



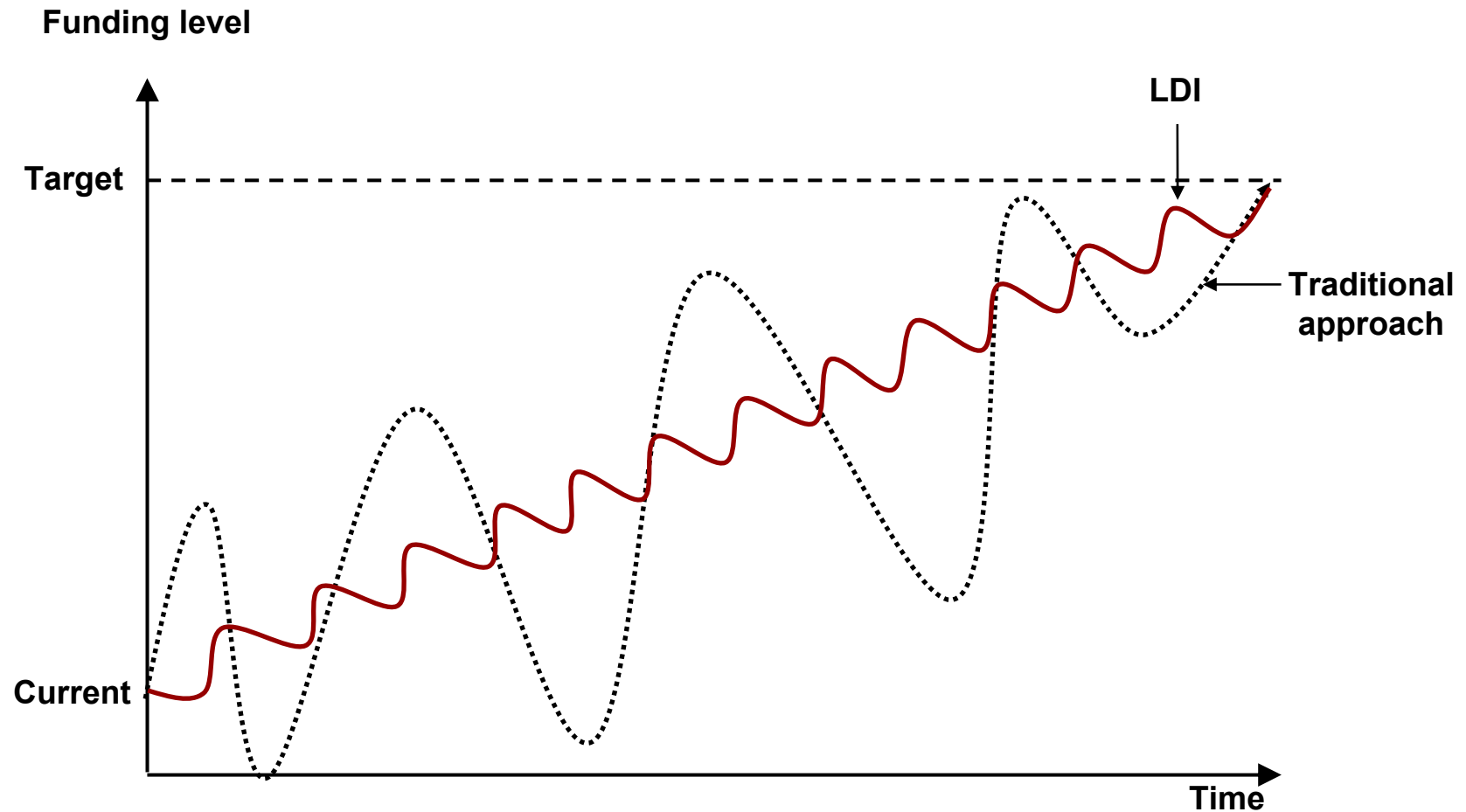
**The Actuarial Profession**

making financial sense of the future

# LDI: Practical issues and risks

Steve Aukett, Insight Investment

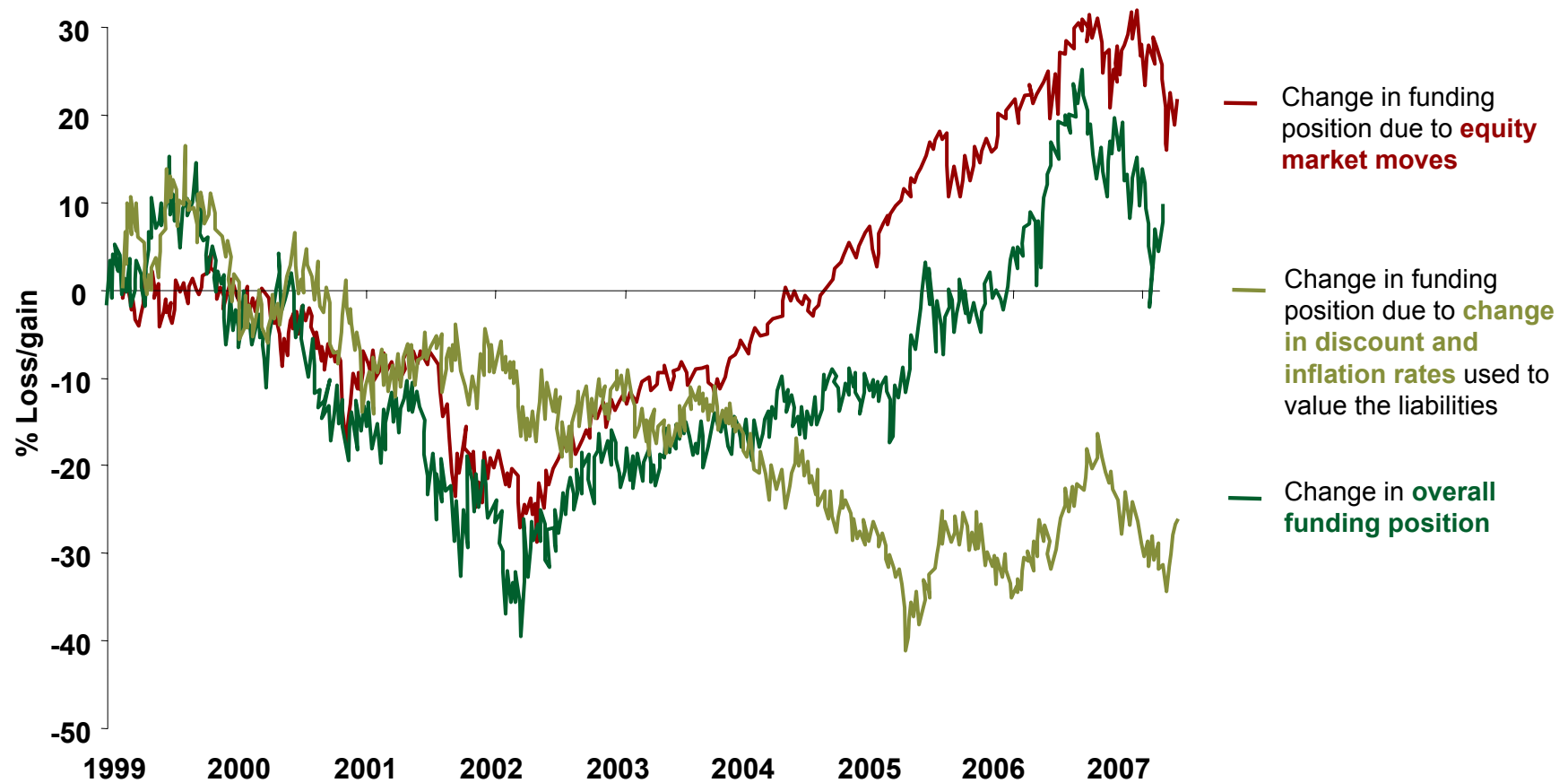
# Smooother path to the funding target



# What are the key issues?

- Identifying and managing the risks
  - what is the objective?
- The use of swaps
  - managing counterparty risk
  - generating LIBOR and LIBOR ‘plus’
- Evolving the LDI strategy
- Monitoring and reporting

