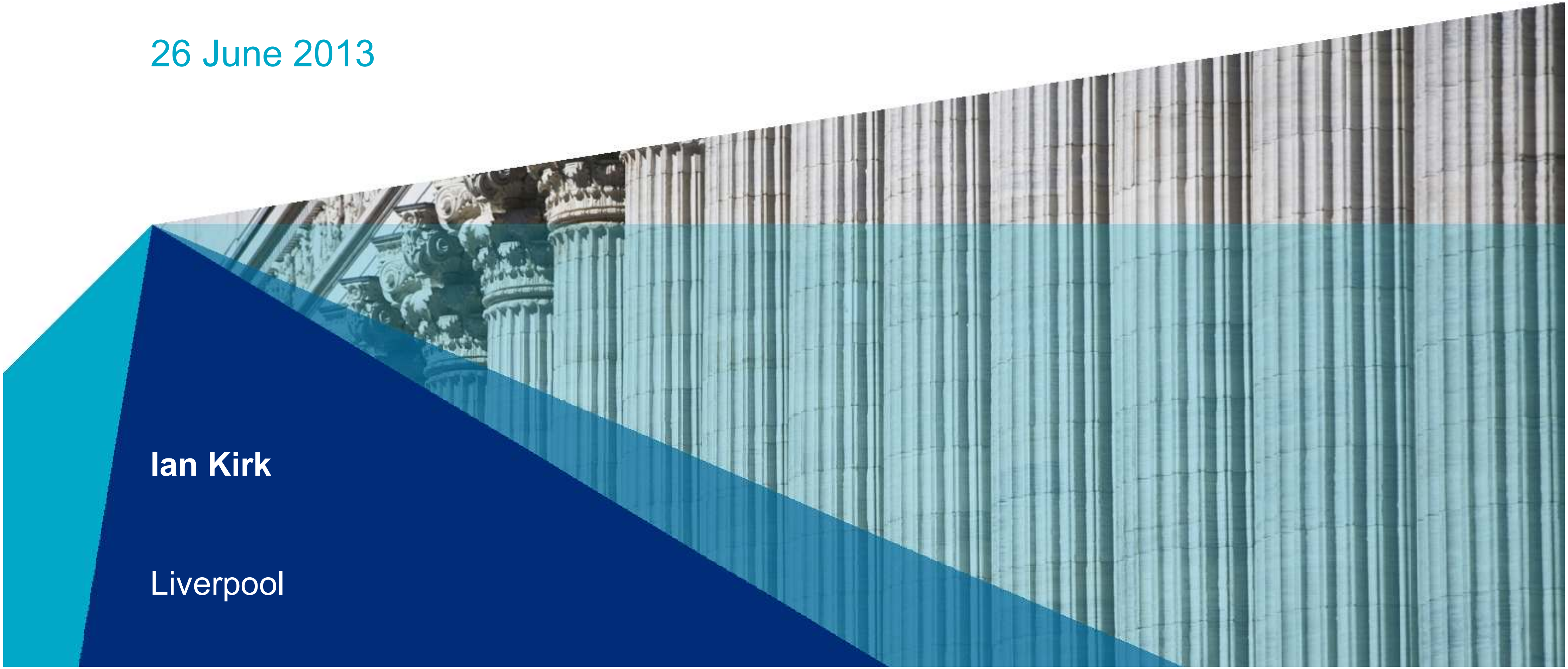
MERCER

TALENT • HEALTH • RETIREMENT • INVESTMENTS

ACTUARIAL VALUATIONS AND UNDERSTANDING LIABILITIES

26 June 2013



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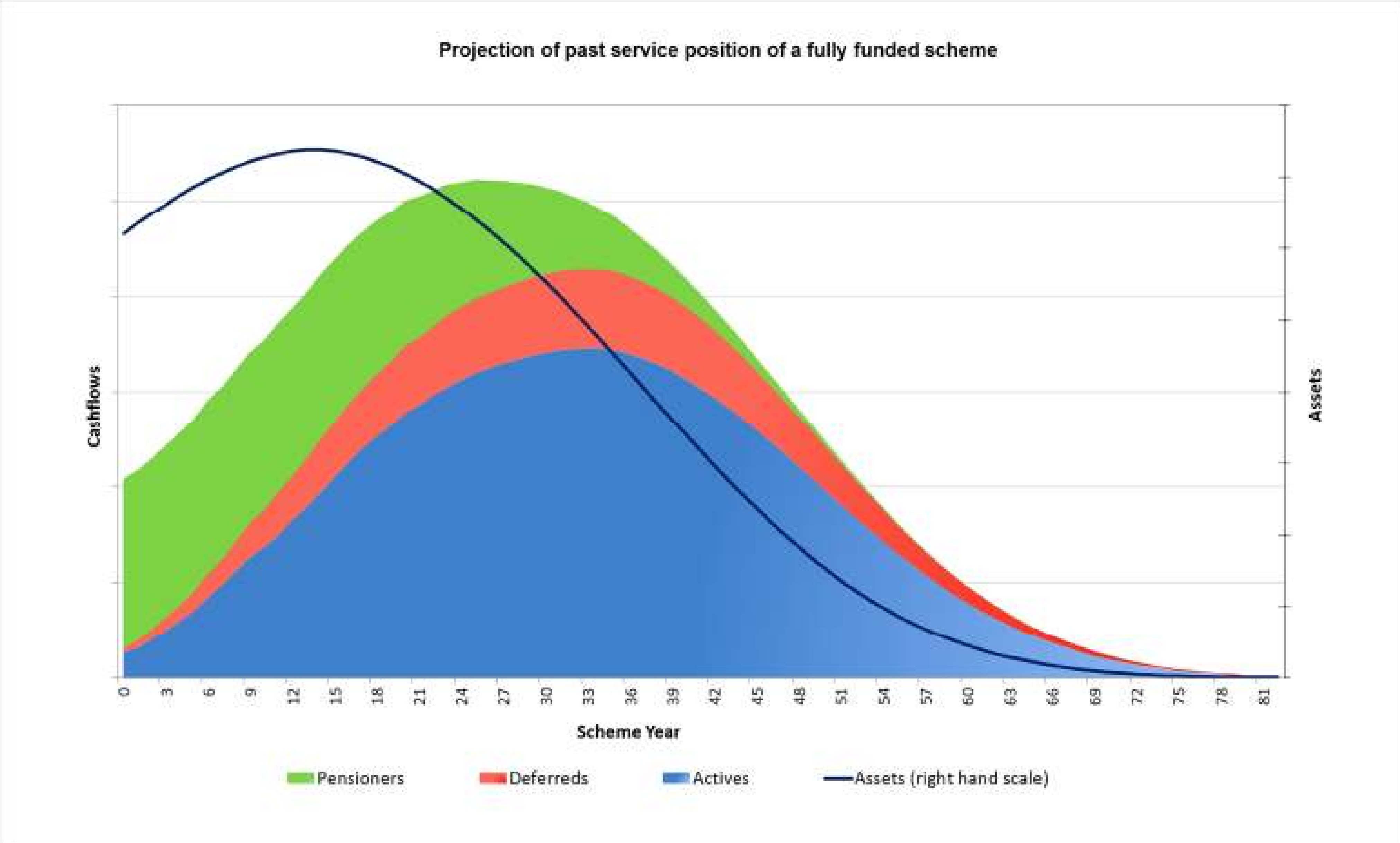
Agenda

- The purpose of an actuarial valuation
- What assumptions are used?
- Funding strategy - what should Scheme Employers expect?
- Risk assessment and ongoing monitoring

