collateral demands

Converting your index-linked gilts to swaps

Anomaly between index-linked gilts and swaps

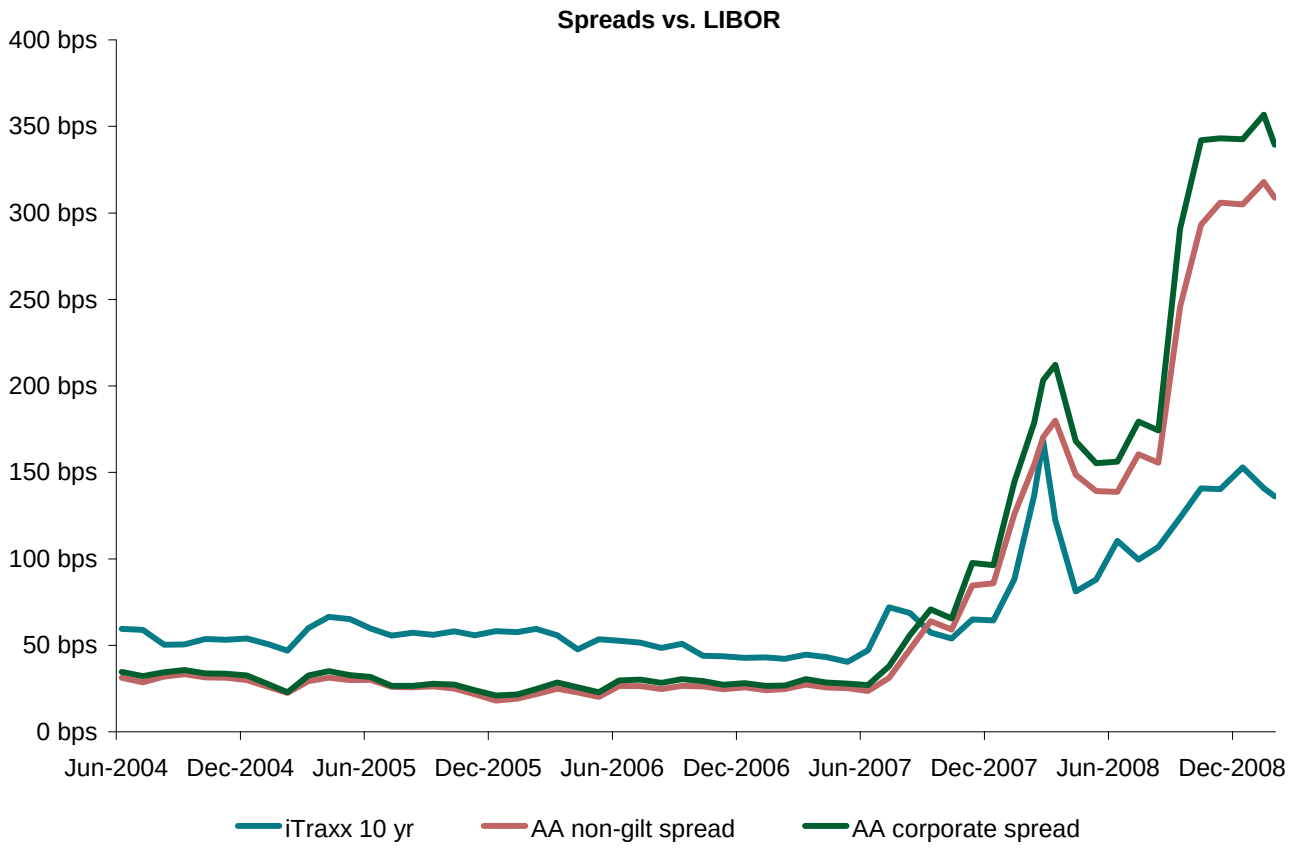
- index-linked gilts typically yielded c.30bp p.a. less than the equivalent swaps
- index-linked now offer a yield premium of c.75bp p.a. relative to swaps, reflecting market dislocation and concerns over level of future gilt issuance
- Current market conditions provide an unprecedented to
  - capture the 'z-spread' anomaly
  - minimise collateralised counterparty exposure

Real yield on swaps relative to index-linked gilts



Incorporating credit into the solution

Physical credit offers better value than synthetic



Opportunities in credit

- Credit markets offer attractive yields
- Physical credit spreads significantly wider than synthetic
- Investing in physical credit can provide a broad hedge for liabilities valued on IAS19 basis
- However physical credit may not help with collateral for swap overlay

In conclusion…

Problems

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Thank you

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