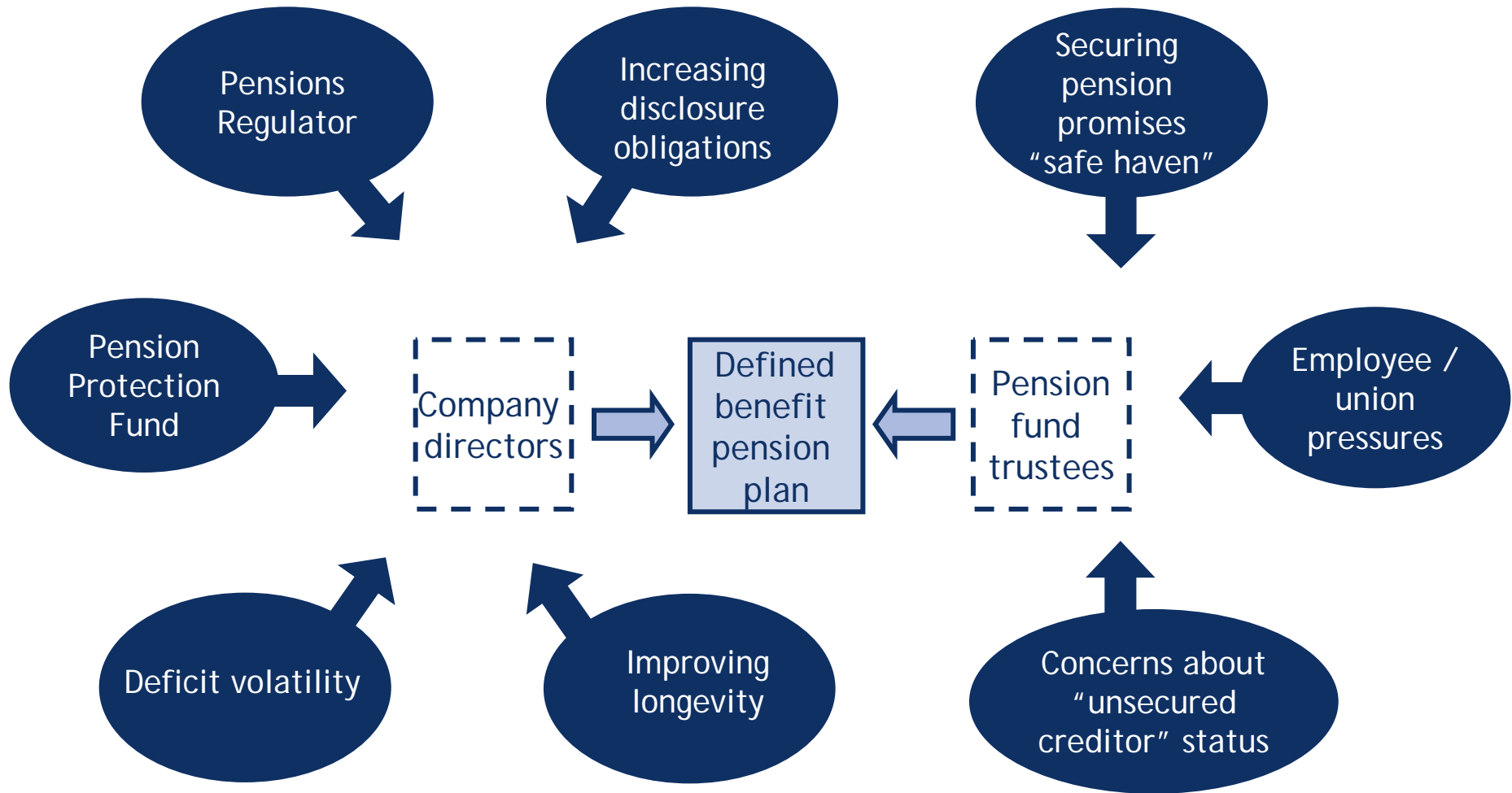

Managing economic value
using derivatives
Investment for the bulk annuity market



Cliff Speed
February 2008

Drivers of change in the bulk annuity market



What issues need to be addressed before a transaction...?

