

Actuarial valuations and understanding liabilities



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Liverpool
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Agenda



Actuarial Valuations

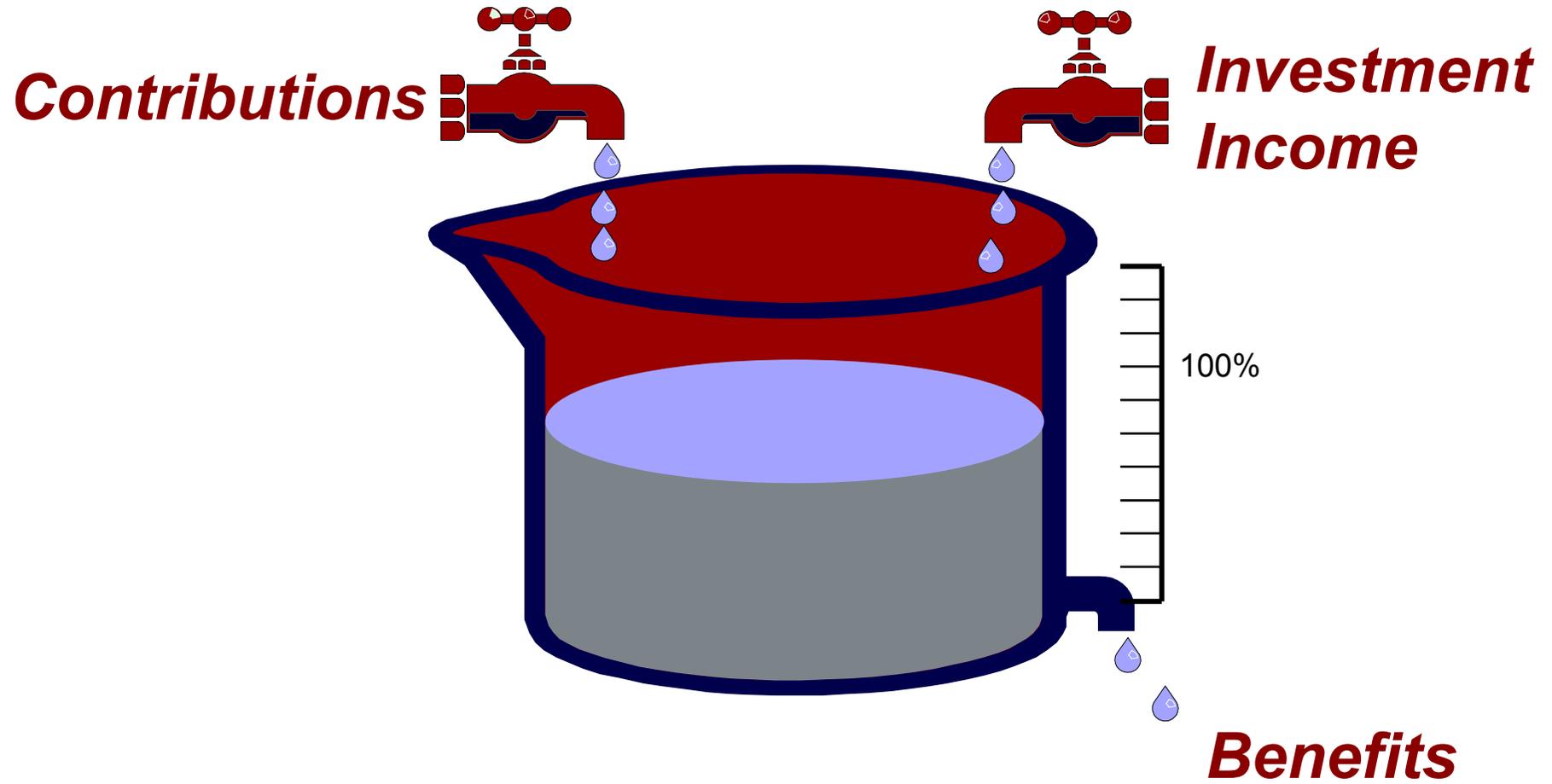
- **The purpose of an actuarial valuation**
- **Contribution outcomes**
- **What assumptions are used?**
- **Individual employers and funding strategy**
- **Inter-valuation monitoring and where are we now?**

