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Closed Pension Schemes

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Agenda

- General investment issues
- Liability Driven Investment
- PPF and wind - up considerations



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General Investment Issues

Characteristics

Closed schemes

- More “known” liabilities than for open scheme
- Traditional arguments for equities less strong
- Time horizon shortens
- Consider wind up of scheme

⇒ More bonds to more closely match liability profile?

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Characteristics

But...

- Time horizon may still be long
- Shortfalls in many schemes
- Funding strategy assumes equities?

⇒ Retain equities?

Could argue no change in short / medium term investment considerations from closing?

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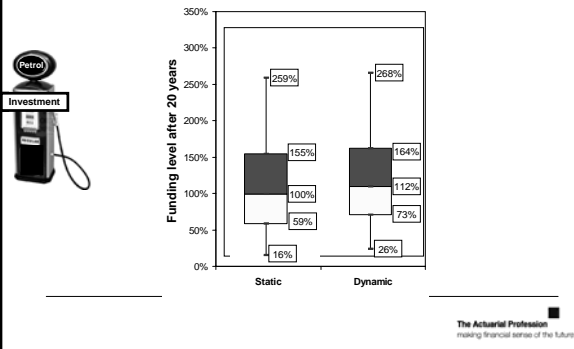
Plan for the End Game



- A programme of de-risking (think “Lifestyle”)
- Static or dynamic?
- Dynamic strategy
 - Could be mechanical, eg reduce equities from 60% to 0% over 20 years uniformly; or
 - Based on out-performance of equity v bonds as a “signal”
 - Takes risk off the table, banking return

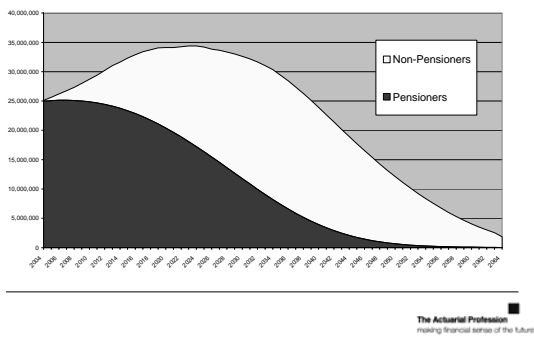
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Static v Dynamic Outcomes



Liability-Driven Investment

What are the Liabilities?



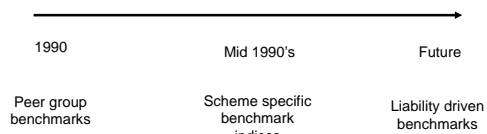
Traditional Asset Allocation Approach - Recap



- Equities and bonds forming the core, perhaps property as a satellite
- Reviewed every three(?) years
- Could this be improved?

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Investment Objectives - Evolution



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Investment Objectives - Problems

- Peer Group Benchmark
 - Not liability related and liability movements often ignored
 - Encouraged herding
 - Discouraged innovation
- Index Benchmarks
 - No explicit link between indices and liabilities
 - Suits managers more than trustees
 - Lack of relevant indices and assets
 - Equity/bond allocation not robust
 - Level of risk relative to liabilities under appreciated

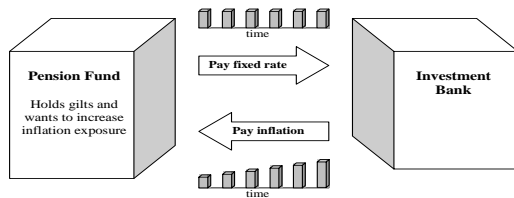
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What is Liability Driven Investment?

- Style of investment where performance targets relate to liability movements
- No single method or style
- General principles similar from manager to manager
- Aim to eliminate unwanted and unrewarded risk
- Focus on Pensioners today (can apply to non-pensioners)

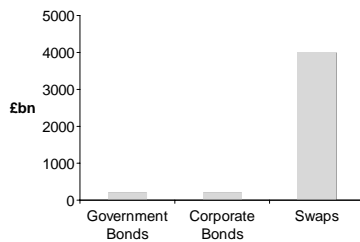
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Swaps - Cashflows



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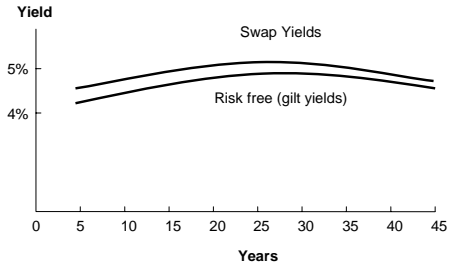
Swaps - Biggest Market You've Never Heard Of?