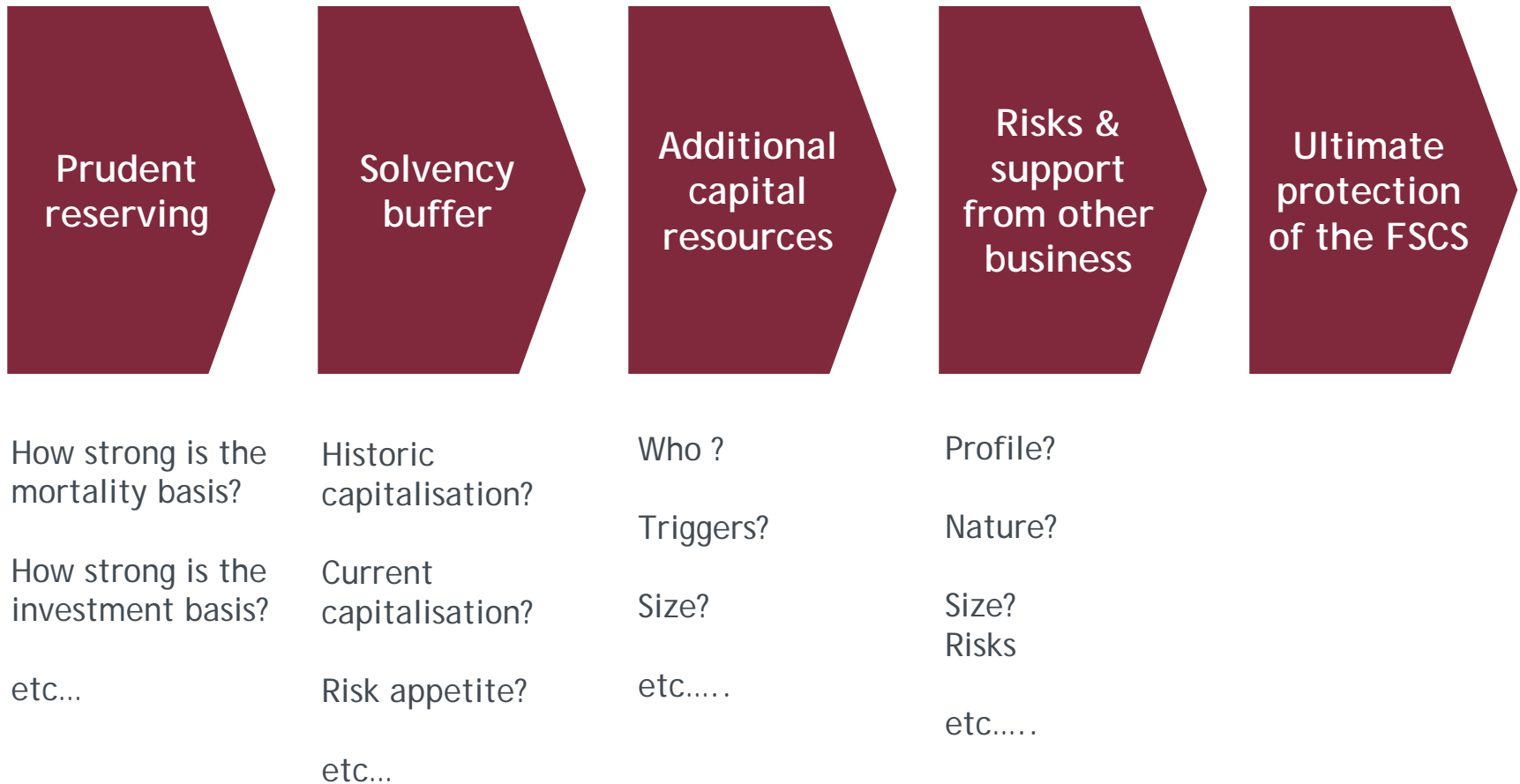
Myth

- Diversified is better than mono-line
- Legacy is good
- Big name = expertise

Reality

- Appropriate risk transfer
- Security to the member
- Strength
- Experience
- Flexibility of approach
- Proven operational capabilities
- Approach to communication
- Commercial terms
- ...and finally price

Security for the member.....



After transferring liabilities to an insurance company

- Expectations include:
 - Expert administration
 - Financial strength to deliver promise to pay pensions in different economic circumstances
 - Member protection
 - Sound investment management
- Expert investment management:
 - full use of all available instruments
 - including derivatives and structured products
 - But care is needed