THE PURPOSE OF AN ACTUARIAL VALUATION

Background
Funding – an ideal world

Purpose



Purpose of an actuarial valuation

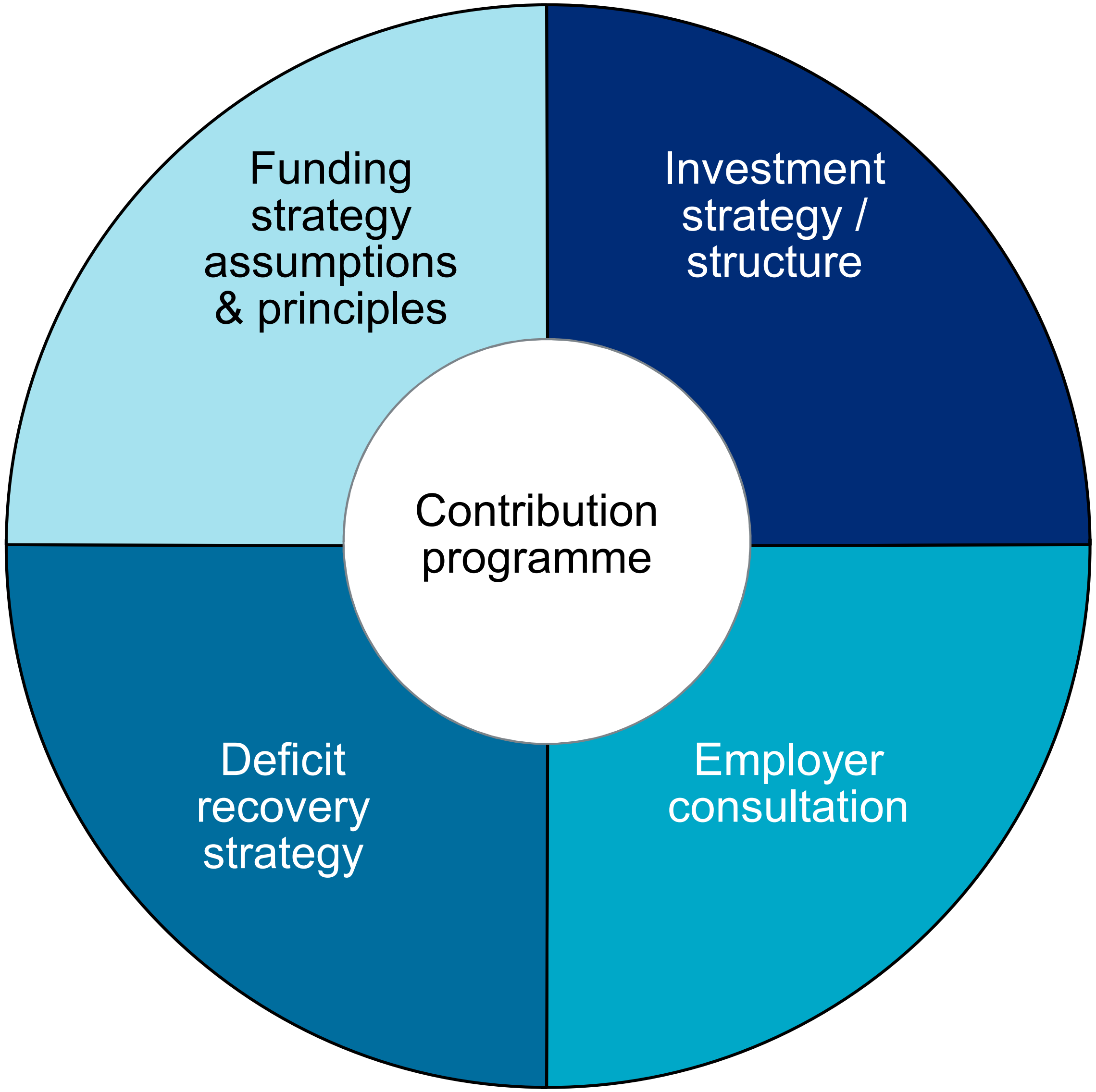
Purpose

Enough assets now?

Contributions
What and When?

Review of contribution programme

Purpose



Future Service Contributions

Purpose

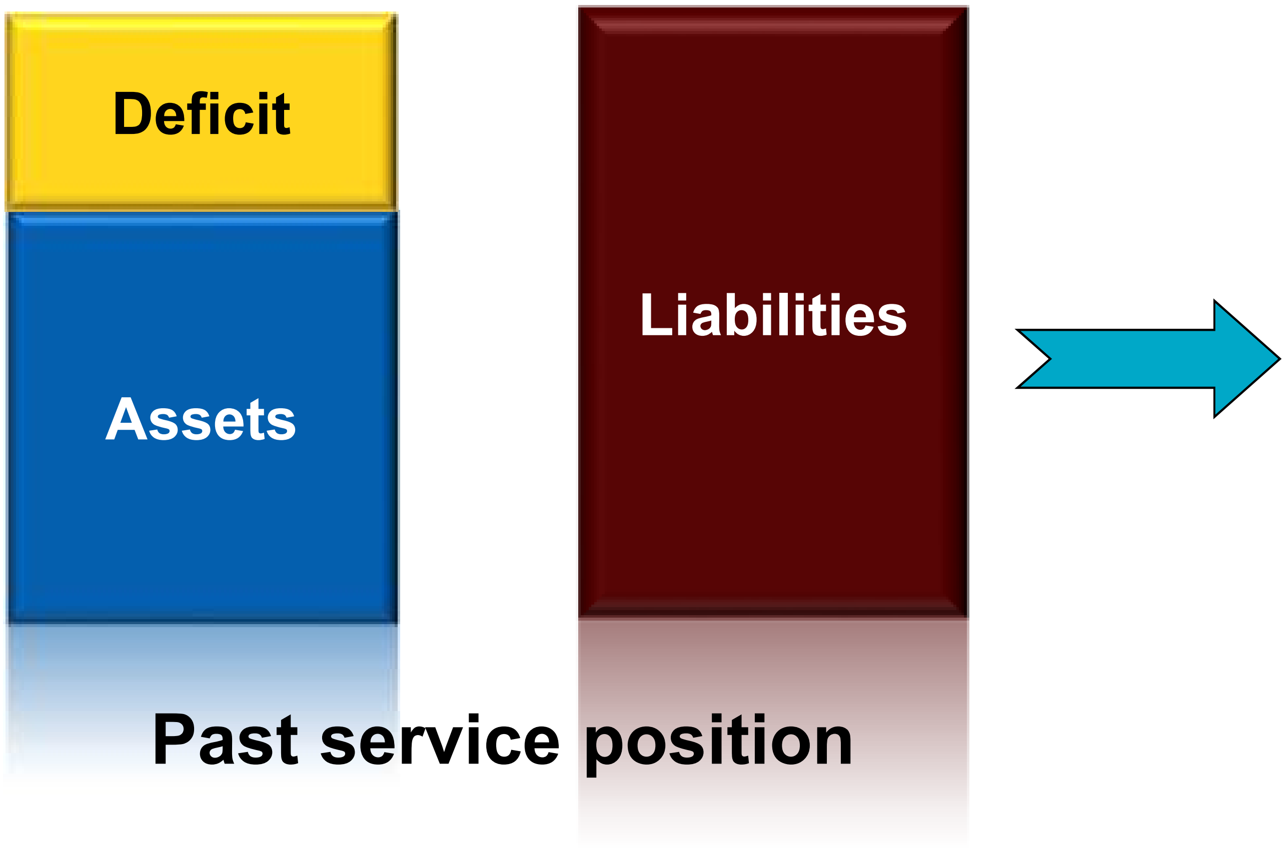
Contributions

Cost of 1 year's service

"Common Contribution Rate"