Source: DMO, BIS as at 30 June 2004

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Swaps - Yield



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Swaps - Risks

- No investment is risk-free
- Risk of counterparty being unable to meet commitments
- Require collateral to be posted
 - typically 20% of the liability
 - reviewed and adjusted at regular intervals

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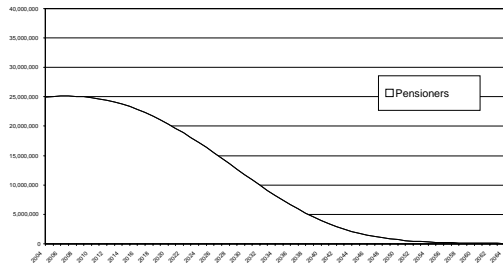
How does Liability Driven Investment Work

Three stages :

1. Project scheme cashflows
 - very detailed, but mechanical
 - Subdivide into fixed and inflation increases
 - Ideally done stochastically, but deterministic ok

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Pensioners' Cash Flows



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How does Liability Driven Investment Work

2. Create liability matching portfolio benchmark
 - Construct portfolio of fixed interest and index linked bonds and swaps
 - Or cash and swaps
 - Cost and precision considerations
3. Add "outperformance" requirements
 - Do you want any outperformance?
 - Set risk budget
 - Trustees can "spend" that risk if they choose
 - Consider asset universe to be used

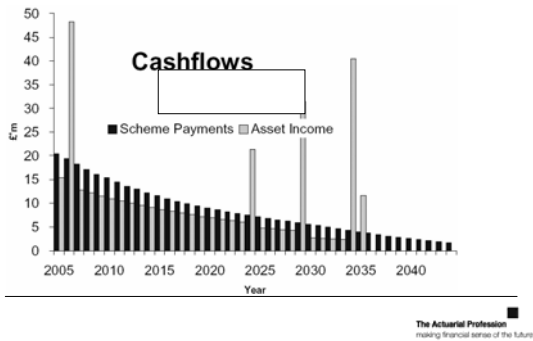
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LDI - Approaches

- Bond match
- Bond match plus interest rate swap overlay
- Cashflow match
- Cashflow match plus "outperformance"

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Bond Match



Disadvantages of Bond Matching

- Time horizon of the liabilities
- Redemption spikes
- Exposed to yield curve shape changes

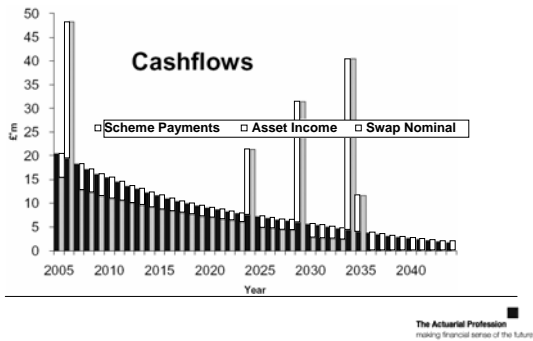
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Bond Match plus Swaps Overlay

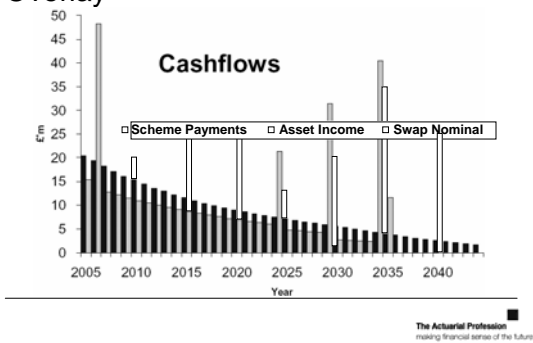
- Invest in a bond portfolio
 - Typical UK corporates and gilts; or
 - Worldwide, with different types
- No duration restrictions
- Overlay using swaps to match the mismatched cash flows
- Swaps can provide perfect match

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Bond Match Plus Swaps Overlay