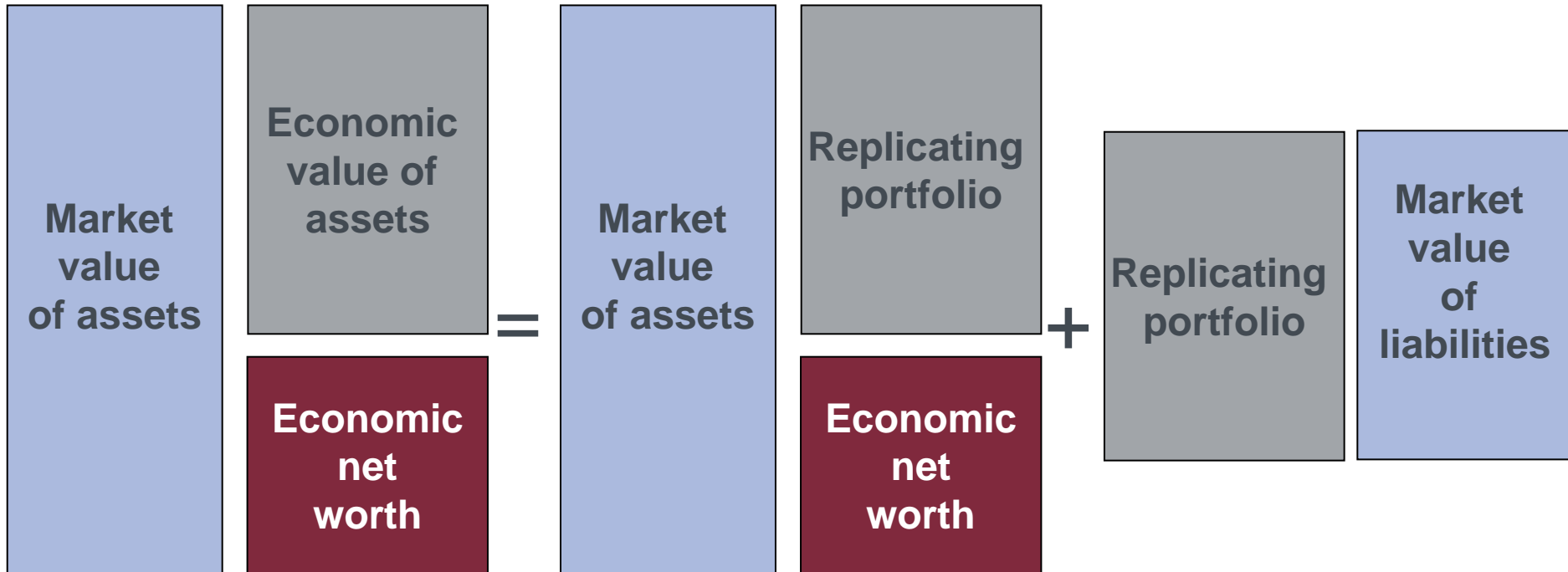
Sometimes Risk Outgrows Return.

Shareholder value

Insurer

Leveraged investment fund

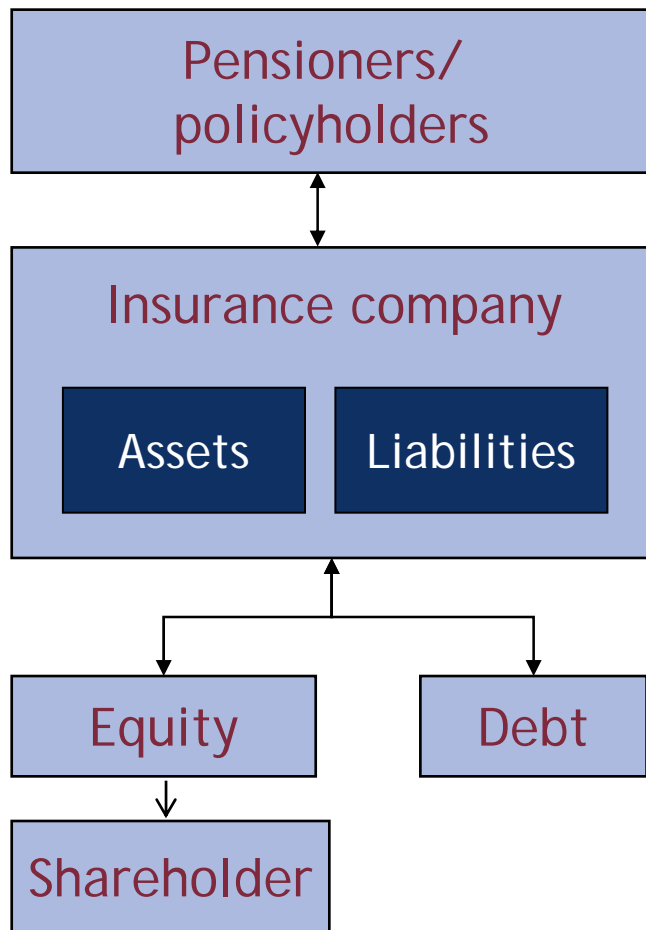
Insurance operation



$$\text{Cost of capital} = \text{Base cost of capital} + \text{Frictional cost}$$