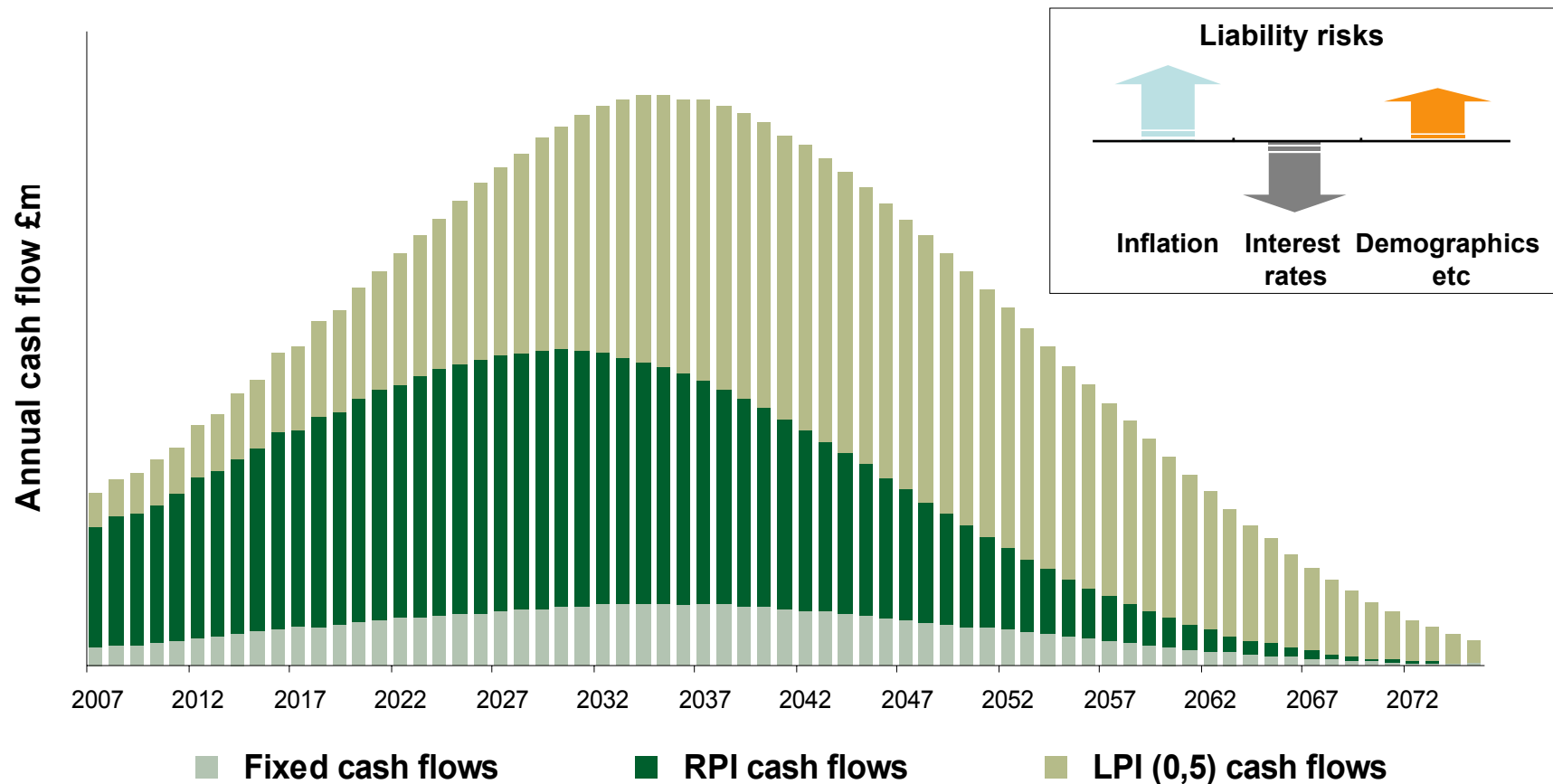
# Funding levels are volatile



# Quantifying the risks

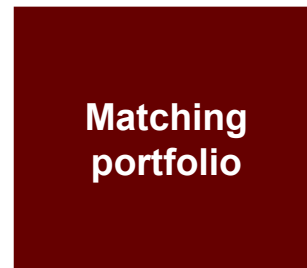
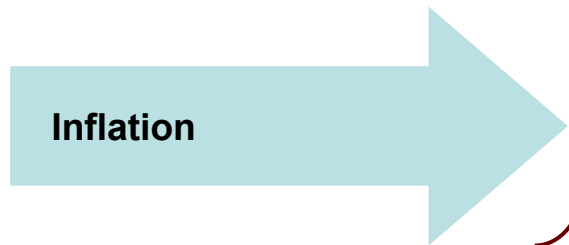
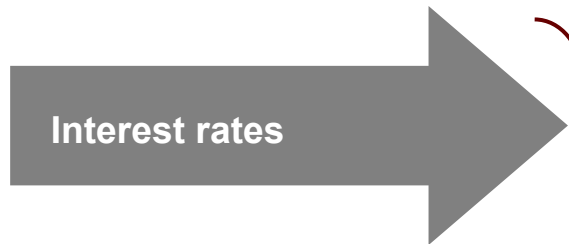
	Exposure	x	Sensitivity	x	Annual Volatility	=	Impact
<b>Assets</b>							
Equity	70%		1		17%		12%
Fund manager	100%		1		3%		3%
<b>Liabilities</b>							
Interest rates	100%		20 yrs		1.1%		22%
Inflation	100%		20 yrs		1%		20%
Longevity							~5%

# What is the objective?

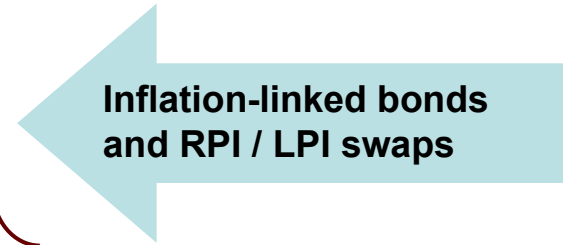
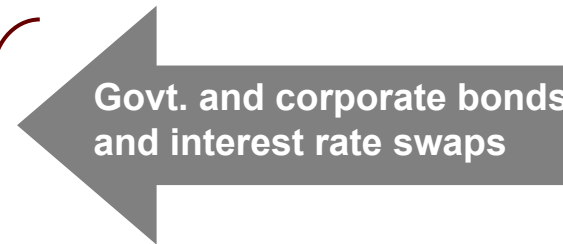


