

Faculty & Institute of Actuaries: Finance and Investment Board Research Working Party

Asset and Liability Modelling Questionnaire

Draft 6 June 2003

Questions marked (*) are for pension schemes only

Questions marked (‡) are for life insurers only

Participant Information

Question 1

Name of person completing questionnaire | | | | | | | |

(note on confidentiality/anonymity)

Question 2

Contact email/telephone number | | | | | | | |

Question 3

Organisation name | | | | | | | |

Question 4

Organisation type

☐ Pension scheme

☐ Life insurer

Question 5

Funding ratio (MFR if pension scheme, statutory if life insurer) | | | | | | | |

Question 6

New entrant situation (*)

☐ Open

☐ Closed

Question 7

Future accrual situation (*)

☐ Open

☐ Closed

Current Strategic Asset Allocation

For pension schemes please respond in relation to all assets. For life insurers please respond in relation to free assets.

Question 8:

Fund size (£m) | | | | | | |

Question 9

What sort of strategic asset allocation does your fund have?

- ☐ Fund specific
- ☐ Peer group

Question 10

If your strategic asset allocation is fund specific, how was it primarily derived?

- ☐ Ongoing basis
☐ Statutory basis
☐ Accounting basis
☐
☐ Other – please specify | | | | | | | |

Question 11

What is your current strategic asset allocation measured by economic exposure (eg, an index-linked swap would be categorised under index linked gilts [not sure about this – a conventional gilt plus an inflation swap together would give the economic exposure of an index linked gilt – how about cash plus an equity future would be categorised under equities?]? For non-UK asset classes, is the currency hedged?

If an allocation is equal to an end of a range, then categorise in the range which has that allocation as its upper end; for example, if the allocation is 5% then categorise in the 0%-5% range.

[illegible]

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Non profit deferred annuities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
With profit deferred annuities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Deposit administration contracts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Investment bank products (including structured products)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 12

How long has this investment strategy been in place?

- ☐ Less than 1 year
- ☐ 1 year – 3 years
- ☐ 3 years – 6 years
- ☐ More than 6 years

Asset Allocation Decision Methodology

Question 13

Do you use external investment advisers

- ☐ Yes
- ☐ No

Question 14

If yes, how many?

- ☐ 1
- ☐ 2
- ☐ 3 or more

Question 15

Do you have an investment sub-committee?

- ☐ Yes
- ☐ No

Question 16

Are the advisers the same for the trustee and company (*).

- ☐ Yes
- ☐ No

Question 17

What types of adviser do you use? Choose more than one if applicable.

- ☐ Actuary
- ☐ Investment consultant
- ☐ Investment management firm
- ☐ Bank

Question 18

How many people are involved in making asset allocation decisions (excluding external advisers)? | | | | | | | |

Question 19

Do you follow the advisers' advice?

- ☐ Almost always
- ☐ Most of the time
- ☐ Some of the time
- ☐ Rarely
- ☐ Never

Past And Future Changes; Drivers Of Change

Question 20

How has your strategic asset allocation changed (as a percentage of your total portfolio) in the last 5 years with regard to (derivatives should be classified by economic exposure)?

	Reduction				No change	Increase			
	>25%	10%-25%	5%-10%	1%-5%		1%-5%	5%-10%	10%-25%	>25%
UK equities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overseas equities (developed and emerging)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fixed income gilts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Index linked gilts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sterling investment grade corporate bonds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overseas investment grade bonds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High yield debt and emerging market debt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property (direct and indirect)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hedge funds (including absolute return funds)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private equity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Immediate annuities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non profit deferred annuities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
With profit deferred annuities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deposit administration contracts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment bank products (including structured products)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 21

What key driver justified the change in strategic asset allocation (choose one only)?

- ☐ Lowering risk
- ☐ Increasing return
- ☐ Matching liabilities
- ☐ Changes in perception of the market
- ☐ Changes caused by variations in market values
- ☐ Availability of new asset classes
- ☐ Other | | | | | | | |

Question 22

What other drivers do you consider when changing asset allocation (choose more than one if applicable)?

- ☐ Lowering risk
- ☐ Increasing return
- ☐ Matching liabilities
- ☐ Changes in perception of the market
- ☐ Changes caused by variations in market values
- ☐ Availability of new asset classes
- ☐ Other | | | | | | | |

Question 23

What advice or method was behind the change in strategic asset allocation (if relevant, please select more than one)?

- ☐ Actuarial valuation
☐ Asset liability matching study
☐ Advising consultants or internal staff recommendation
☐ Decision based on boards own knowledge and research
☐ Corporate influence
☐ Other | | | | | | | |

Question 24

How do you expect your strategic asset allocation to change (as a percentage of your total portfolio) in the next 2 years with regard to (derivatives should be classified by economic exposure)?