Source: Andrew Smith (Deloitte) and Swiss Re

Value ~~adding~~ destroying



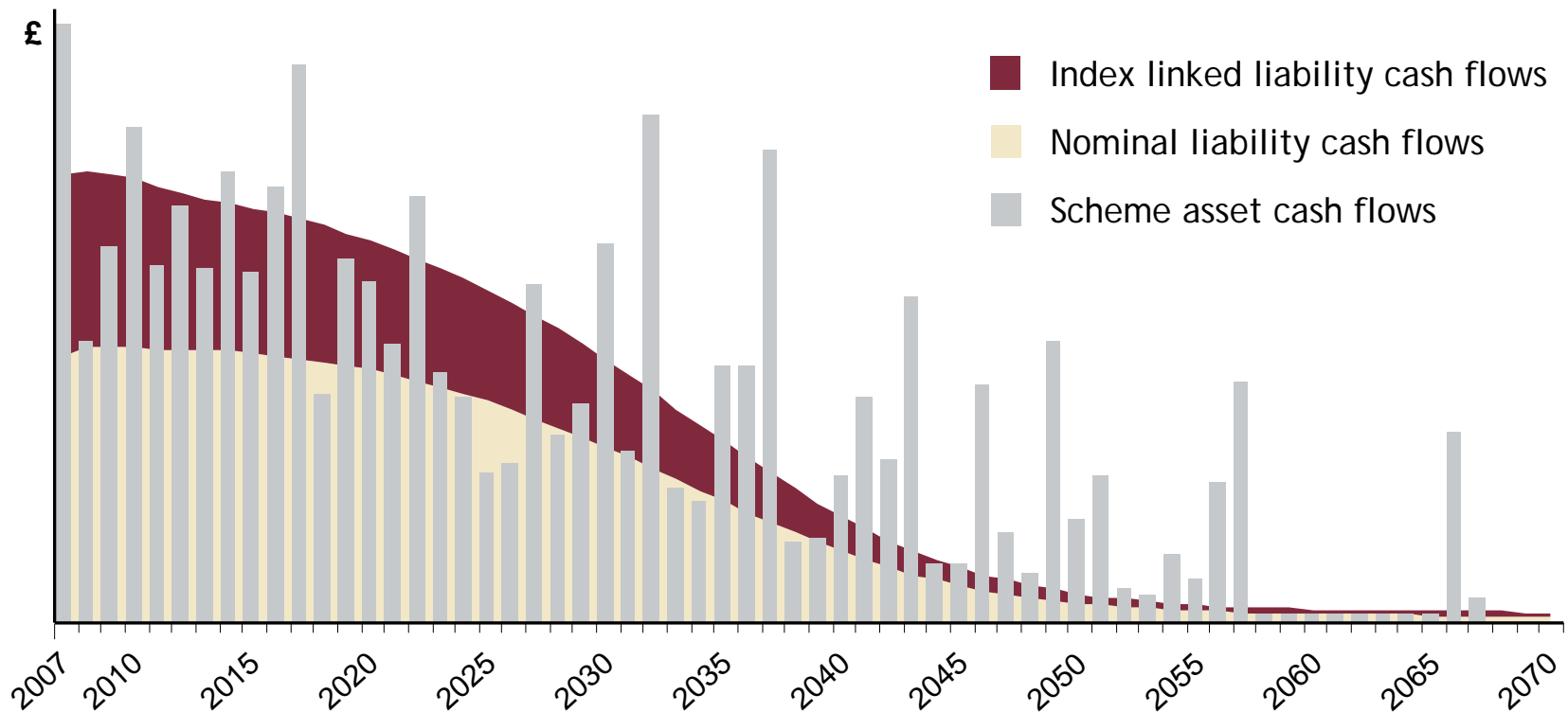
Decreasing security

Increase expected return
..and mis-match

Increasing risk

Secure investment of scheme assets

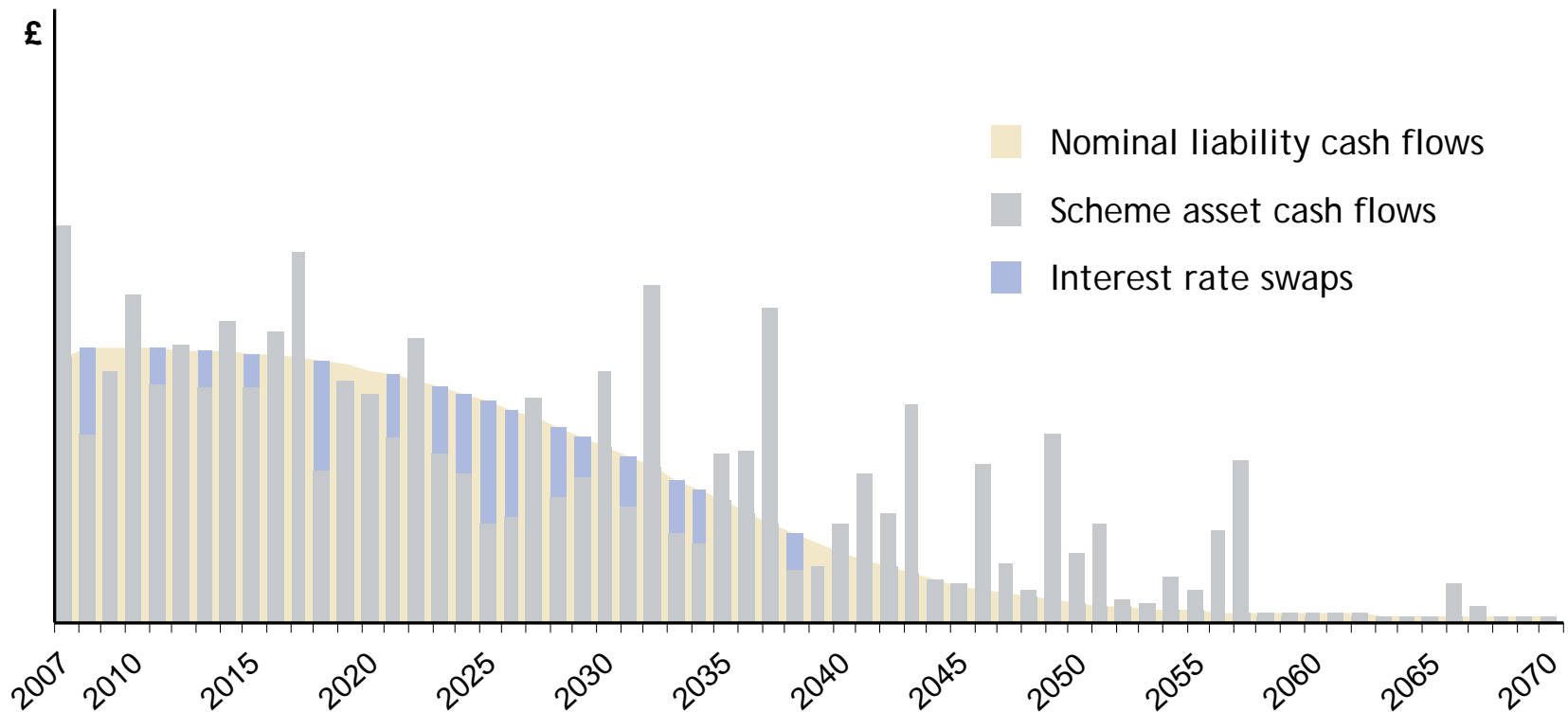