Section 1

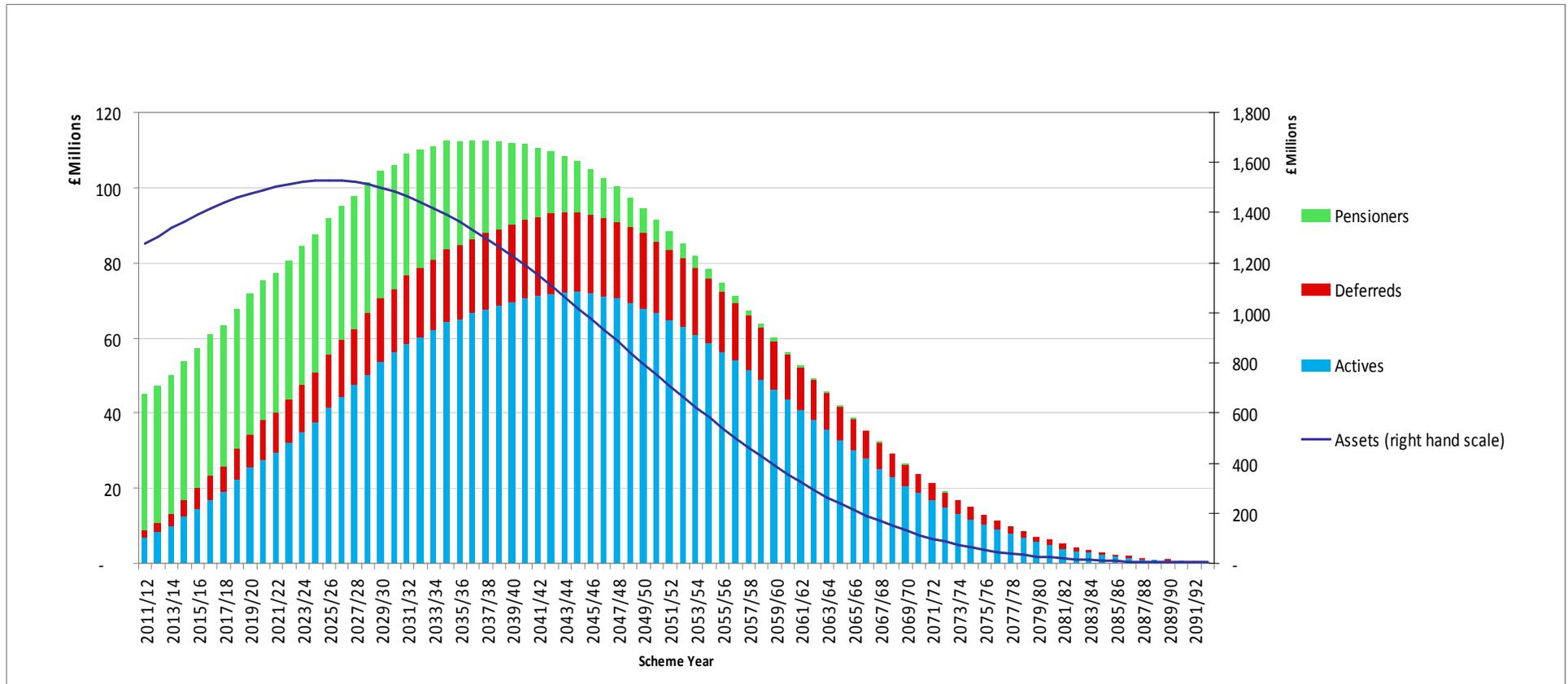
THE PURPOSE OF AN ACTUARIAL VALUATION

Background

Defined Benefit Pension Scheme



Background Funding – an ideal world



Purpose of an actuarial valuation

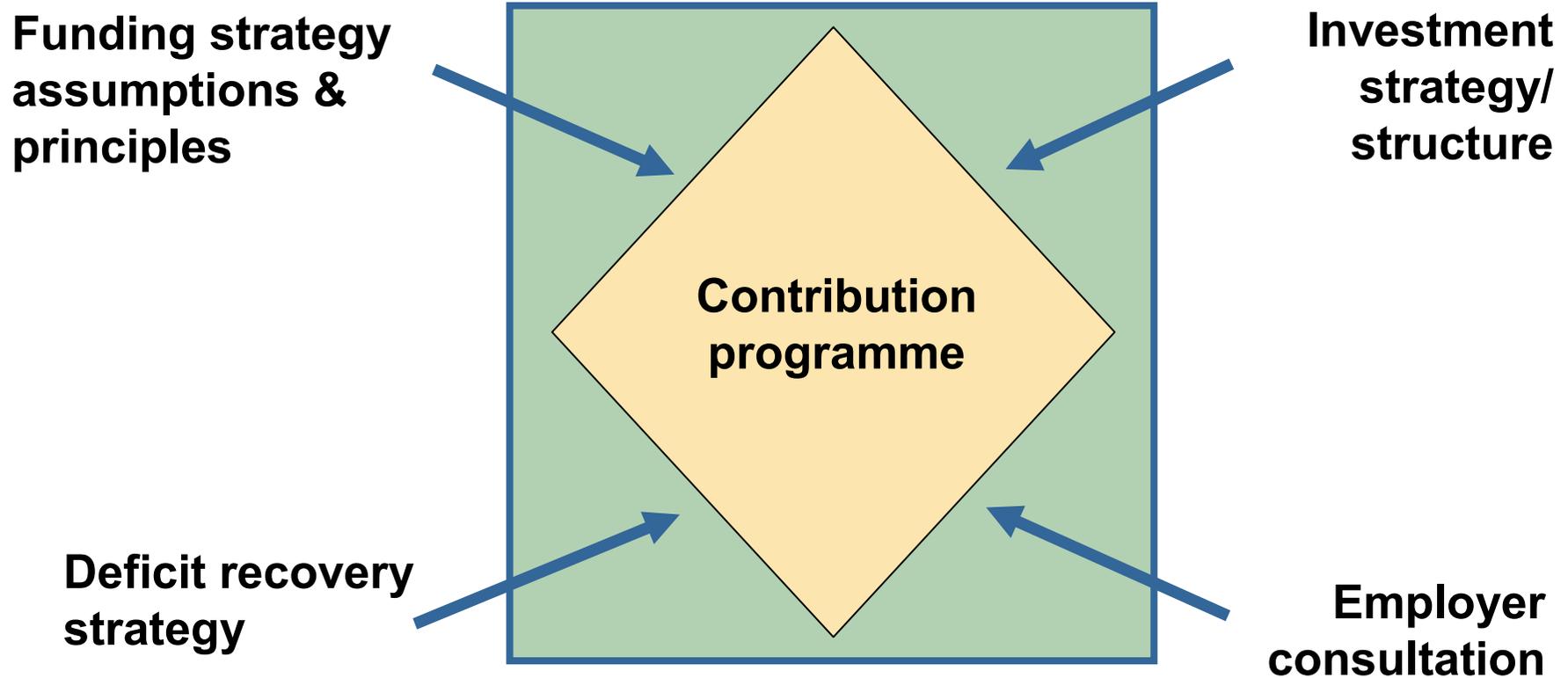


Enough assets now?

Contributions
What and When?