[illegible]

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Non profit deferred annuities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
With profit deferred annuities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deposit administration contracts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment bank products (including structured products)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 25

What key driver justifies the expected changes in strategic asset allocation (choose one only)?

- ☐ Lowering risk
- ☐ Increasing return
- ☐ Matching liabilities
- ☐ Changes in perception of the market
- ☐ Changes caused by variations in market values
- ☐ Availability of new asset classes
- ☐ Other | | | | | | | |

Question 26

What advice or method is behind the expected changes in strategic asset allocation (if relevant, please select more than one)?

- ☐ Actuarial valuation
- ☐ Asset liability matching study
- ☐ Advising consultants or internal staff recommendation
- ☐ Decision based on board's own knowledge and research
- ☐ Corporate influence
- ☐ Other | | | | | | | |

Quantitative Modelling

Question 27

What type of quantitative modelling was done?

- ☐ None (*please skip this section*)
- ☐ Deterministic
- ☐ Deterministic with sensitivity analysis
- ☐ Scenario Analysis
- ☐ Stochastic Modelling

Question 28

If stochastic modelling was used, what stochastic investment model was used?

- ☐ In-house model
- ☐ Propriety model of Consulting Firm
- ☐ Published Model

Question 29

If an in-house model or proprietary consulting firm model was used, was it

- ☐ Based on a published model
- ☐ Based on economic/financial economic theory
- ☐ A “best-fit” statistical model
- ☐ Don’t know

Question 30

If published model was used, or a model based on a published model, which model was it?

- ☐ Don’t know
- ☐ Wilkie
- ☐ Random Walk
- ☐ Smith Jump-Diffusion
- ☐ TY
- ☐ Cairns
- ☐ Whitten & Thomas
- ☐ Barrie & Hibbert
- ☐ Timbuk1
- ☐ Other | | | | | | | |

Question 31

How well did you understand how the model works?

- ☐ Complete understanding
- ☐ Basic understanding
- ☐ Limited understanding
- ☐ No understanding (black box)

Question 32

Would you have liked more understanding of the model before making a decision?

- ☐ Yes
- ☐ No

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Question 33

Did you have any input on modelling assumptions e.g. investments returns, volatilities, correlations?

- ☐ Fully discussed all assumptions
- ☐ Discussed key assumptions only
- ☐ No discussion on assumptions

Question 34

Were modelling assumptions changed as a result of your input?

- ☐ Yes, significant changes
- ☐ Yes, minor changes only
- ☐ No

Question 35

Which asset classes were modelled?

	Yes	No
UK equities	<input type="checkbox"/>	<input type="checkbox"/>
Overseas equities (developed and emerging)	<input type="checkbox"/>	<input type="checkbox"/>
Fixed income gilts	<input type="checkbox"/>	<input type="checkbox"/>
Index linked gilts	<input type="checkbox"/>	<input type="checkbox"/>
Sterling investment grade corporate bonds	<input type="checkbox"/>	<input type="checkbox"/>
Overseas investment grade bonds	<input type="checkbox"/>	<input type="checkbox"/>
High yield debt and emerging market debt	<input type="checkbox"/>	<input type="checkbox"/>
Property (direct and indirect)	<input type="checkbox"/>	<input type="checkbox"/>
Hedge funds (including absolute return funds)	<input type="checkbox"/>	<input type="checkbox"/>
Private equity	<input type="checkbox"/>	<input type="checkbox"/>
Immediate annuities	<input type="checkbox"/>	<input type="checkbox"/>
Non profit deferred annuities	<input type="checkbox"/>	<input type="checkbox"/>
With profit deferred annuities	<input type="checkbox"/>	<input type="checkbox"/>
Deposit administration contracts	<input type="checkbox"/>	<input type="checkbox"/>
Investment bank products (including structured products)	<input type="checkbox"/>	<input type="checkbox"/>

Question 36

Which bases were used for projections?

- ☐ Ongoing basis
- ☐ Statutory basis
- ☐ Accounting basis
- ☐
- ☐ Other | | | | | | | |

Question 37

How were assets valued in projections?

- ☐ Market Value
- ☐ Smoothed Market Value
- ☐ Other method not related to market value e.g. discount cash flow

Question 38

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Over what time horizons were projections made?

- ☐ 1 year or less
- ☐ 1 – 3 years
- ☐ 3 – 5 years
- ☐ 5 – 10 years
- ☐ 10 - 20 years
- ☐ >20 years

Question 39

Which of these time horizons was given the most significance when deciding on strategic asset allocation?

- ☐ 1 year or less
- ☐ 1 – 3 years
- ☐ 3 – 5 years
- ☐ 5 – 10 years
- ☐ 10 - 20 years
- ☐ >20 years

Question 40

Which output variables were analysed?

- ☐ Funding level / free asset ratio
- ☐ Contribution / premium rates
- ☐ Other | | | | | | | |

Question 41

Which of these output variables was given the most significance when deciding on strategic asset allocation?