Assets received from the pension scheme are then compared with these liability cash flows...



Source: Paternoster

Secure investment of scheme assets

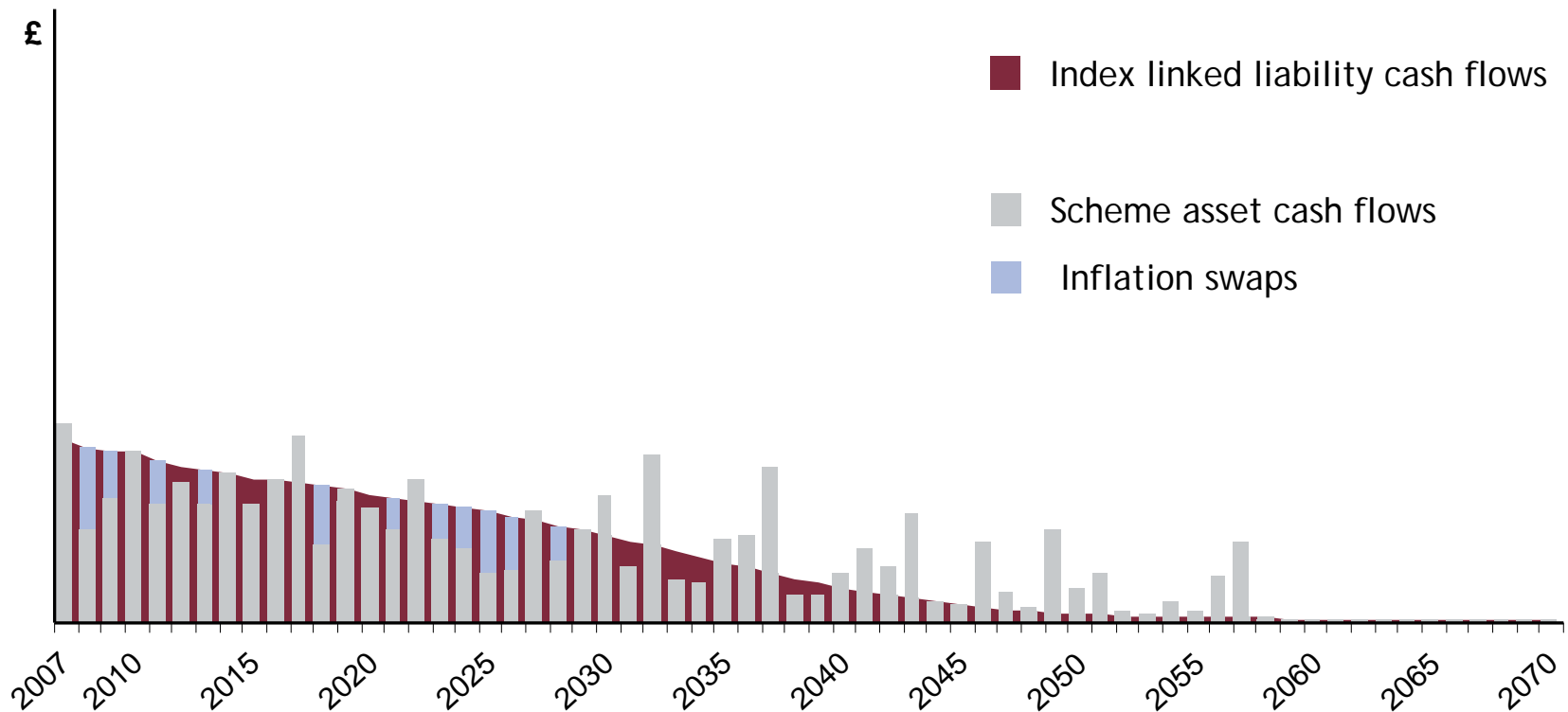
Nominal liabilities are analysed separately and closely matched by Paternoster using fixed income assets and interest rate swaps...