Past Service Results and Contributions

Purpose

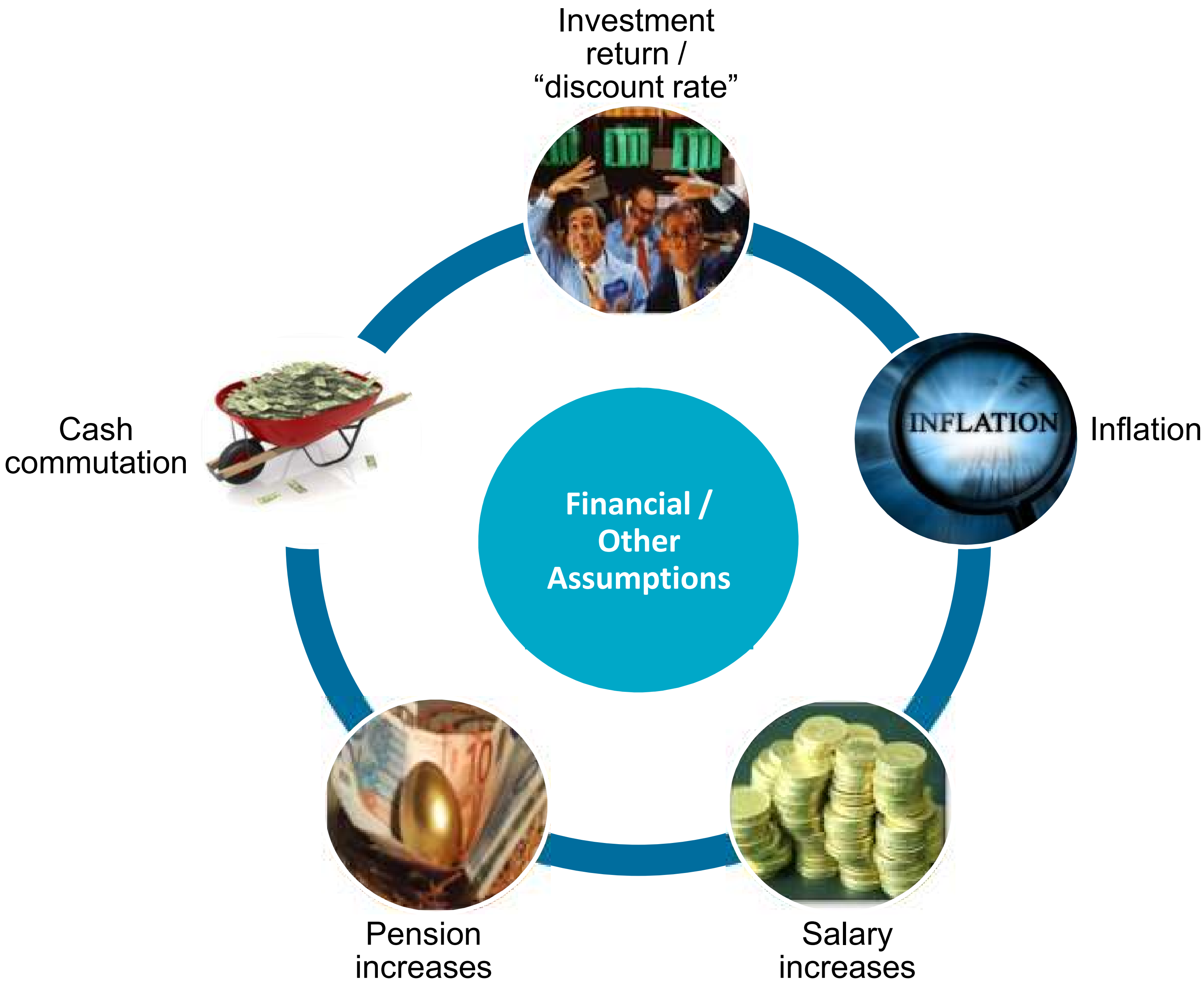


Contributions

What adjustment is required to the contribution rate to fund the deficit (or offset any surplus)

WHAT ASSUMPTIONS ARE USED?

Financial / other assumptions



Investment return / discount rate assumption
An Example

Assumptions

Promise

"IOU £100 in ten years time"

Plan:

"I will put aside enough money to meet my promise"

Questions:

"How much?"

"Where do I invest it?"

They depend on each other

Setting Assumptions
An Example

Assumptions

Three savings schemes are offered:

Scheme 1

Under the Mattress – place £100 there and it will still be £100 in ten years' time.

Scheme 2

Bond – returning your money plus 40% interest in ten years' time

Scheme 3

Gambler – returning:

- Money plus 100% with 50% chance
- Money plus 60% with 30% chance
- Money less 20% with 20% chance

Setting Assumptions
An Example

Assumptions

The *Expected* Return of the three options:

Scheme 1

0%

Scheme 2

40%

Scheme 3

64%

Probability	Return	Expected return
50%	+100%	+50%
30%	+60%	+18%
20%	-20%	-4%
		+64%

Setting Assumptions
An Example

How much do you invest now?