Purpose of an actuarial valuation

Review of contribution programme



Section 2

CONTRIBUTION OUTCOMES

Valuation Future Service

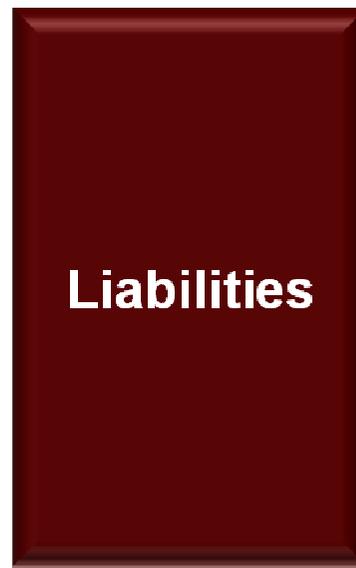


Contributions

**Cost of 1 year's
service**

**“Common
Contribution Rate”**

Valuation Past Service Results



Contributions

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

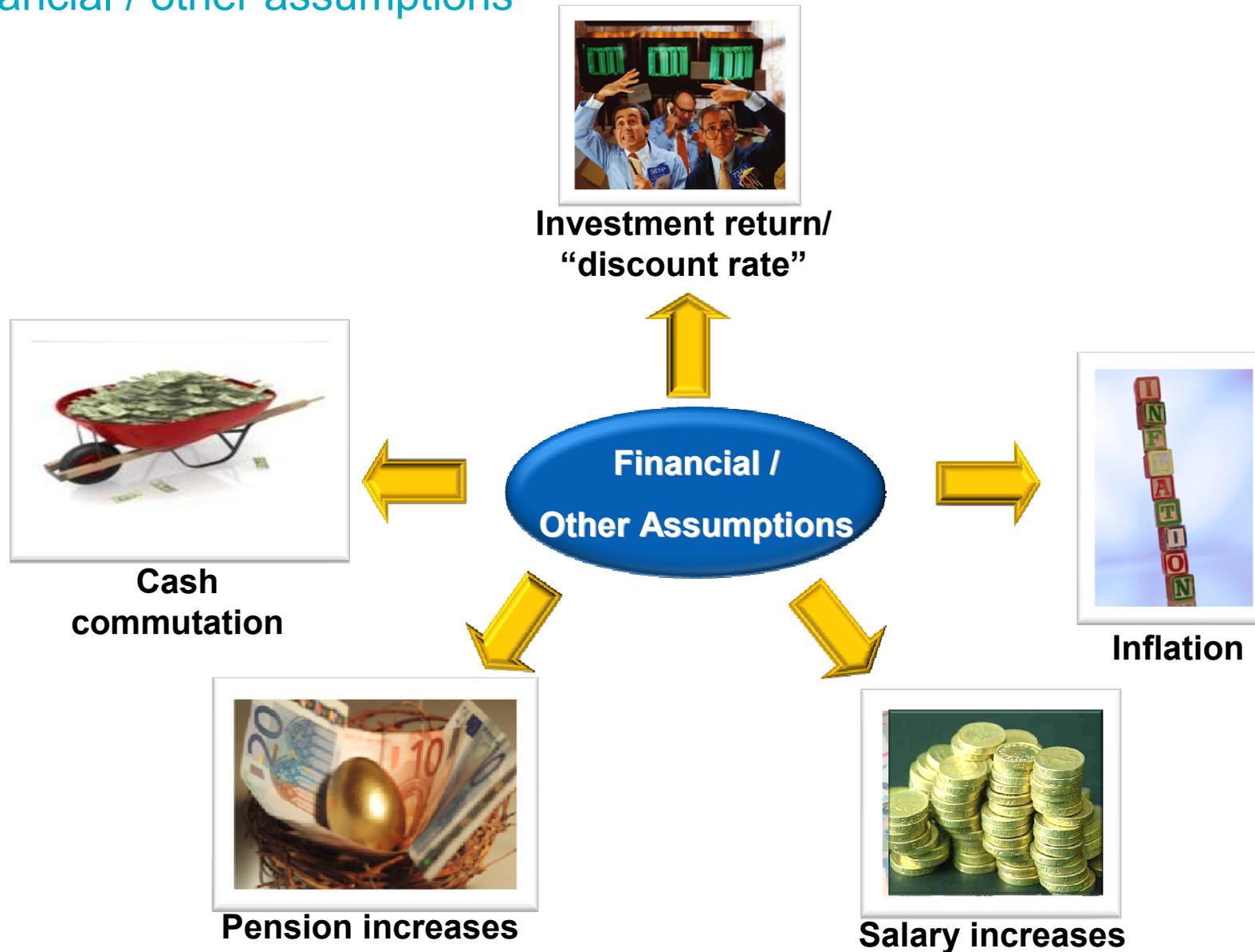
Past service position

Section 3

WHAT ASSUMPTIONS ARE USED?

Actuarial valuations

Financial / other assumptions



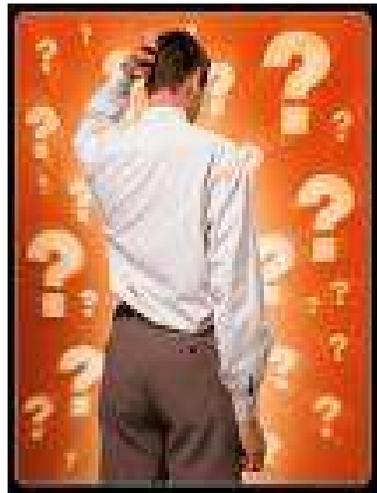
Investment return / discount rate assumption An Example

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

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

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?