Source: Paternoster

Secure investment of scheme assets

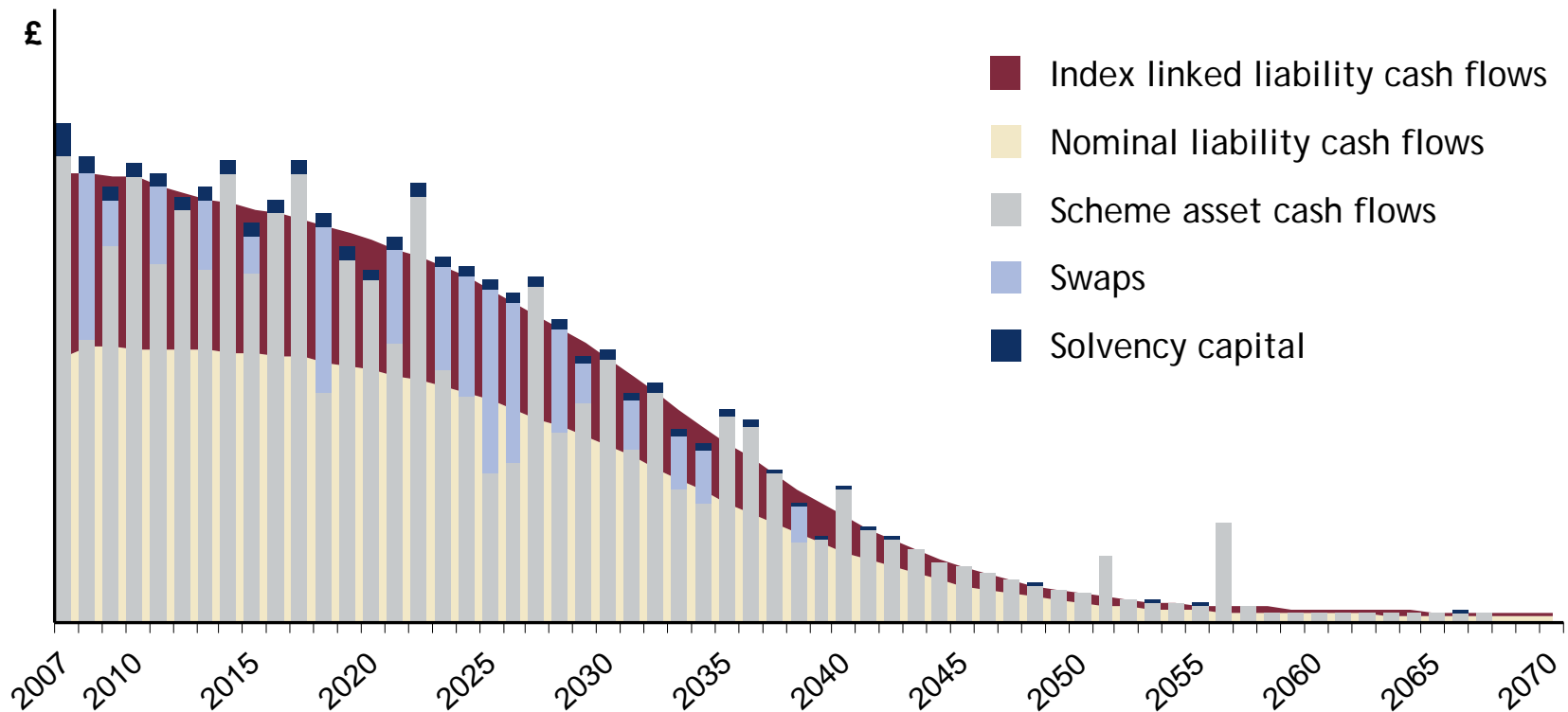
...as are the index linked liabilities using index-linked assets and inflation swaps...