# Designing the matching portfolio

## Hedgeable sources of risk

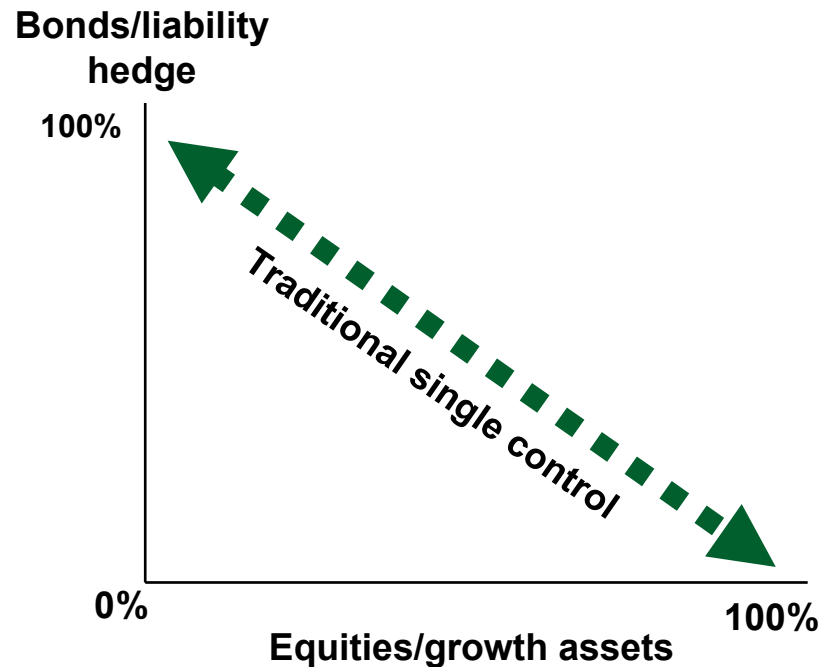


## Hedging instruments

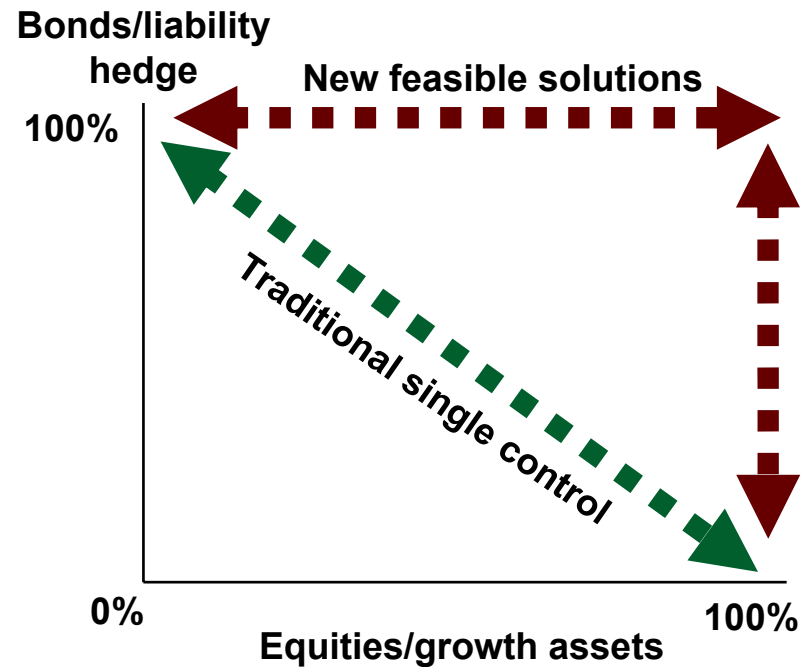


# Avoiding the traditional trade-off

## Equities *or* “Bonds”



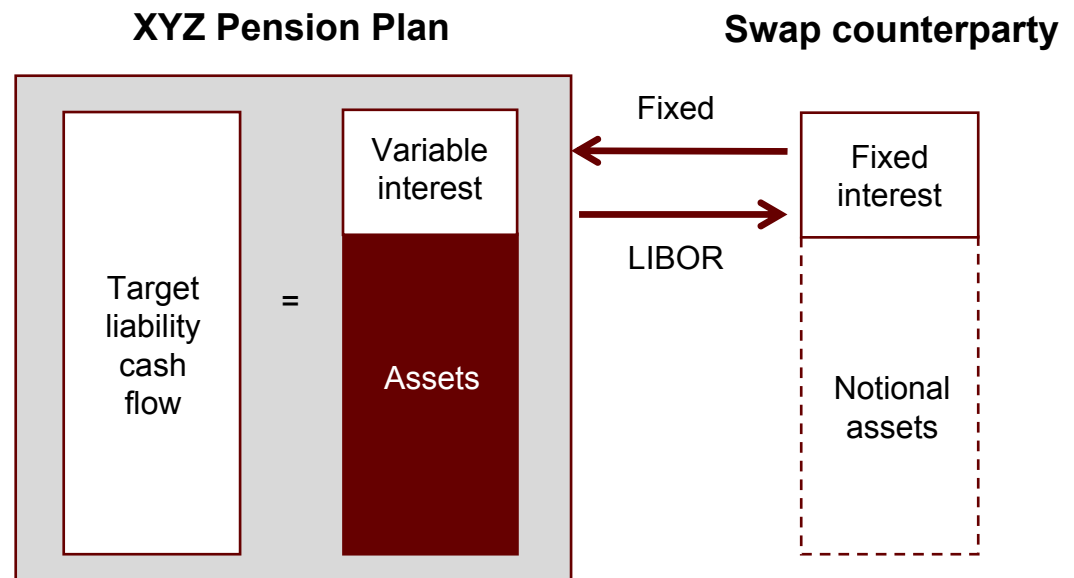