- ☐ Funding level / free asset ratio
- ☐ Contribution / premium rates
- ☐ Other | | | | | | | |

Question 42

Which measures were used in the analysis?

- ☐ Confidence intervals around a financial variable
- ☐ Probability analysis of achieving/not achieving stated events
- ☐ Other | | | | | | | |

Question 43

Which of these measures was given the most significance when deciding on strategic asset allocation?

- ☐ Confidence intervals e.g. 95% confidence interval around funding level
- ☐ Probability analysis e.g. Probability of x% increase in contribution rate
- ☐ Other | | | | | | | |

Question 44

Was any optimisation used e.g. an efficient frontier?

- ☐ Yes, at sub-asset class level
- ☐ Yes, but only at broad asset class level

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☐ No

Question 45

What is your view on using optimisation techniques?

- ☐ Reliable tool
- ☐ Useful tool
- ☐ Not particularly useful
- ☐ Unreliable tool
- ☐ Don't have a view

Question 46

How do you split liabilities for asset matching purposes? Choose more than 1 if appropriate.

- ☐ By nature
- ☐ By term
- ☐ By certainty & volatile
- ☐ By currency
- ☐ Other | | | | | | | |

Question 47

What key assumptions do you use to project liabilities? Please give approximate rates?

- | | |
|---|--|
| <input type="checkbox"/> Inflation | |
| <input type="checkbox"/> Salary Increase | |
| <input type="checkbox"/> Pension Increase | |
| <input type="checkbox"/> Mortality rates | |
| <input type="checkbox"/> Retirement rates | |
| <input type="checkbox"/> Interest rate | |

Monitoring

Question 48

How often do you monitor the strategic asset allocation decisions?

- ☐ Quarterly
- ☐ Annual
- ☐ Every 3 years
- ☐ Less frequent than every 3 years

Question 49

What are the triggers for looking at strategic asset allocation other than time? Tick as appropriate.

- ☐ None
- ☐ Market shock
- ☐ Corporate changes
- ☐ Regulatory changes
- ☐ Decision-maker changes
- ☐ Benefits changes
- ☐ Demographic changes
- ☐ Adviser's recommendation
- ☐ Other

Question 50

What tools/process do you use to monitor strategic asset allocation decisions?

- ☐ Internal maintenance of a decision log
- ☐ External monitoring
- ☐ Other | | | | | | | |

Question 51

Does the results of the monitoring influence your strategic asset allocation decisions?

- ☐ Yes
- ☐ No

Alternative Asset Classes

By alternative assets we mean assets classes other than cash, fixed income, equities and property. In particular hedge funds and private equity, but also assets like commodities, art, timber, farmland, oil and gas.

Question 52

Do you think alternative assets have a role to play in your institution's investment?

	Hedge funds	Private equity	Other
Yes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undecided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 53

What are the drivers for investing in alternative assets?

	Hedge funds	Private equity	Other
Return enhancement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low correlation with other assets/diversification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liability match	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protection against market risk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Don't know	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 54

Has the difficulty in modelling alternative assets in an ALM framework provided a barrier to investing in them?

- ☐ Yes
- ☐ No
- ☐ Don't know

Question 55

Do you / would you have any geographical constraints on your alternative assets, whether by economic exposure, currency, listing or administration?

- ☐ No
- ☐ Yes, UK only
- ☐ Yes, Europe only
- ☐ Yes, Developed markets only

Question 56

How knowledgeable do you feel on alternative assets?

	Hedge funds	Private equity	Other
Very	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A lot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A bit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very little	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Nothing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Question 57

Where are you obtaining information on alternative assets?

- ☐ Investment consultants
- ☐ Fund managers
- ☐ Press
- ☐ Other | | | | | | | |

Question 58

What are your biggest uncertainties/issues regarding alternative investments (tick all that apply)

- ☐ Transparency
- ☐ Liquidity
- ☐ Lack of return history
- ☐ Manager selection
- ☐ Performance measurement difficulty
- ☐ Regulatory environment
- ☐ Lock-in period
- ☐ Leverage/Gearing
- ☐ Reputation of derivatives
- ☐ Management fees (value for money)
- ☐ Complexity
- ☐ Volatilities of return
- ☐ Not common with peers
- ☐ Low understanding of asset class
- ☐ Other | | | | | | | |

Question 59

Do you believe that alternative investments have a greater role in a low inflation low return environment?

- ☐ Yes
- ☐ No
- ☐ Don't know

Question 60

To what extent do quantitative and qualitative factors influence the allocation to alternative investments?

- ☐ Predominately quantitative
- ☐ Both, but greater emphasis on quantitative
- ☐ Both, but greater emphasis on qualitative
- ☐ Predominately qualitative

Question 61

Was the Myner's Report an impetus to investing in alternative assets?

- ☐ Yes
- ☐ No

Open Questions