Source: Paternoster

Secure investment of scheme assets

...and the results are added together so that all liabilities are closely matched with asset cash flows and additional solvency capital...

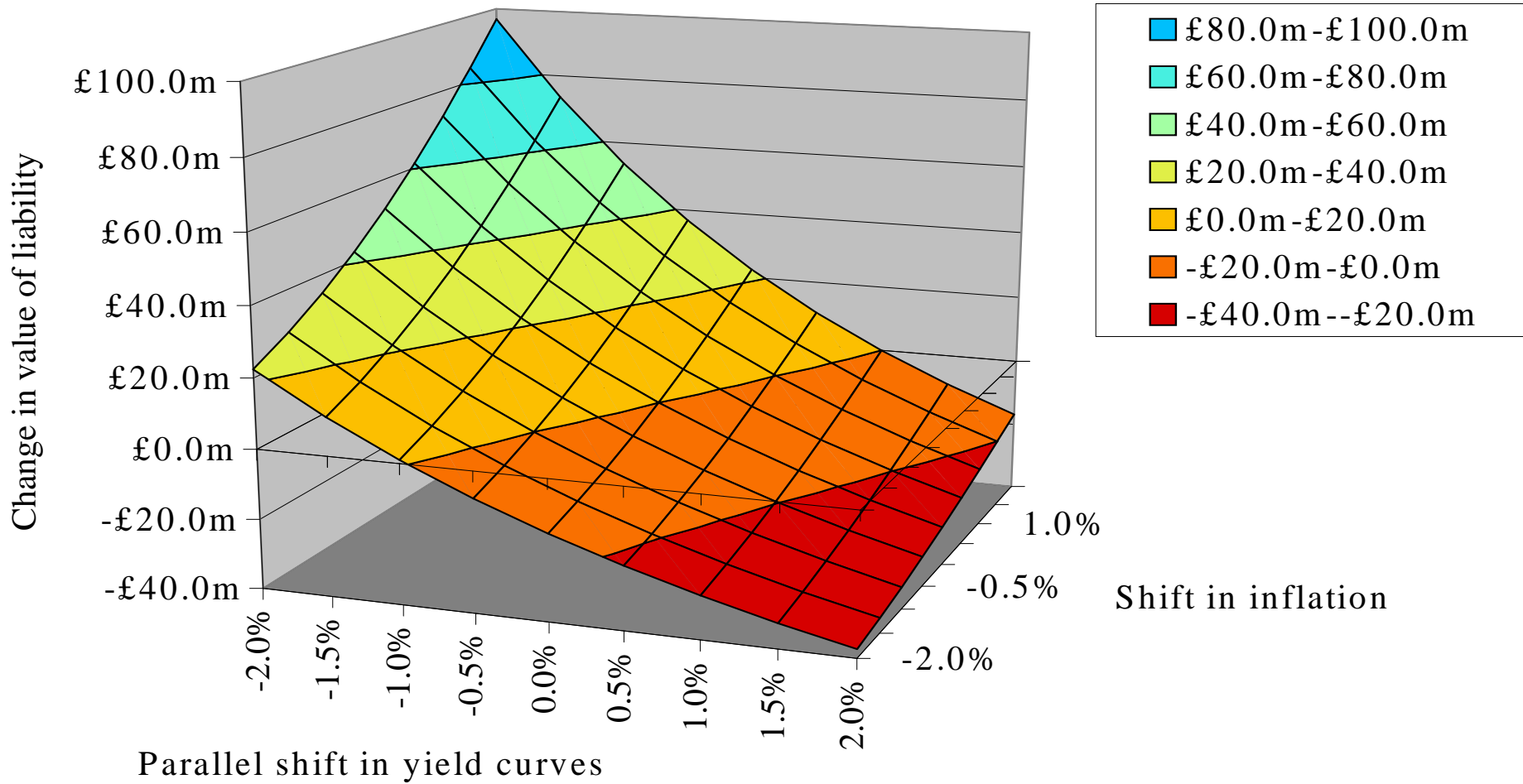


Source: Paternoster

Asset management for pensions

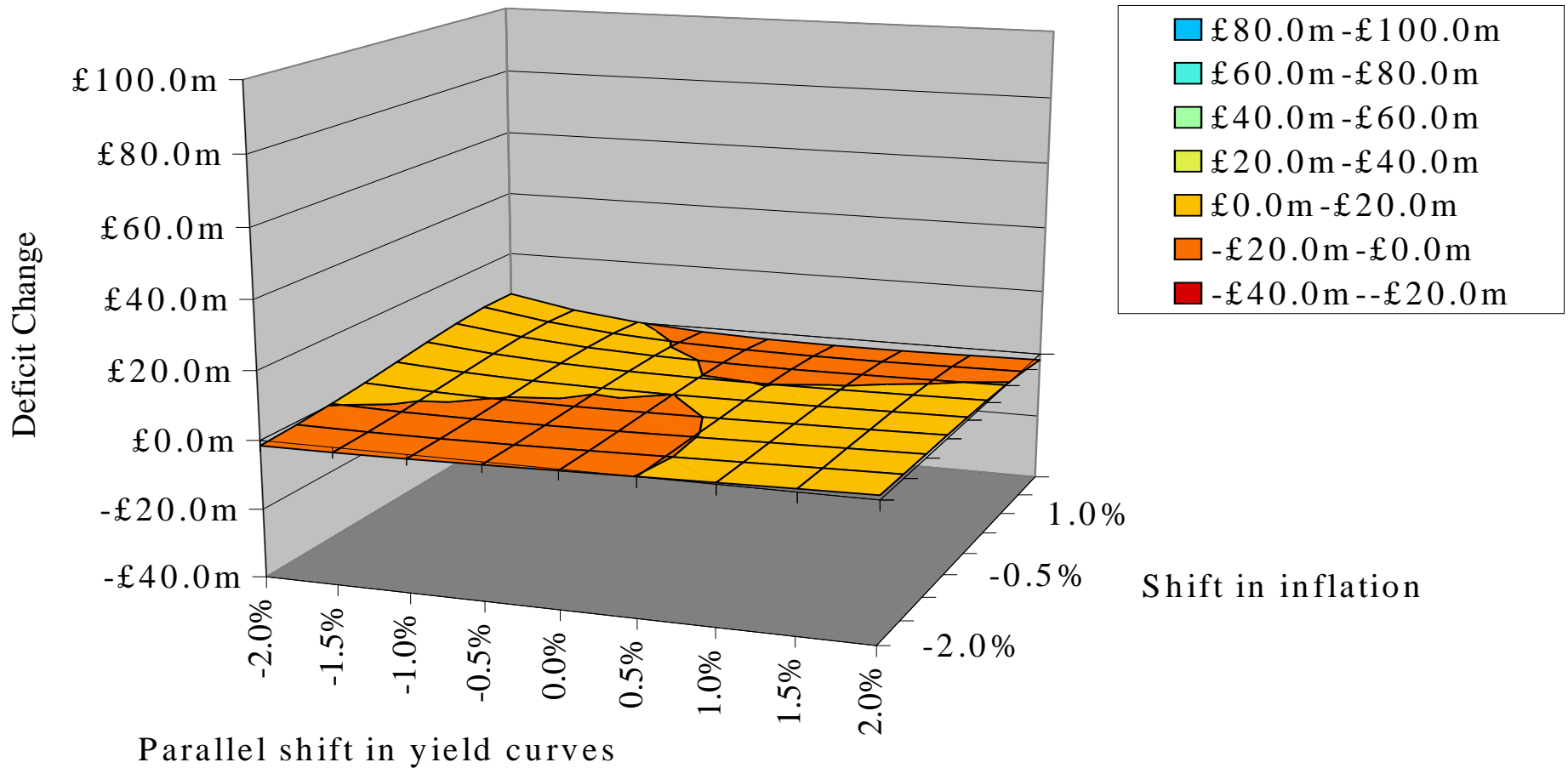
- Security of pension payments is key
- Analyse and closely monitor
 - interest rate risk
 - inflation risk
- Use physical assets and derivatives
 - interest rate swaps,
 - inflation swaps,
 - swaptions to control convexity risk
 - FX contracts to eliminate/control currency

Liability sensitivity



Source: Paternoster

Deficit sensitivity - LBP



Source: Paternoster

Credit risk

- Diversified bond portfolio requires credit risk
- Credit risk provides reward for illiquidity
 - Annuity liabilities are similarly illiquid
- Physical bond market can be illiquid
 - “Credit Crunch”
 - ...but credit derivatives retain liquidity
- CDS (Credit Default Swaps) provide an efficient low cost way to access credit
 - Need to understand obligations, CF implications and mark-to-market

Conclusion

- Life insurance operation is complex
 - both economic and regulatory measures need to be considered
- Aim should always be to generate shareholder value while protecting the customer
- Successful investment operation must use all available financial tools
 - this means understanding derivatives and structured products
 - commitment to build expertise and resources is considerable
- Unless controls are in place risk and reward can become mis-aligned



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