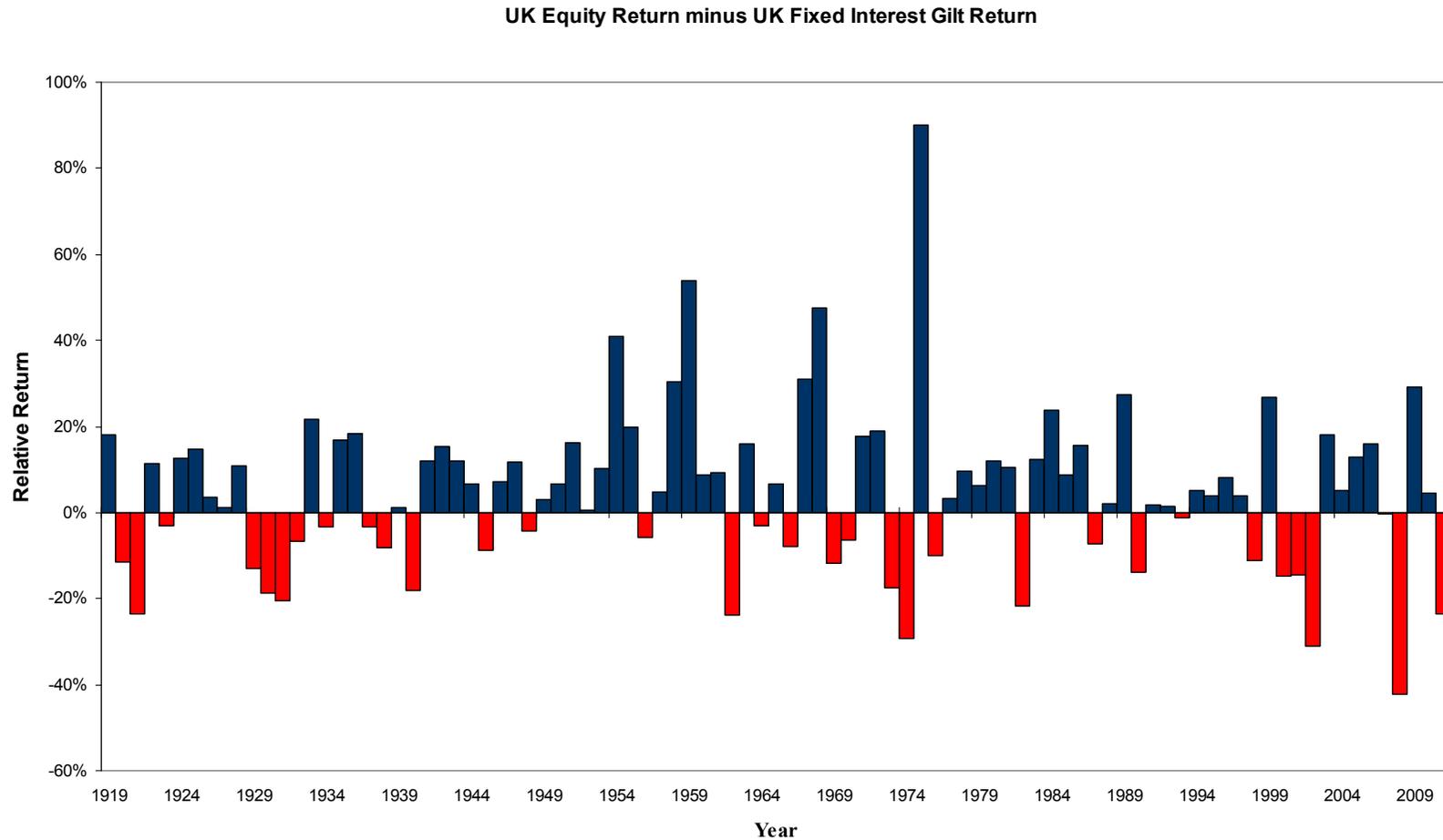
£62.50?

£125?



LGPS actuarial valuations

Typical investment return assumption



Source: Barclays Equity Gilt Study

Typical out-performance assumption adopted of between 1% and 3% per annum

Setting assumptions
Price Inflation

RPI – Retail Prices Index
CPI – Consumer Prices Index

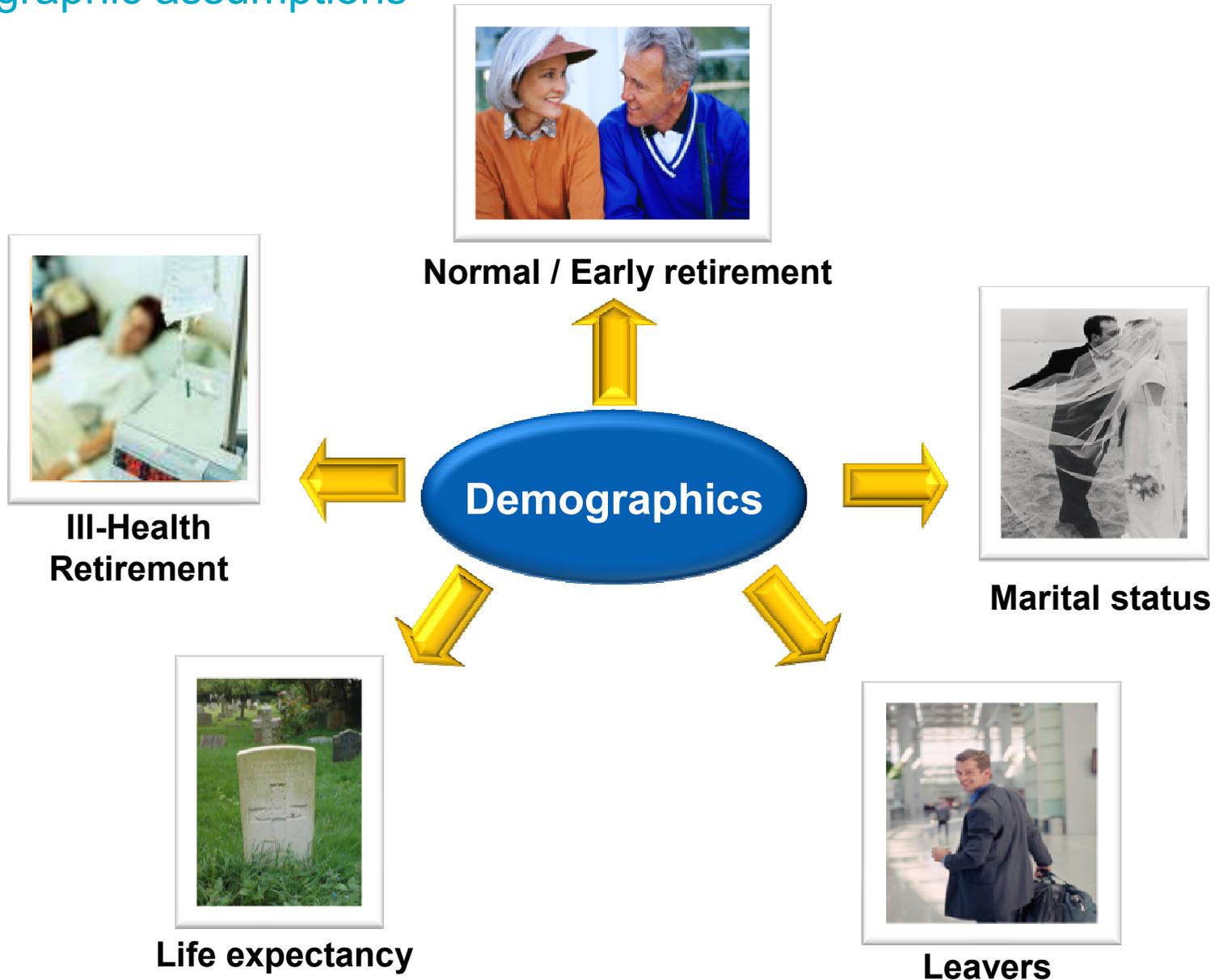
Market implied inflation (MII)
derived from fixed interest and index-linked gilt yields