Bond Match Plus Pragmatic Swaps Overlay



Disadvantages of Bond Matching plus Swaps Overlay

- Cannot trade the bonds
- So cannot add "alpha"

Cashflow Matching

Construct Liability Matching Portfolio Benchmark

- Segregated : bonds + cash + swaps portfolio

OR

- Pooled : “calendar” funds now available for small funds

Mechanical process – managers or consultants will construct

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Example : Bonds Plus Cash Plus Swaps

Liability Matching Portfolio Benchmark

Interest Rate Swaps

5 year	15%
10 year	10%
15 year	28%
30 year	18%

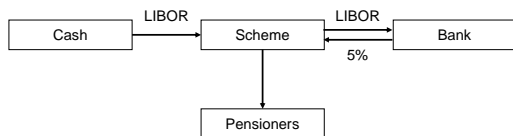
ILGs

2.5% 2013	16%
2.5% 2020	7%
2.5% 2024	5%
2% 2035	1%

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Example : Cash Plus Swaps

- Swap all the future scheme cash flows back to cash
- Invest the majority of the fund in cash



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What's Available in Pooled "Space"?



- Three managers ready NOW
- Several others at advanced stage
- Combination of:
 - Duration-based funds (out to 2050/2035)
 - Fixed, RPI, LPI liabilities

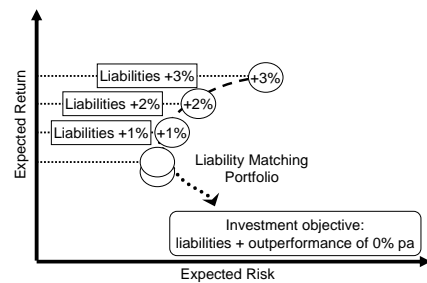
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Example: Pooled Fund Yields

No	Fund Cashflow Type	Yield		
		Yield	GIU/LG Yield	Pickup vs Gilts
1	Fixed 2006-2009	4.38	4.04	0.34
2	Fixed 2010 - 2014	4.43	4.13	0.30
3	Fixed 2015 - 2019	4.48	4.21	0.27
4	Fixed 2020 -2024	4.46	4.24	0.22
5	Fixed 2025 -2034	4.41	4.21	0.20
6	Fixed 2035 -2044	4.31	4.18	0.13
7	Fixed 2045 -2054	4.18	4.09	0.10
8	RPI Linked 2006-2009	2.04	1.73	0.31
9	RPI Linked 2010- 2014	1.89	1.60	0.28
10	RPI Linked 2015 -2019	1.82	1.58	0.24
11	RPI Linked 2020 -2024	1.68	1.53	0.15
12	RPI Linked 2025 -2029	1.56	1.45	0.11
13	RPI Linked 2030 -2034	1.45	1.39	0.05
14	RPI Linked 2035 -2035	1.37	1.38	-0.01
15	LPI Linked 2006-2009	2.04	1.73	0.31
16	LPI Linked 2010-2014	1.89	1.60	0.29
17	LPI Linked 2015-2019	1.83	1.58	0.26
18	LPI Linked 2020-2024	1.72	1.53	0.19
19	LPI Linked 2025-2029	1.61	1.45	0.16
20	LPI Linked 2030-2034	1.51	1.39	0.12
21	LPI Linked 2035-2035	1.45	1.38	0.07
	RPI Linked	1.59	1.54	0.05

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Outperforming the Liabilities



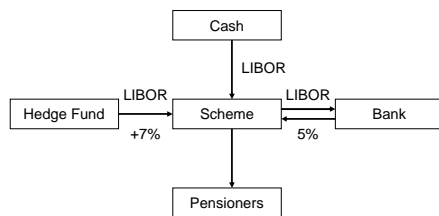
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How to Spend Risk Budget

- Allocate proportion of fund to:
 - active bond management
 - equity and property investment
 - higher yield bonds
 - hedge funds
- Proportion depends on overall target outperformance
- Nil for well funded scheme?

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Example - Hedge Fund



Expected return of 6.6%

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Summary

- De-risk
- Add "alpha" in structured way

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PPF and Wind-Up Considerations

Main Considerations

- Risk based levy to take account of asset allocation in future?
- Impact of PPF on Trustees' ongoing investment strategy?
- If winding up then need to match annuity buy out costs => corporate bonds?
- Potentially need to switch out of LDI solution

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Questions