## Equities *and* “Bonds”



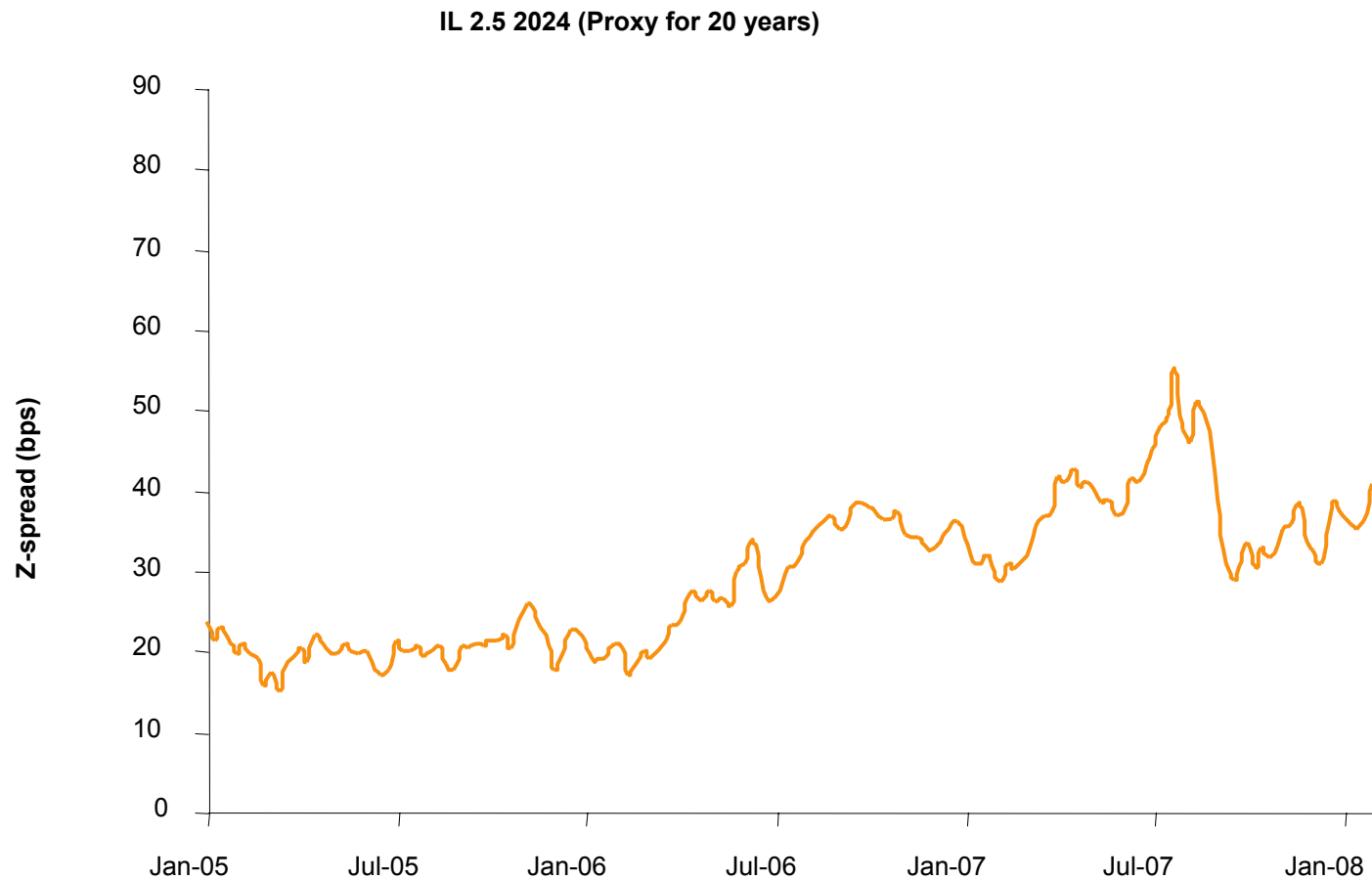


# Using swaps to match liabilities

- Enable the Plan to match liabilities by:
  - maturity
  - nature (fixed, RPI, LPI)
- Offer a yield premium of c.0.3% p.a. over gilts
- Counterparty risk
- Assets backing swaps must generate LIBOR over the long-run