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**

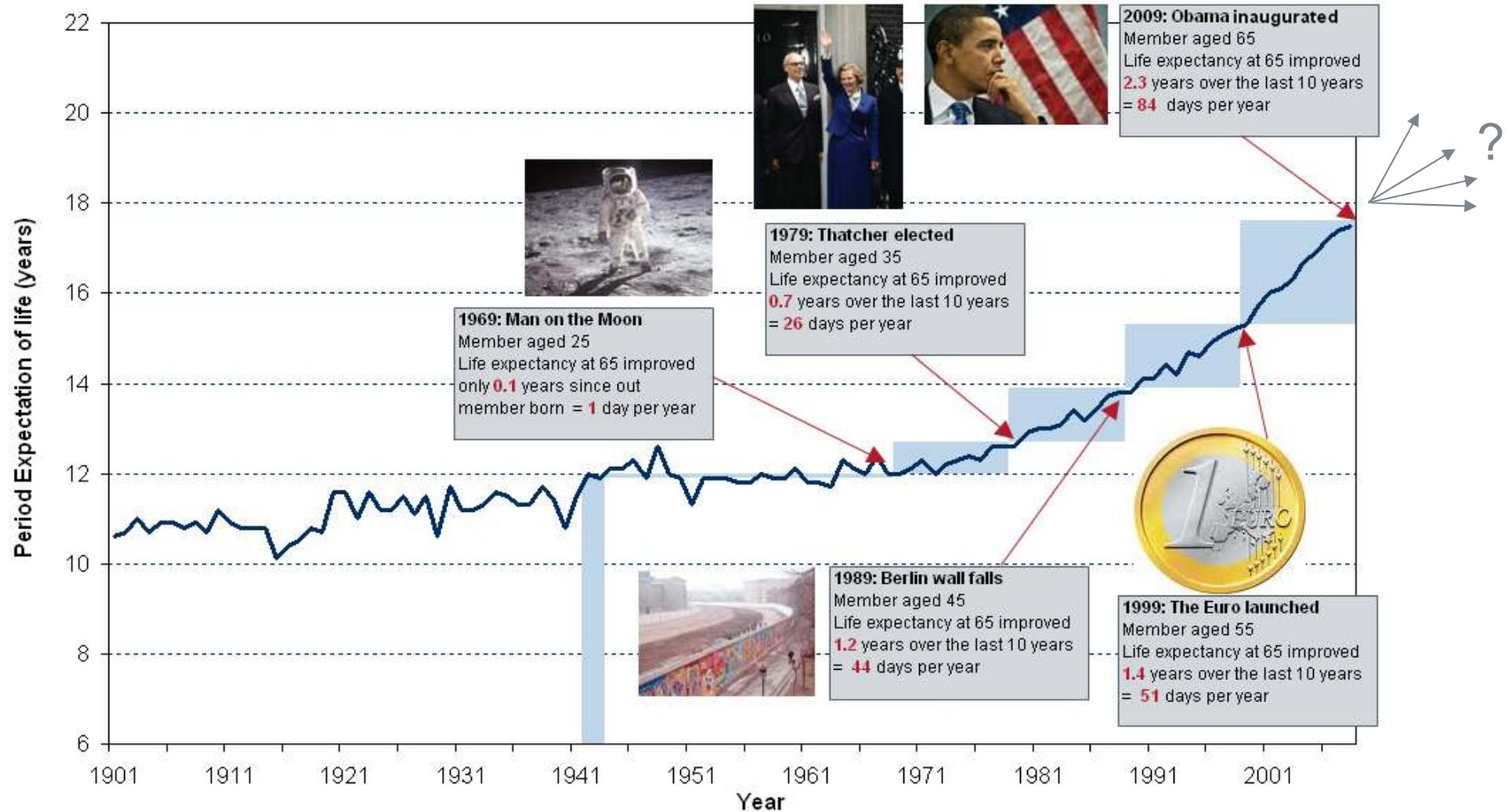
Actuarial valuations

Demographic assumptions



People are living longer

Past improvements (males age 65)



Sensitivity of liability value to assumption changes

1% p.a. increase in assumption	Approximate Impact on liability value
Discount rate	 30%
Salary Increases	 15%
Inflation	 30%
Pension Increases	 14%
1 year increase in life expectancy	 3%

Net effect is key

Section 4

INDIVIDUAL EMPLOYERS AND FUNDING STRATEGY

How do individual employers fit into the valuation process?

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
- deficit contributions will reflect individual funding position and own circumstances

LGPS not formally segregated but each employer or employer group has its own funding position and contribution requirement

All covered in the Fund's Funding Strategy Statement

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”



FSS – CIPFA Guidance Requirements and Objectives

Purpose of 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.**



Issues to be addressed in FSS



- **Time horizon for funding plan**
- **Link between funding strategy and investment**
- **Policies**
- **Risks to the funding strategy**
- **Monitoring and review of the strategy**
- **Financial standing of employers and impact on funding assumptions**

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.**



Different employers in the Fund

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 objectives for different employers