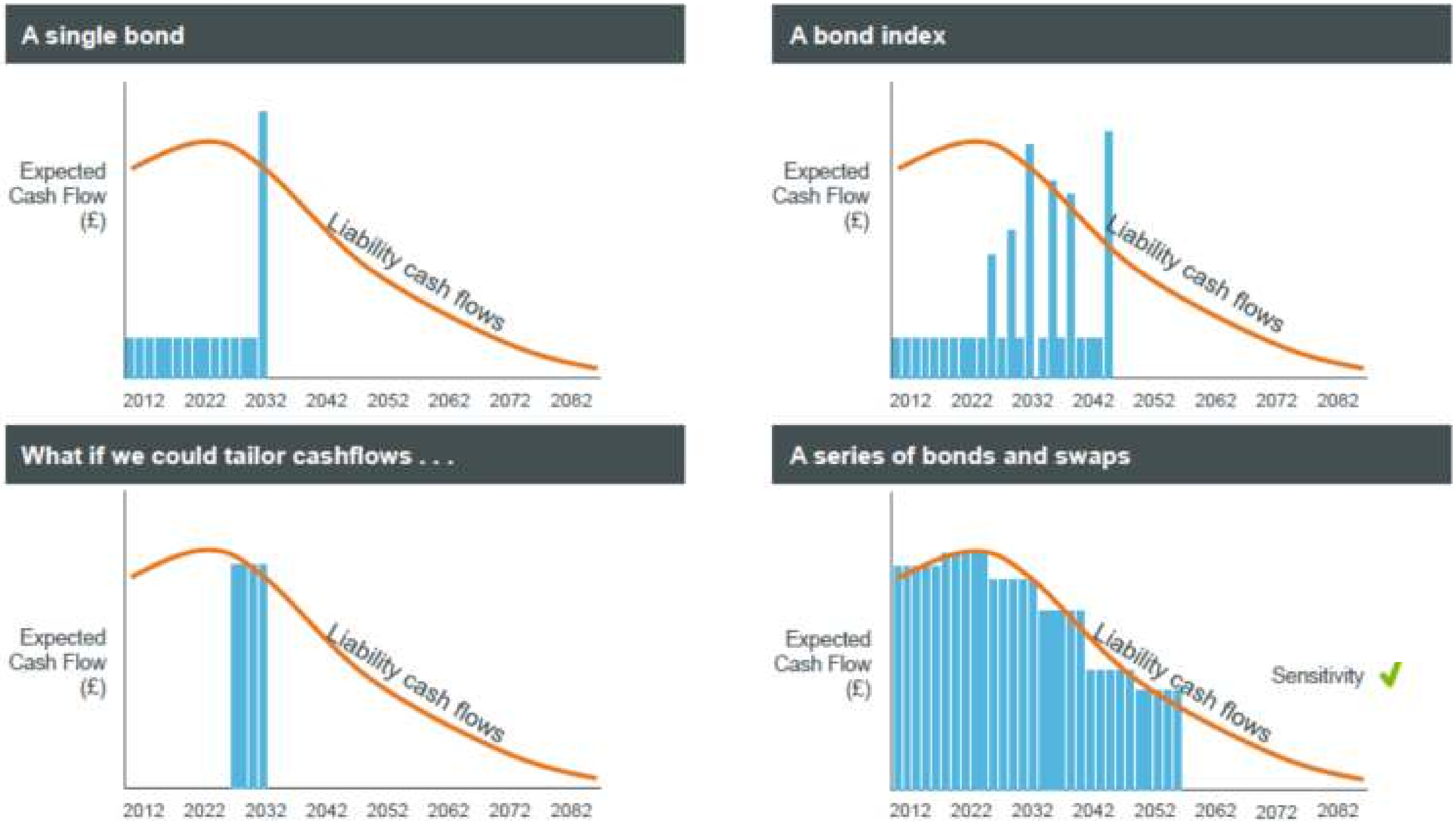
Scheme 1 – £100

Scheme 2 – £71.42

Scheme 3 – £60.98?
£50?
£62.50?
£125?

Why use bond yields to derive your discount rate?
Investing to meet the liabilities