# Swaps offer better value than index-linked gilts



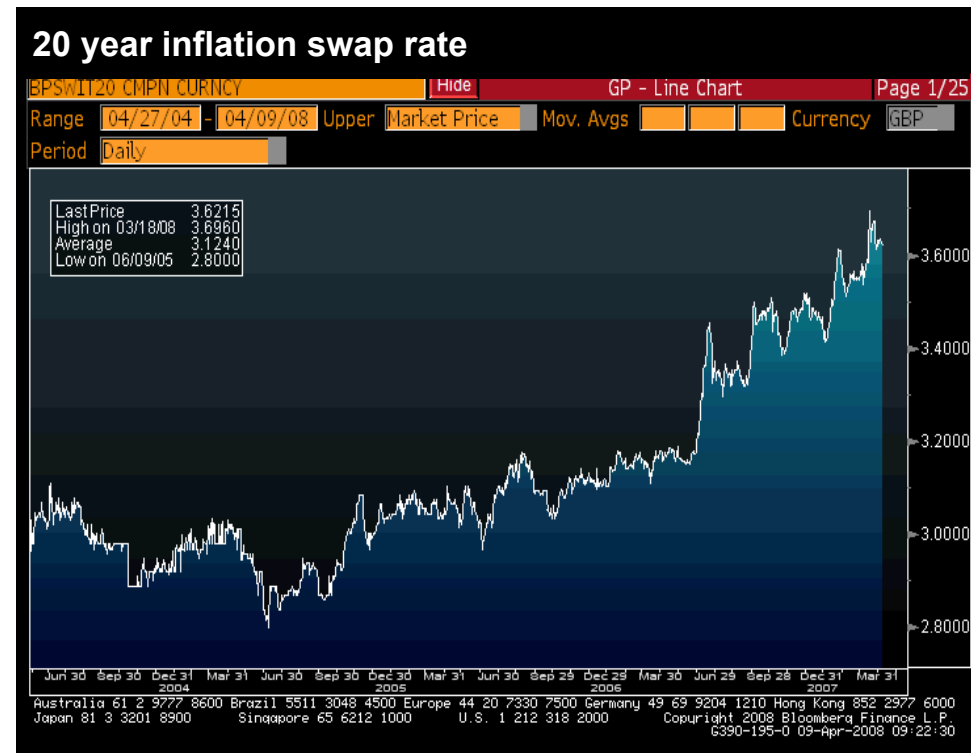
# Mitigating counterparty credit risk

- Collateralisation
  - daily bilateral
  - ISDA documentation
  - typically gilts and cash
- Counterparty selection
  - credit quality
  - diversification

# The cost of careless talk?

Managing the risk:

- limit number of 'insiders'
- non-disclosure agreements
- public announcements
- derivative documentation
- fund structure/vehicle
- execution mechanism

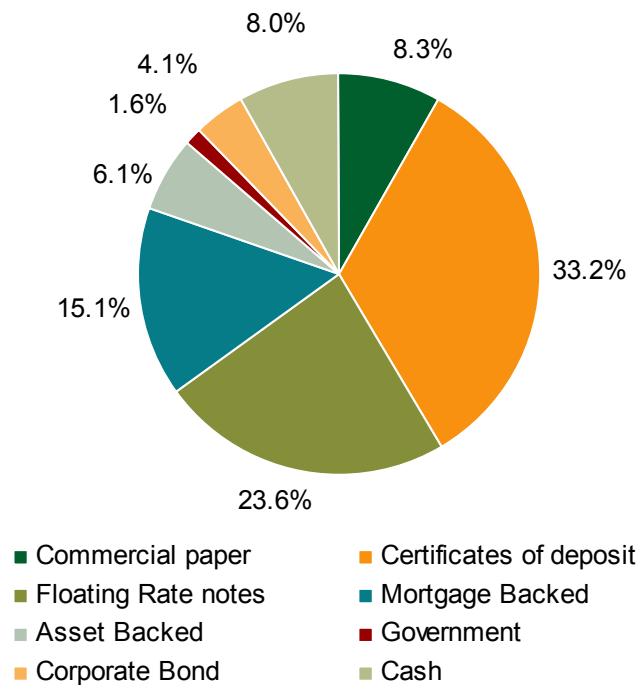


# Best execution

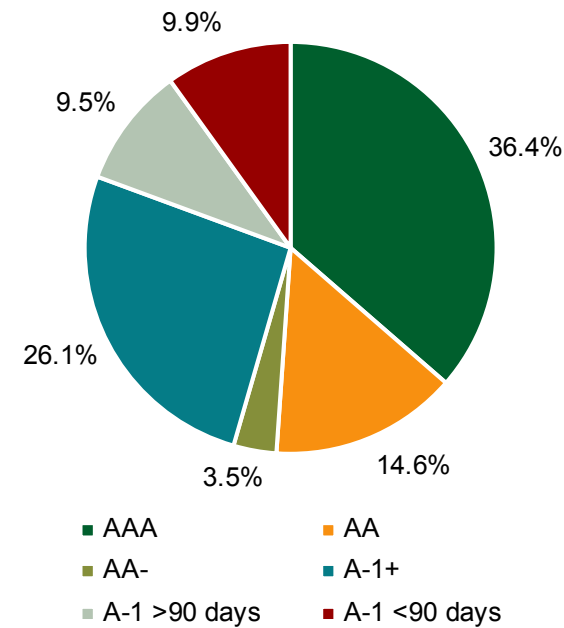
- Comprehensive market access
- Effective “price discovery” process
- Counterparty selection
- Market surveillance