Expected period within Fund

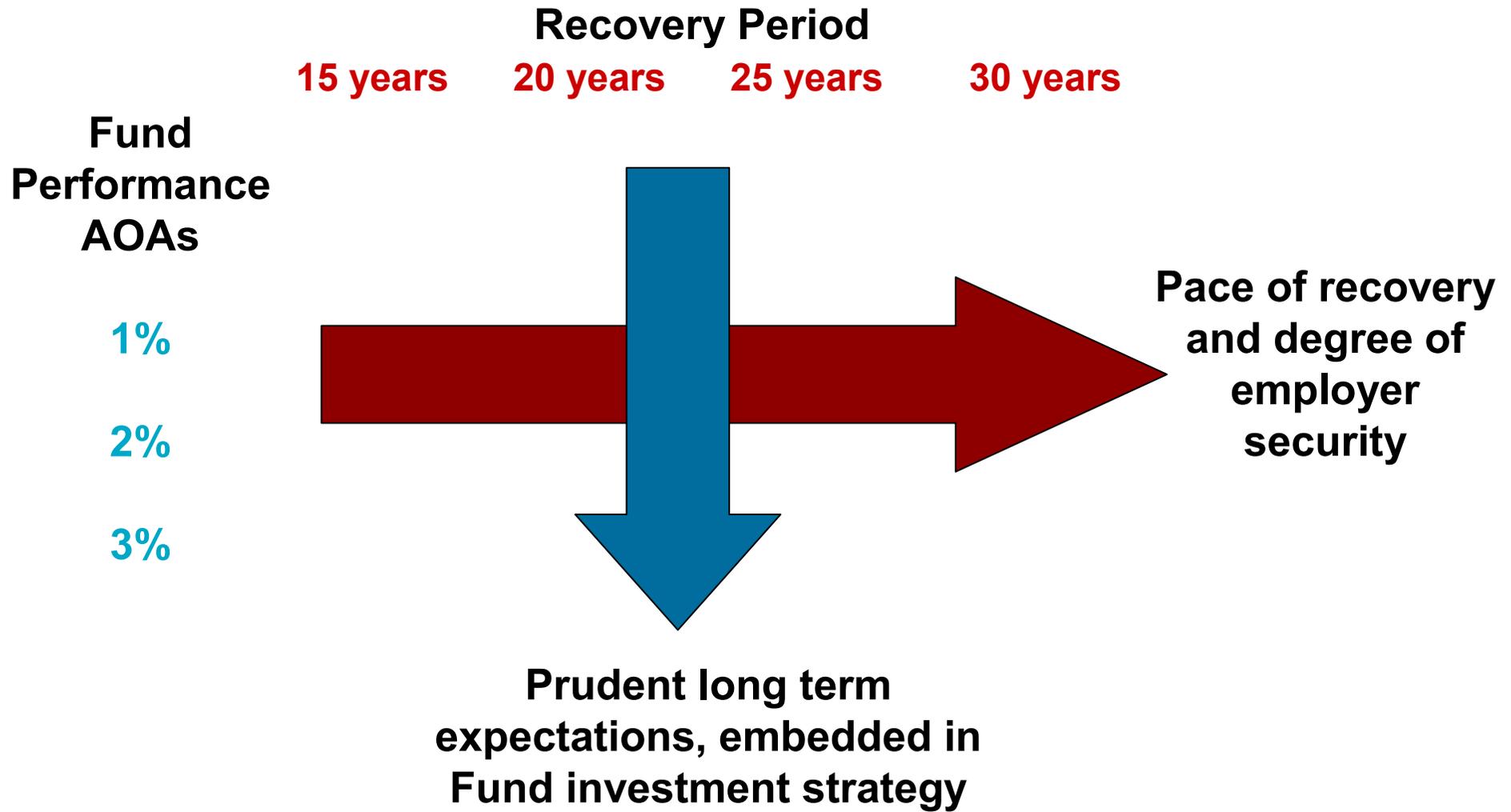
Ability to guarantee payment of contributions

Likelihood of premature withdrawal

Likelihood of recovery of closure deficit

Strength of covenant

Balancing Objectives Matrix



Section 5

INTER-VALUATION MONITORING AND WHERE ARE WE NOW?

Monitoring between valuations

Objectives of a funding review

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

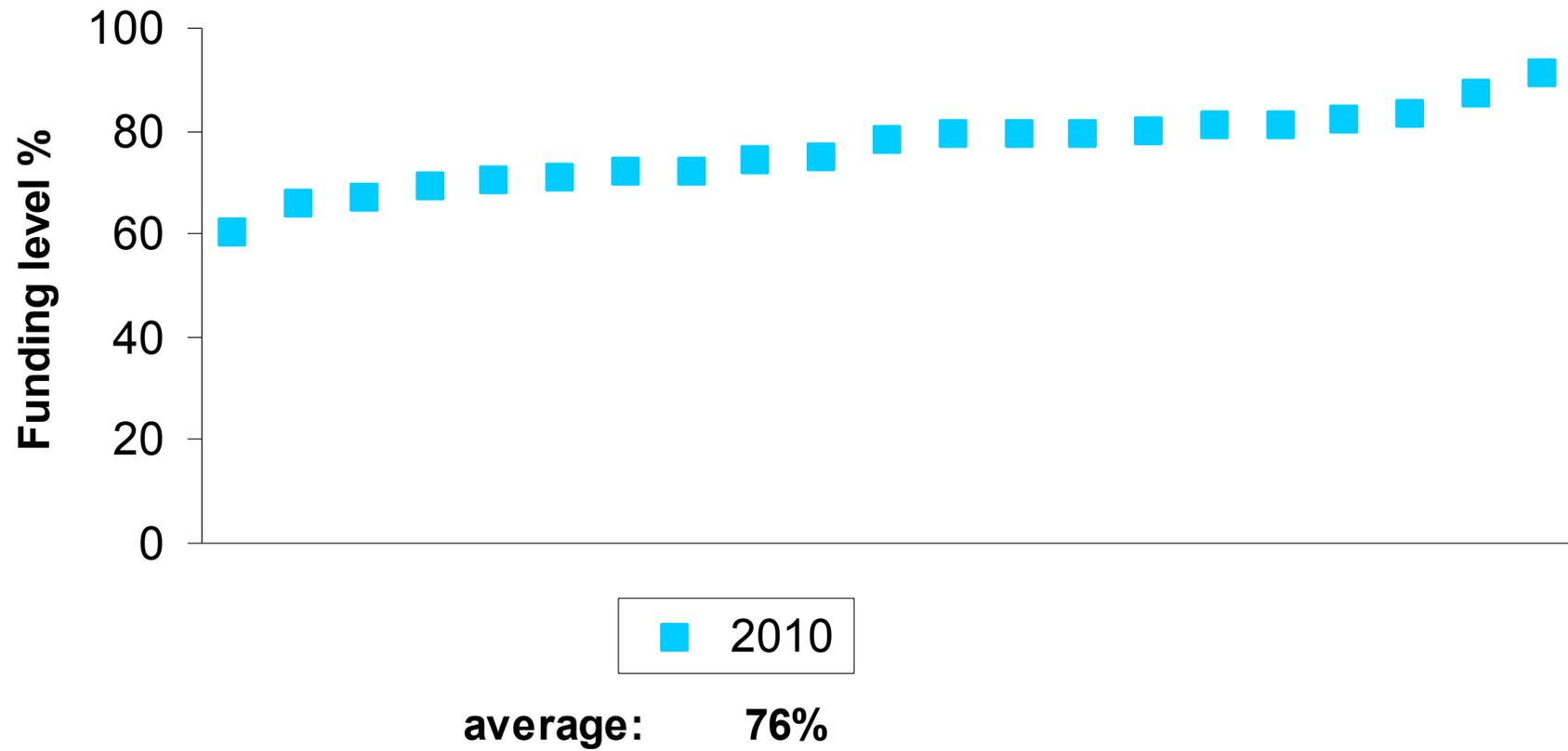
Manage and understand the risks

How?