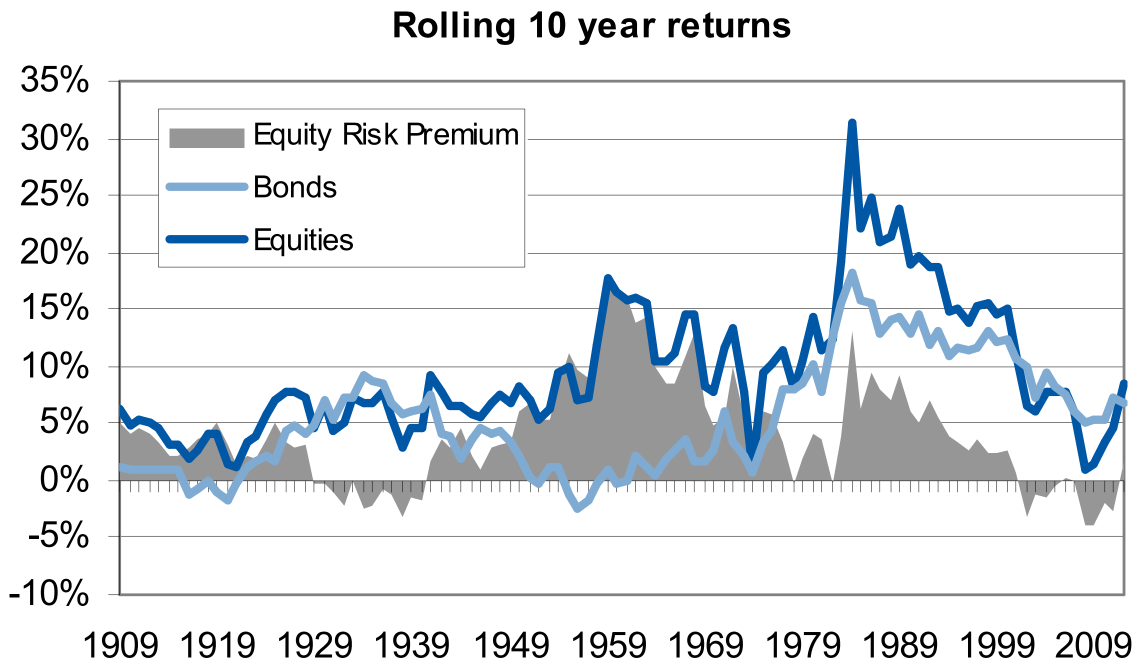
Assumptions



Source: Example only.

LGPS actuarial valuations
Typical investment return assumption

Assumptions



- Equity Risk Premium (or 'outperformance') has been measured as the arithmetic difference in the geometric average rolling 10 year returns (based on Barclays indices).
- Over the 113 year period to 2012 the average ERP was **3.8%** p.a.
- The chart below shows the ERP over rolling 10 year periods. Over the past 100 years the ERP has been higher and lower than the average for sustained periods.

Setting assumptions
Price Inflation

Assumptions

RPI – Retail Prices Index

CPI – Consumer Prices Index

Market implied inflation (MII)