# Insight Liquidity Plus Fund

By asset class

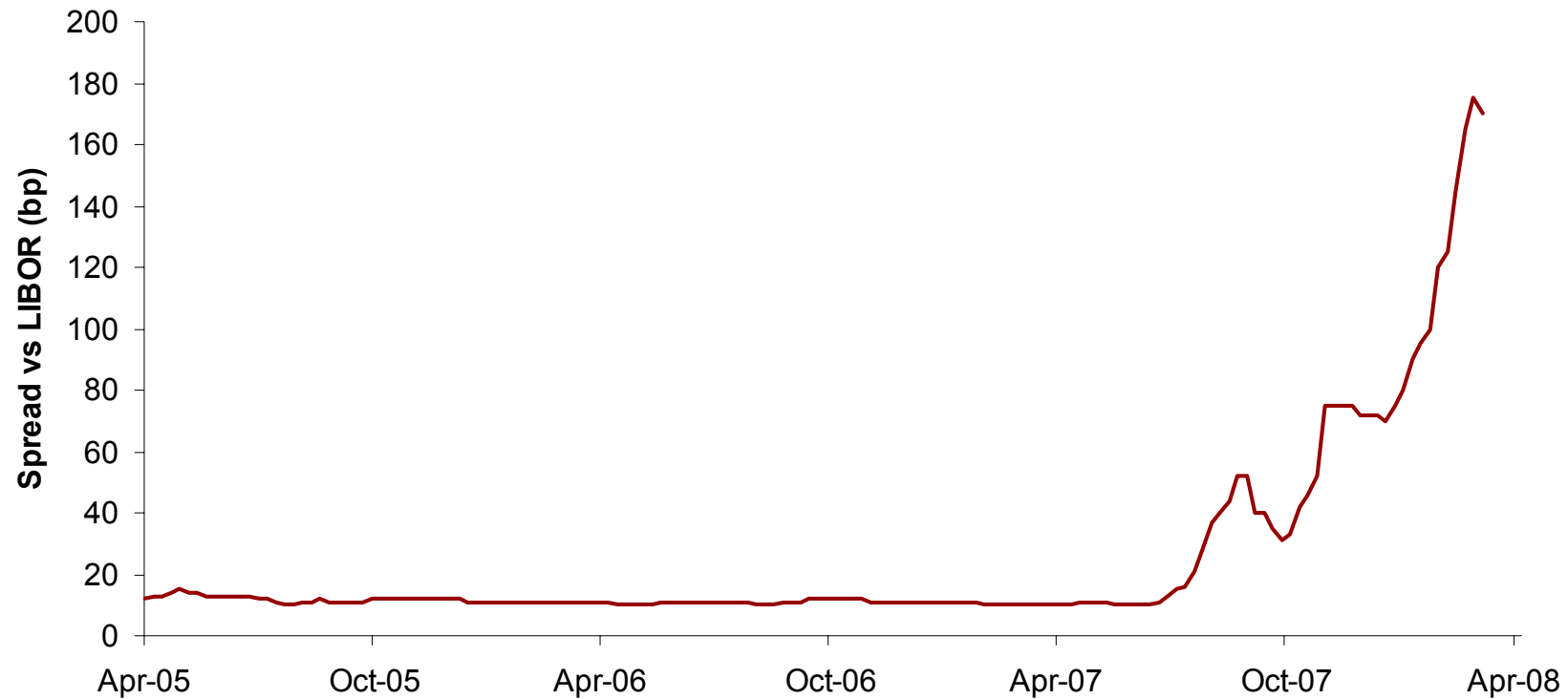


By credit rating



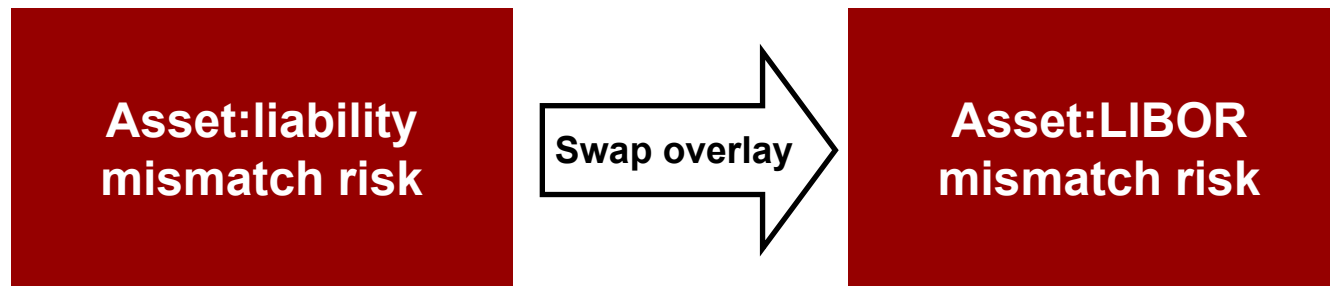
# Current opportunity

## AAA UK Prime RMBS historic yield spreads



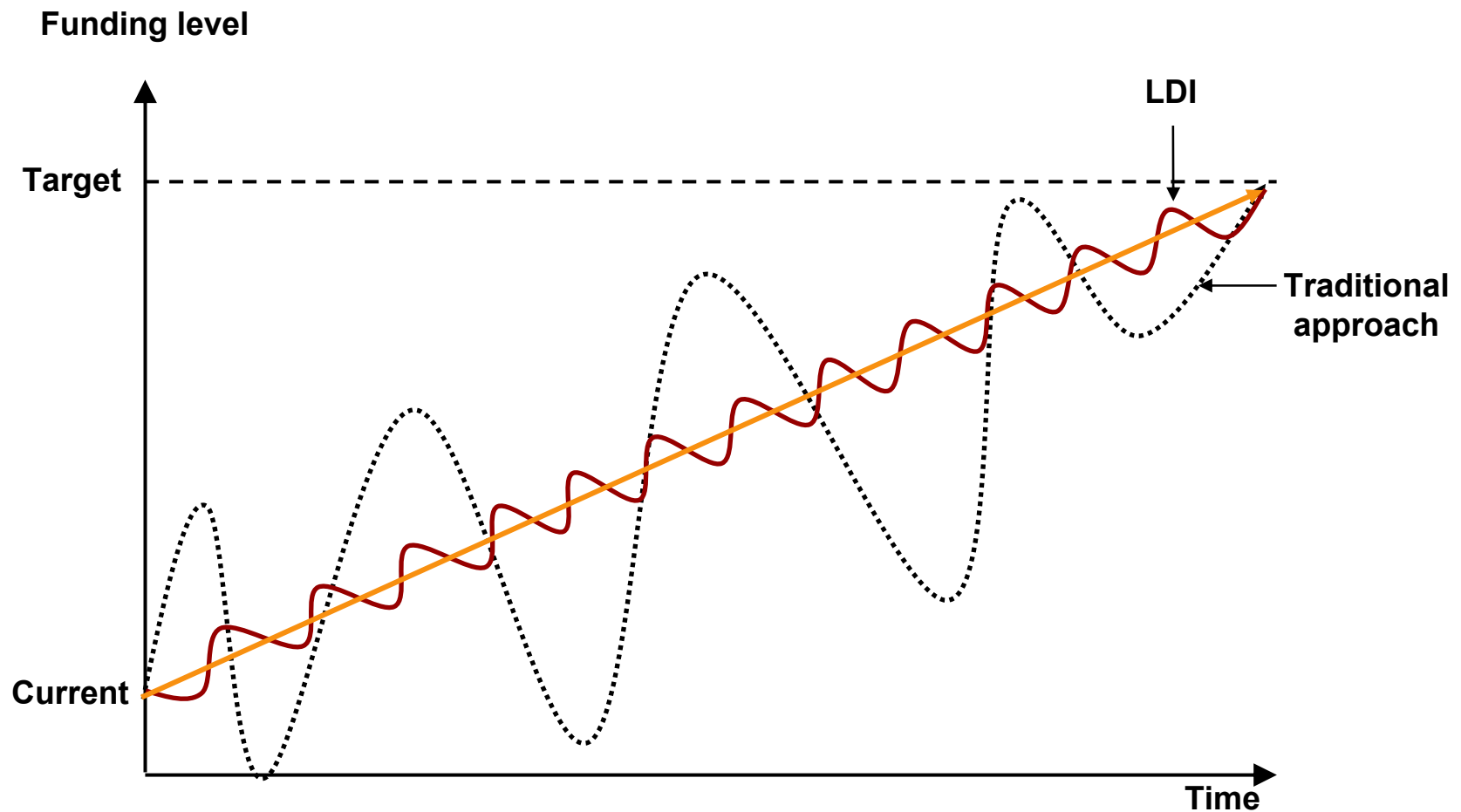
# Generating LIBOR 'plus'