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

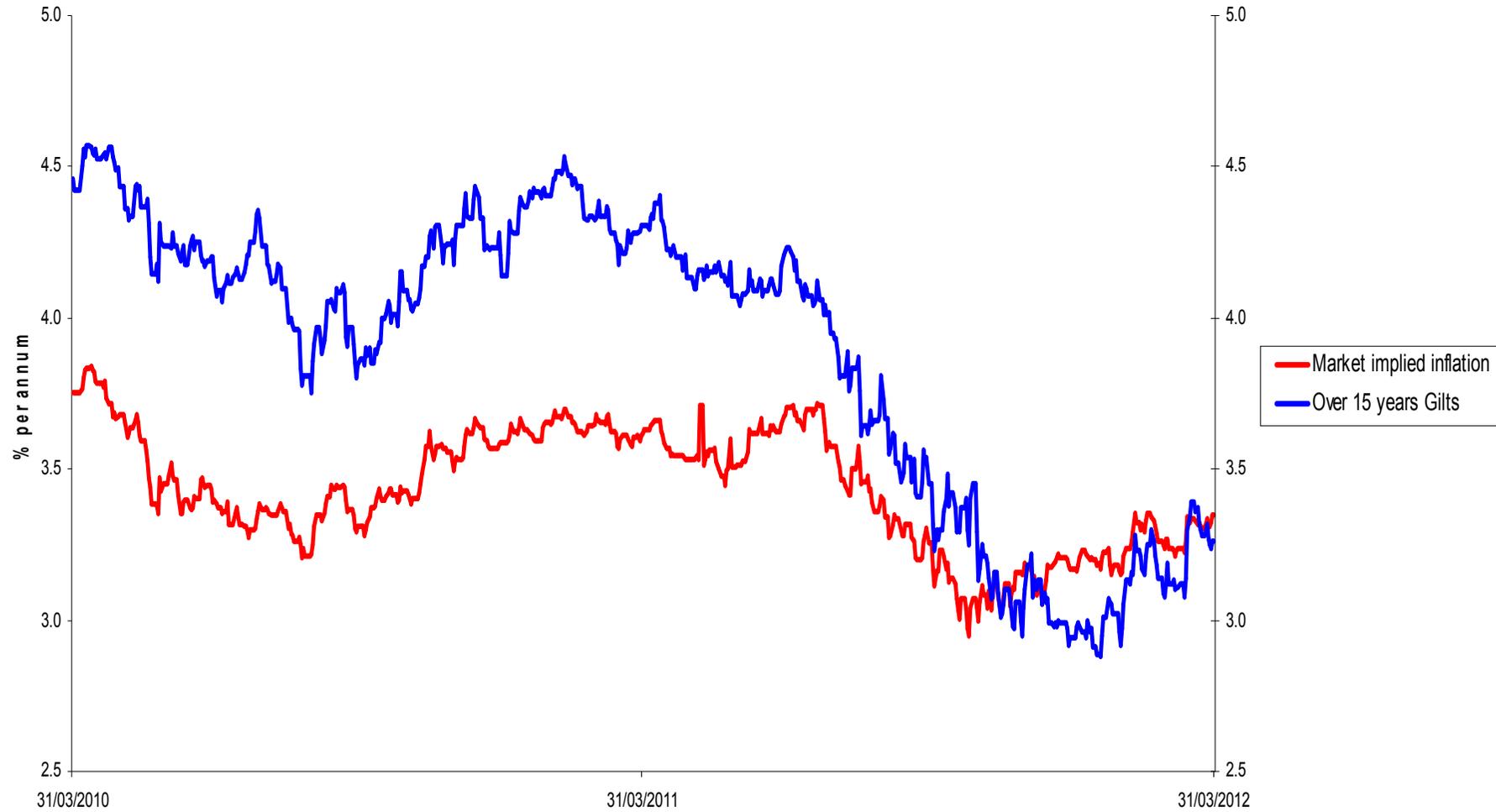


LGPS actuarial valuations 2010 funding levels



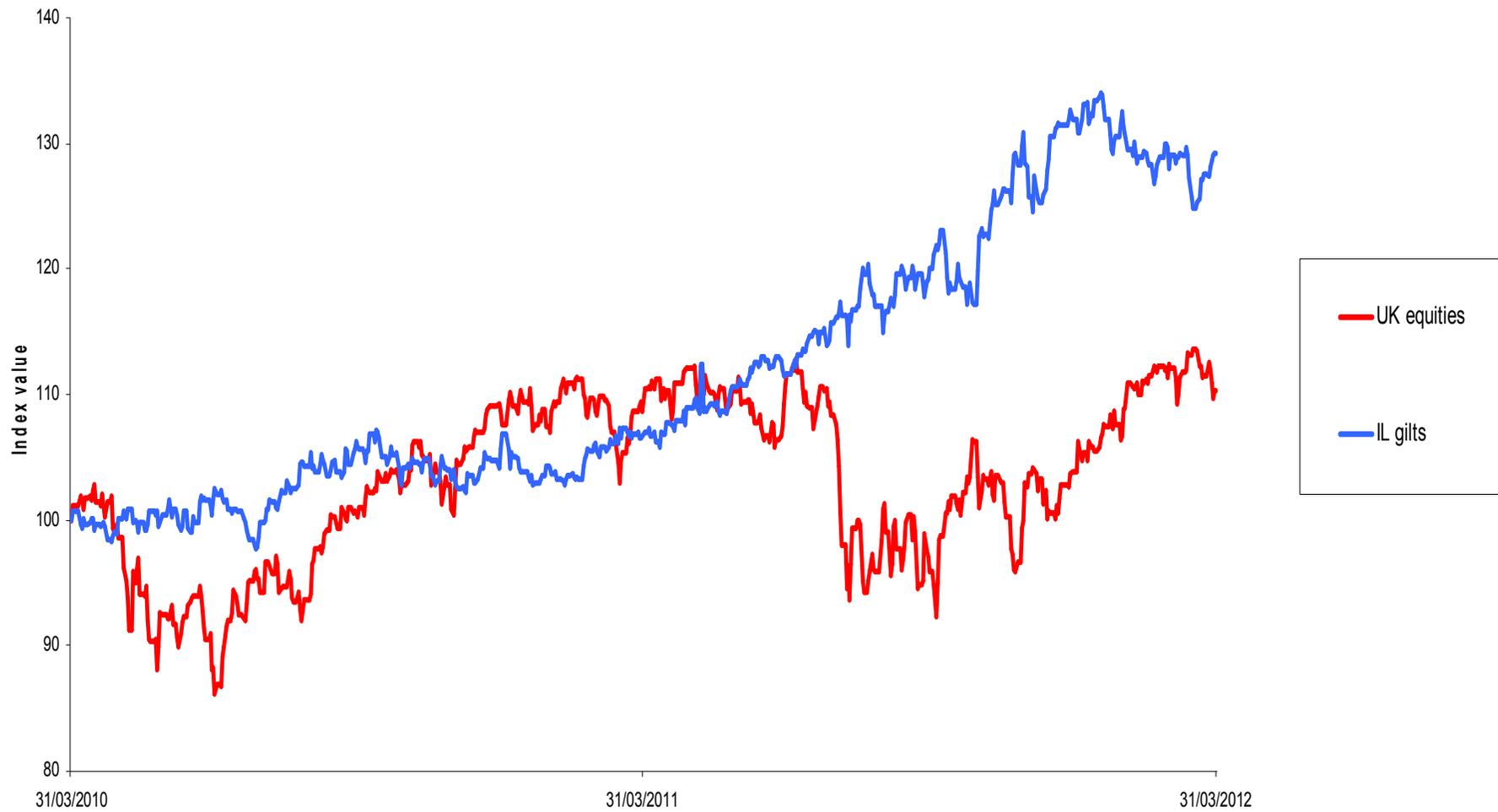
Market movements 2010 – 2012

Gilt yields and market implied inflation