derived from fixed interest and index-linked gilt yields

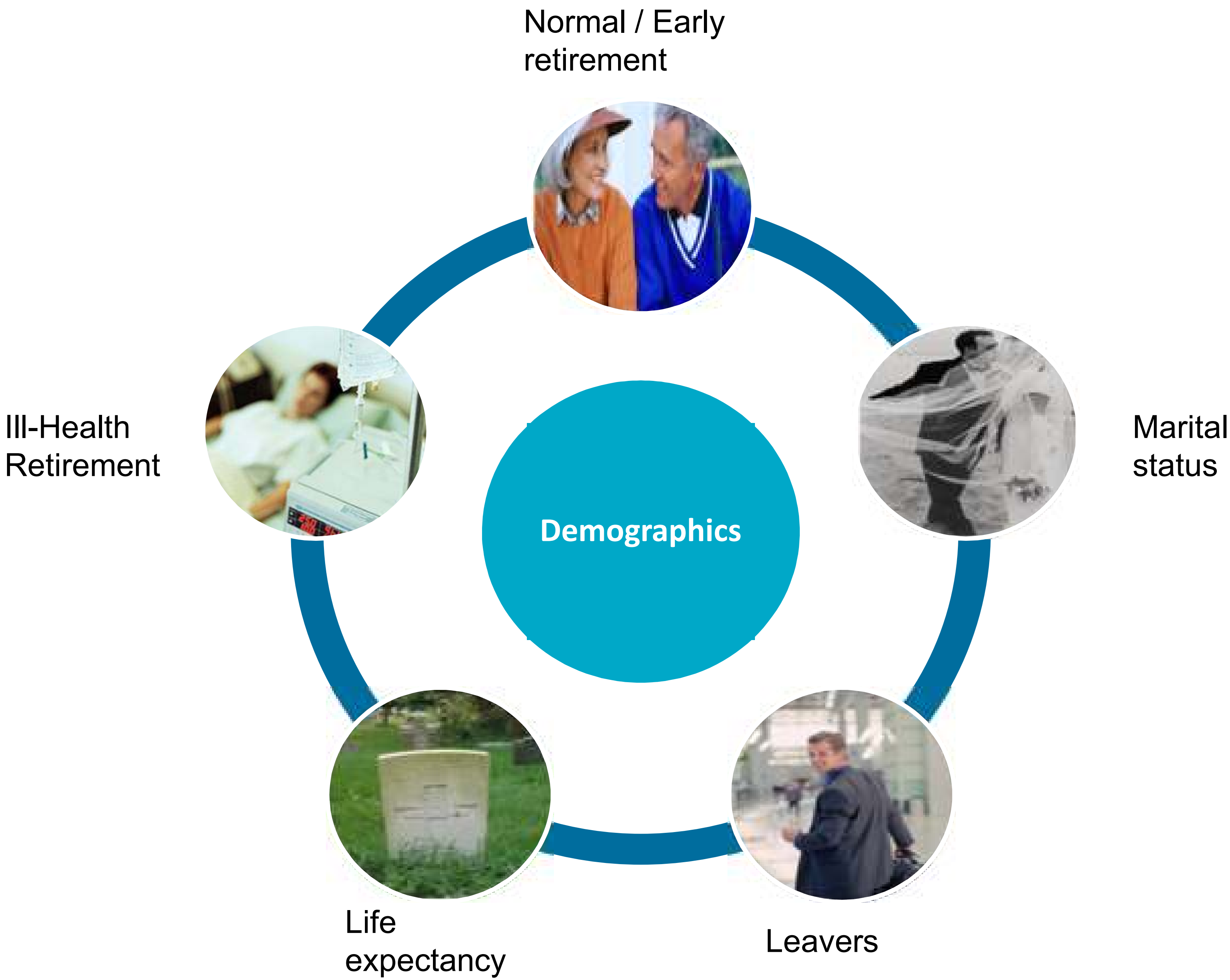
Adjustments to MII

Inflation Risk Premium / CPI pension increases

Currently combined effect might lead to difference of 1.0%+ per annum
i.e. **CPI assumption lower than MII by 1.0%+ each year long term**

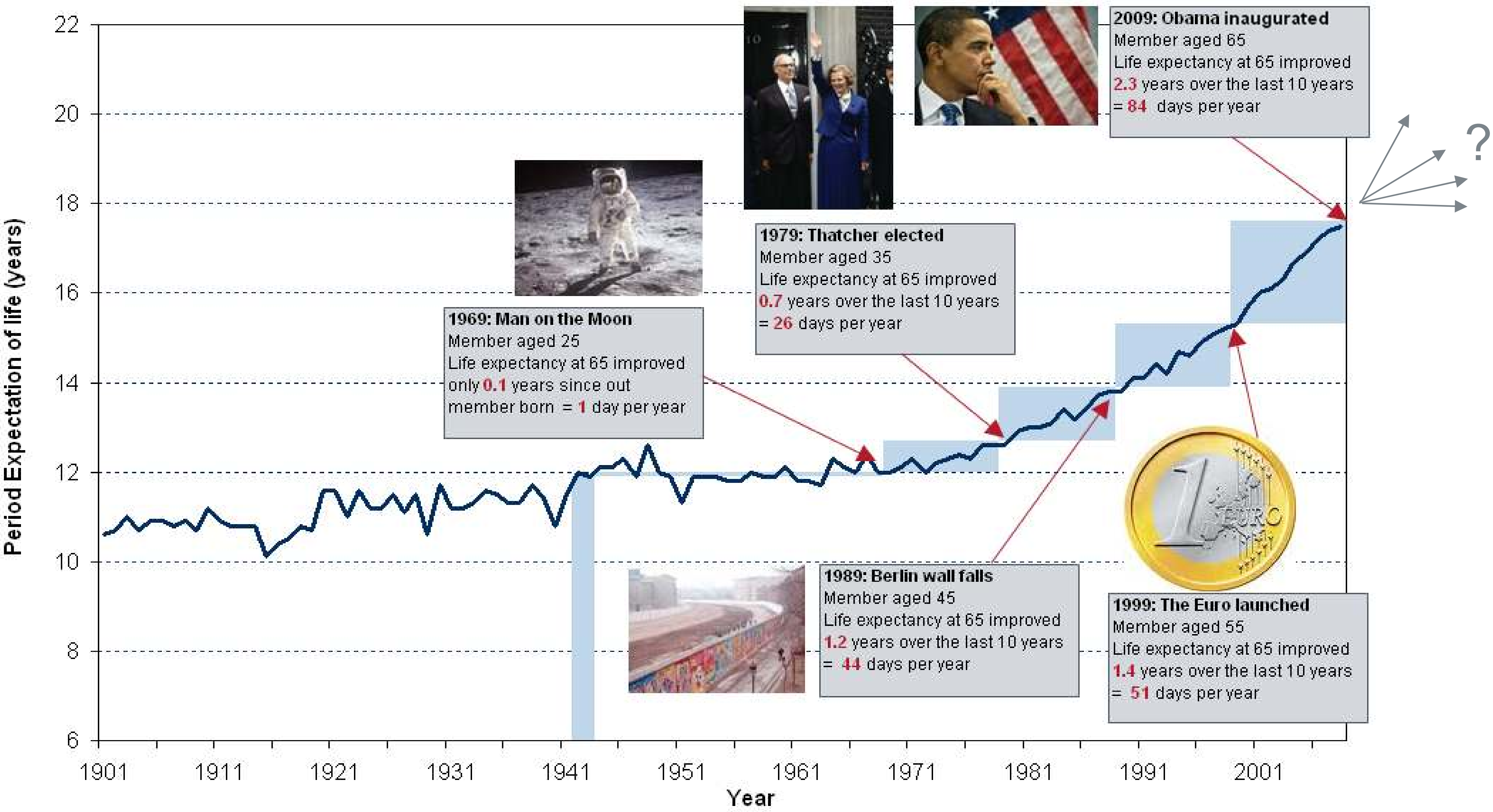
Demographic assumptions

Assumptions



People are living longer
Past improvements (males age 65)

Assumptions



Sensitivity of liability value to assumption changes

Assumptions

1% p.a. increase in assumption	Approximate Impact on liability value	
Discount rate	↓	30%
Salary Increases	↑	15%
Pension Increases	↑	14%

1 year increase in life expectancy	↑	3%

Net effect is key

FUNDING STRATEGY
WHAT SHOULD SCHEME EMPLOYERS EXPECT?