- Assets must at least match LIBOR over the long run

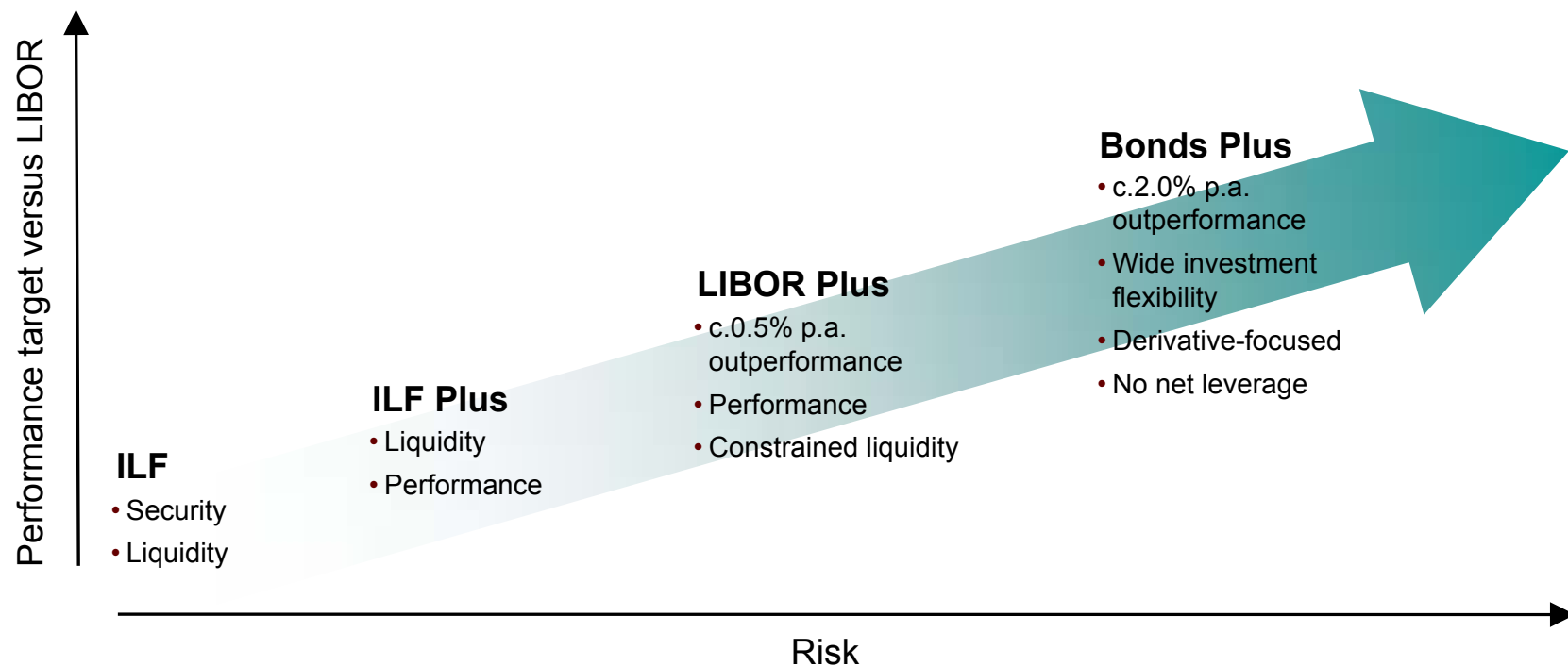




# Smother path to target

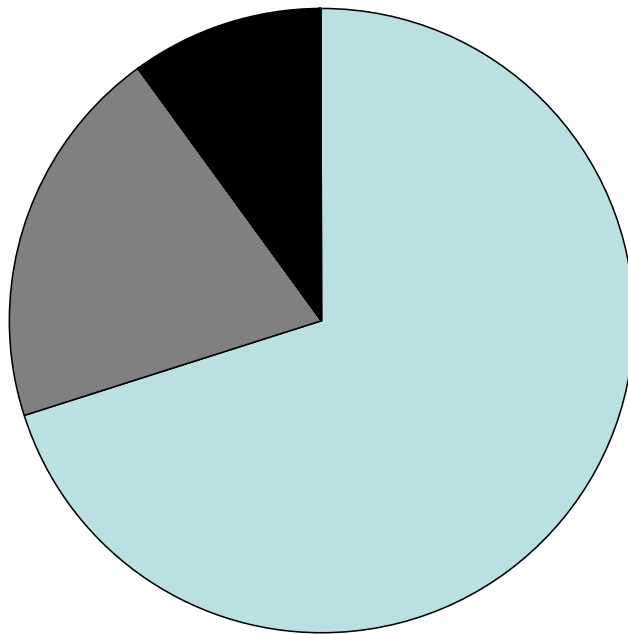


# Insight's LIBOR generating capability



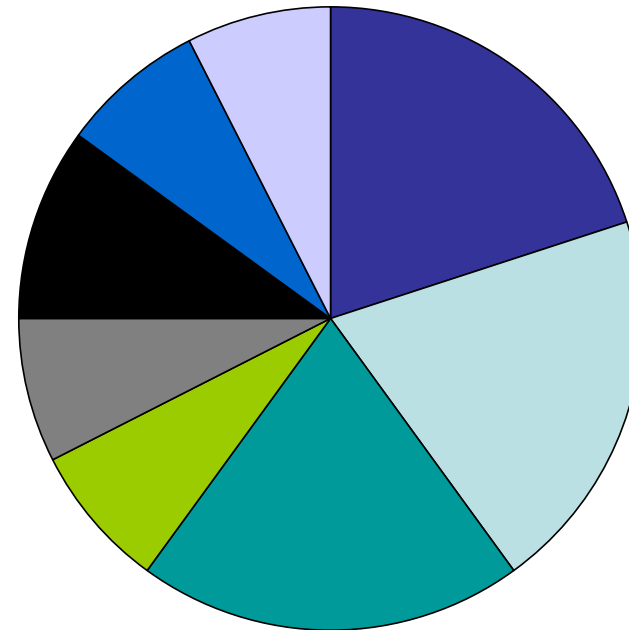
# Targeting liabilities plus 3%p.a.

Traditional



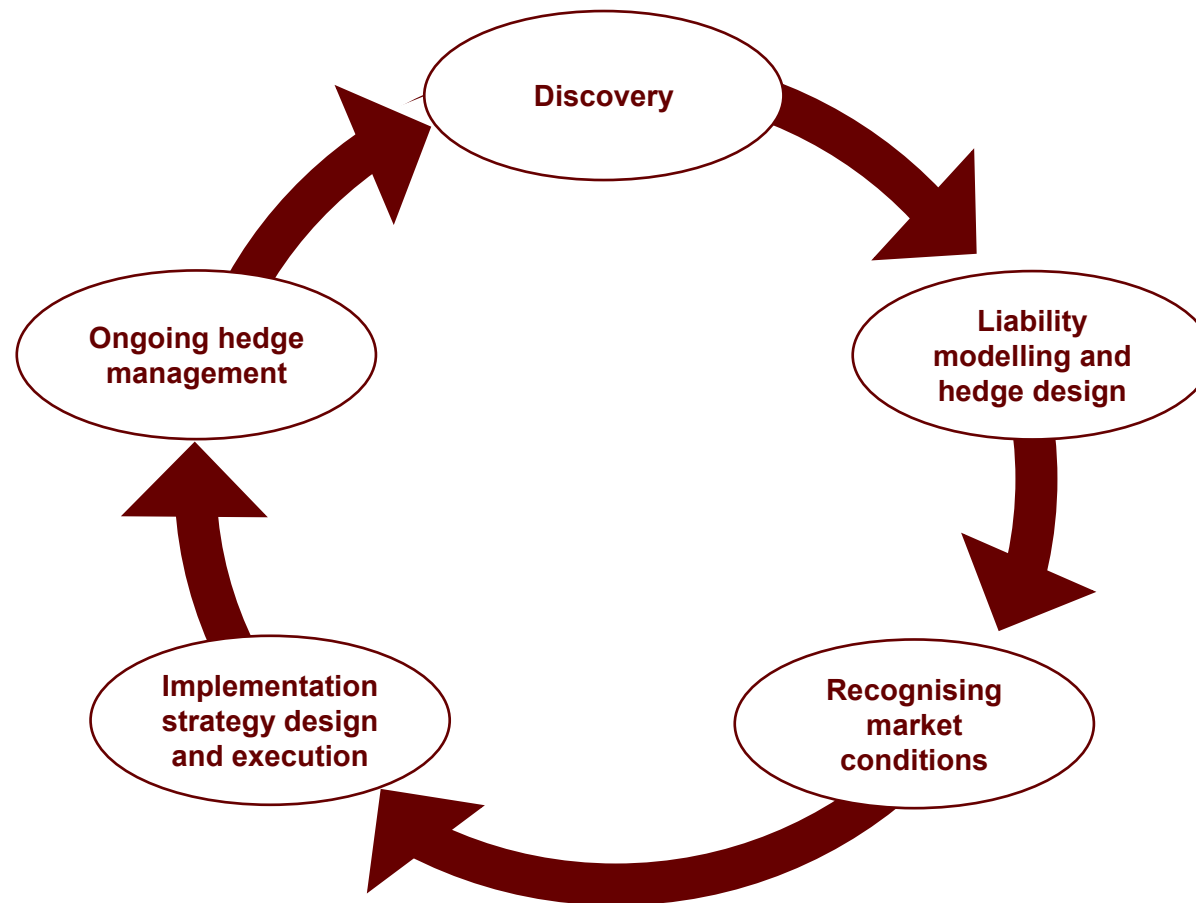
■ Equities  
■ Bonds  
■ Real estate

LDI approach



■ Cash +  
■ Private equity  
■ Infrastructure  
■ Equities  
■ Credit  
■ Commodities  
■ Absolute return  
■ Real estate

# Continuous, dynamic process



# Ongoing hedge management

- Swap overlays are rebalanced to
  - accommodate revisions and liability updates
  - reflect changes in underlying bond benchmarks
  - extend hedges to longer maturities
  - manage active hedge positions

# Good governance

- Post-implementation review
  - review of trading activity
  - implementation cost analysis
  - performance and risk attribution vs. the implementation benchmark
- Ongoing reporting tailored to the client's needs
  - asset and liability valuation
  - holdings and transactions
  - collateral positions and movements
  - performance and risk attribution vs. the liability benchmark
- Trustee training and workshops

# Summary

- LDI is about reducing 'unrewarded' risk
- But introduces other issues...
  - derivative counterparty risk
  - generating LIBOR
  - evolving the solution
  - monitoring and reporting

...that can be managed



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Thank you



# Notes

## **We would also point out:**

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