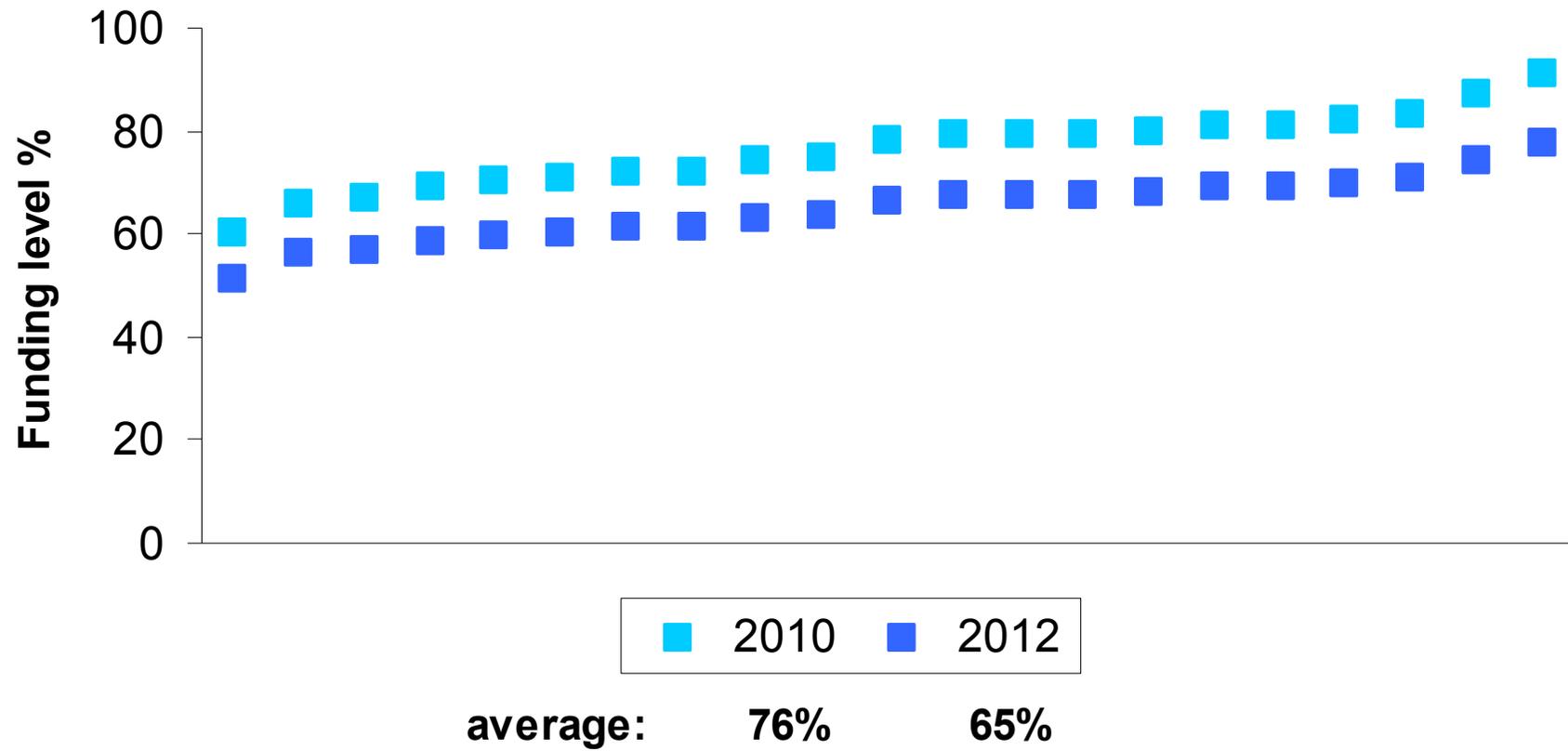


Market movements 2010 – 2012

Equities and gilt returns



LGPS actuarial valuations 2010 updates



2013 actuarial valuations What next?



And finally...





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