Regulatory Requirements

Funding Strategy

What is the Funding Strategy?

Admin Reg. 36(5) **"The common rate of employer's contribution .... so as to *secure its solvency* ...."**

Admin Reg. 36(6) **"The actuary must have regard .... to the desirability of maintaining as nearly a *constant rate* as possible".**

Funding Strategy Statements
Requirements and Objectives

DCLG

- “Support regulatory requirement to maintain constant employer contribution rates”
- Encourage administering authorities to take a prudent longer-term view of their liabilities”

Purpose of the FSS:

Clear and transparent strategy to meet employers’ pension liabilities

- Support stability in contribution rates as far as possible
- Prudent approach in funding the liabilities.

Funding Strategy Statement
Issues to be addressed in FSS

- **Time horizon for funding plan**
- **Link between funding strategy, investment and different employer covenant**
- **Risks to the funding strategy**
- **Monitoring and review of the strategy**
- **Financial standing of employers and monitoring**
- **Admission and Termination policy**

Funding Strategy Statement
Employer Consultation

All Fund employers should be consulted.

Process for consultation will be decided by the Administering Authority.

Consideration must be given to employers' views.

Ultimate responsibility rests with the Administering Authority.

How do individual employers fit into the valuation process?

Funding Strategy

LIABILITIES

- each member valued and linked to their employer

ASSETS

- tracked notionally between valuations
- allows for investment returns and cashflows

CONTRIBUTIONS

- future service contribution rate will reflect the profile of current active members and LGPS 2014
- deficit contributions will reflect individual funding position and own circumstances

Different employers in the Fund

Funding Strategy

- Scheduled/admitted bodies
- Tax-raising authorities/public funded bodies/shareholder-owned companies/charities
- Fixed term employers
- Bodies with guarantors or bonds

Employers have different characteristics and objectives

Different characteristics for different employers

Expected period within Fund

Ability to guarantee payment of contributions

Likelihood of premature withdrawal

Likelihood of recovery of closure deficit

Strength of covenant

RISK ASSESSMENT AND ONGOING MONITORING

Monitoring between valuations

Risk

Objectives

Demonstrate good governance and oversight of the Fund – links to the FSS

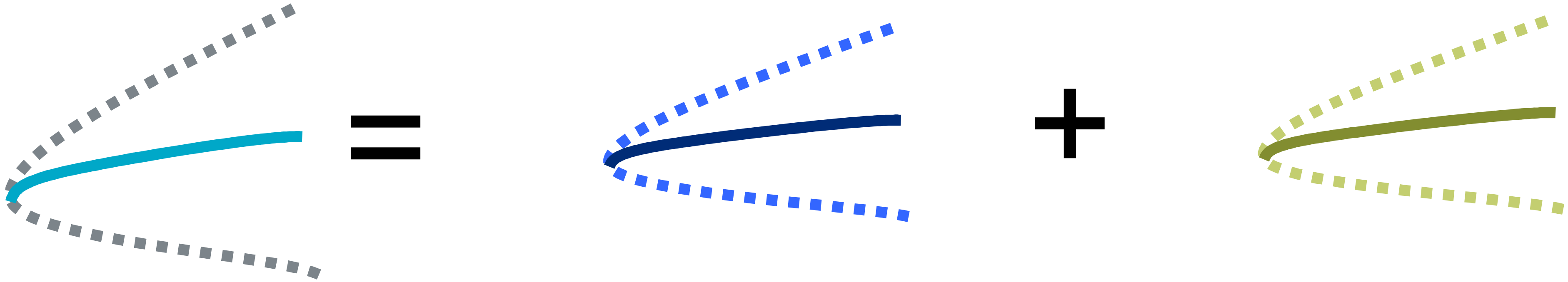
Recognise the strength of the funding target and support the long term funding focus

Manage and understand the risks

How?

Update funding position– monitor experience, usually focus on main drivers

Balancing Risk
Asset and Liability Variability



Overall risk

Variation in Growth Assets

Variation in Liabilities

Many factors affect the risk profile of the Fund but typically it is the financial market related factors which are dominant. The relative size depends on the particular point in time and the maturity profile of the Fund.

What has happened since 2010?

Risk

Assets have exceeded return expectations

But liabilities have increased by 25%-30%

Average roll forward funding level has fallen

Upwards contribution pressure

Balance between maintaining funding plan and exposing fund to risks

Small stepped increases linked to affordability?

And finally…