HEALTH WEALTH CAREER

ACTUARIAL VALUATIONS AND UNDERSTANDING LIABILITIES

SEPTEMBER 2016

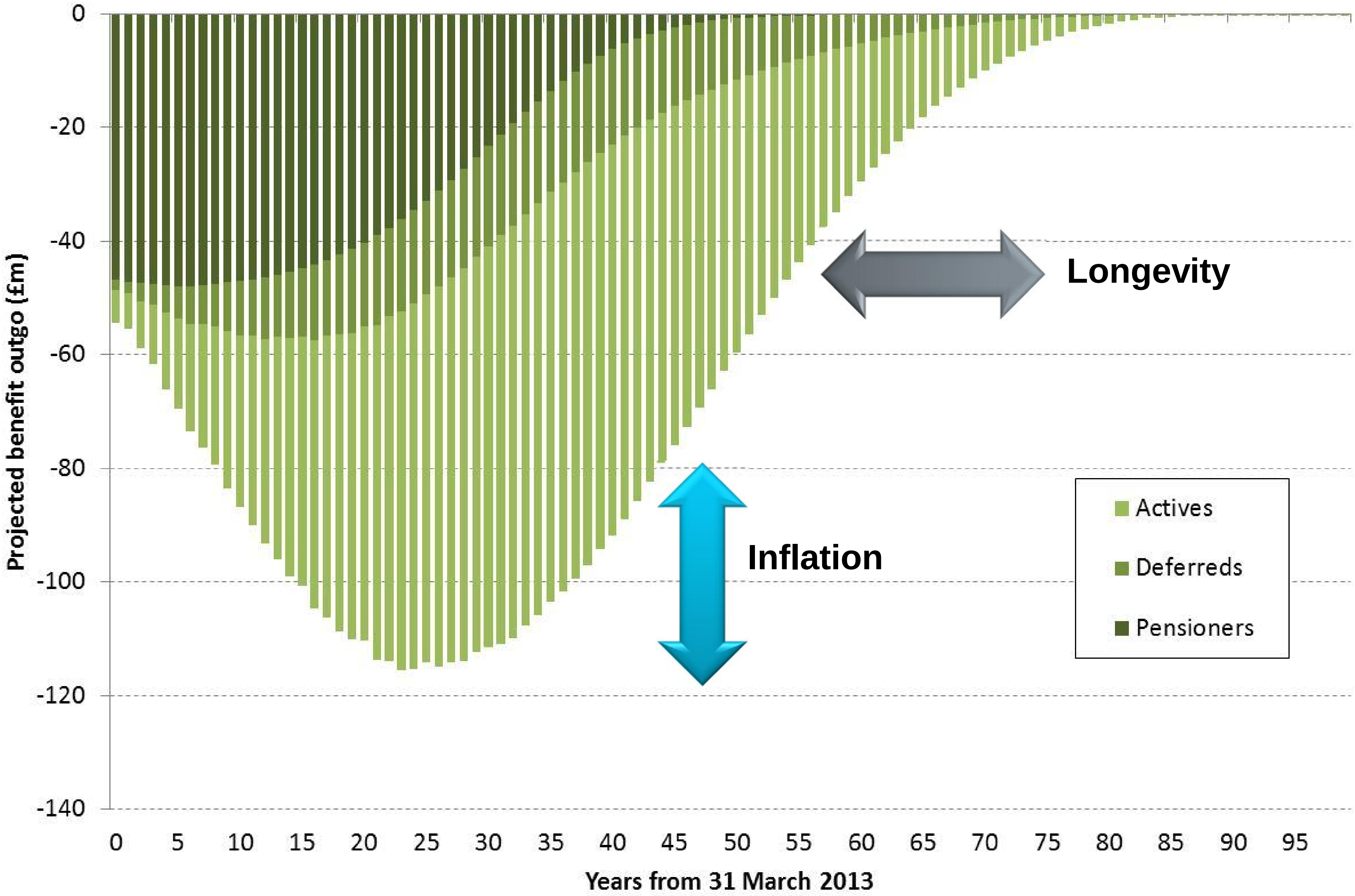
MAKE TOMORROW, TODAY

MERCER

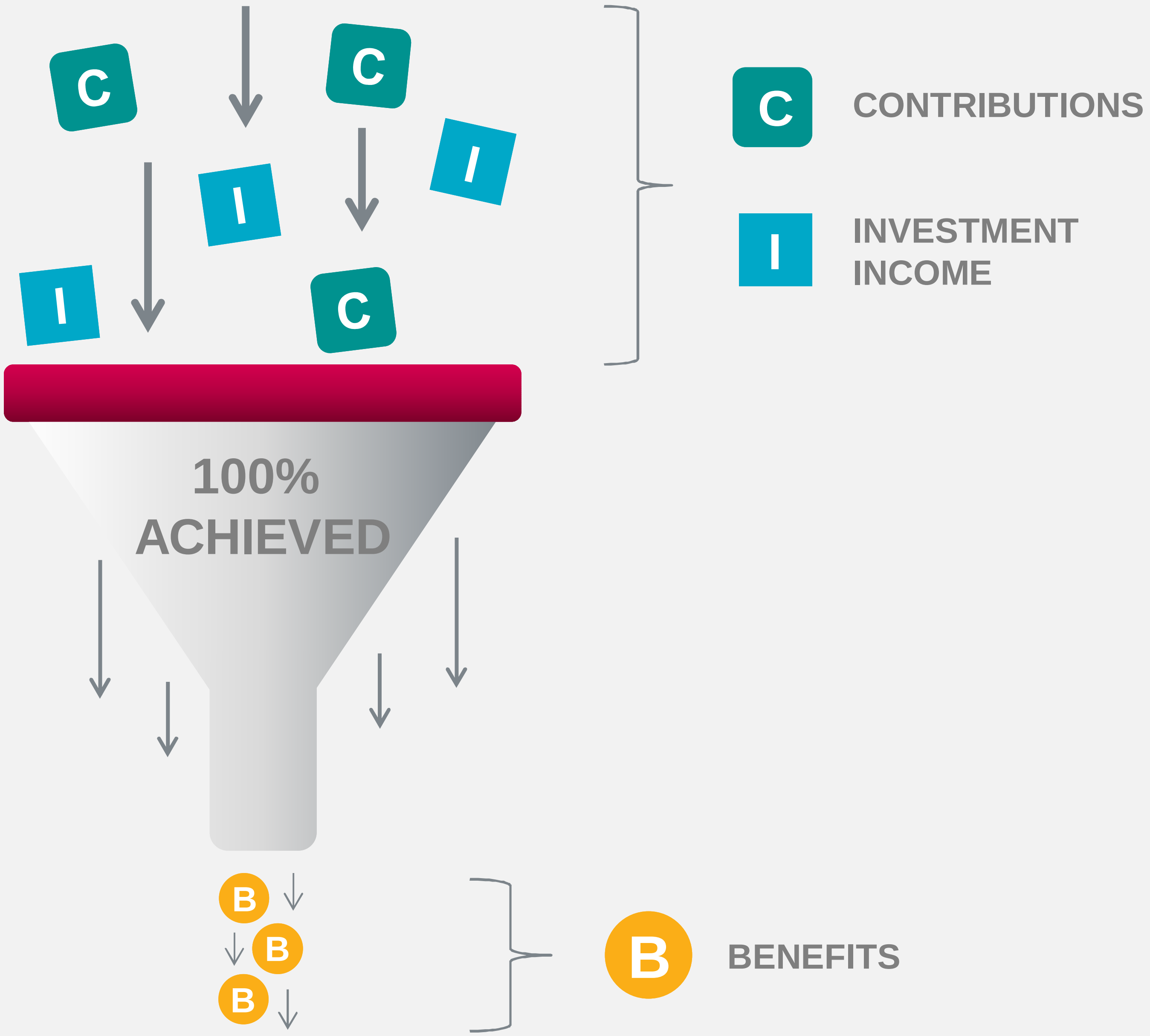
AGENDA

PURPOSE OF AN ACTUARIAL VALUATION

PURPOSE OF AN ACTUARIAL VALUATION
FUNDING – IT IS ALL ABOUT BENEFIT CASHFLOWS



PURPOSE OF AN ACTUARIAL VALUATION
DEFINED BENEFIT PENSION SCHEME



WHY DO A VALUATION?

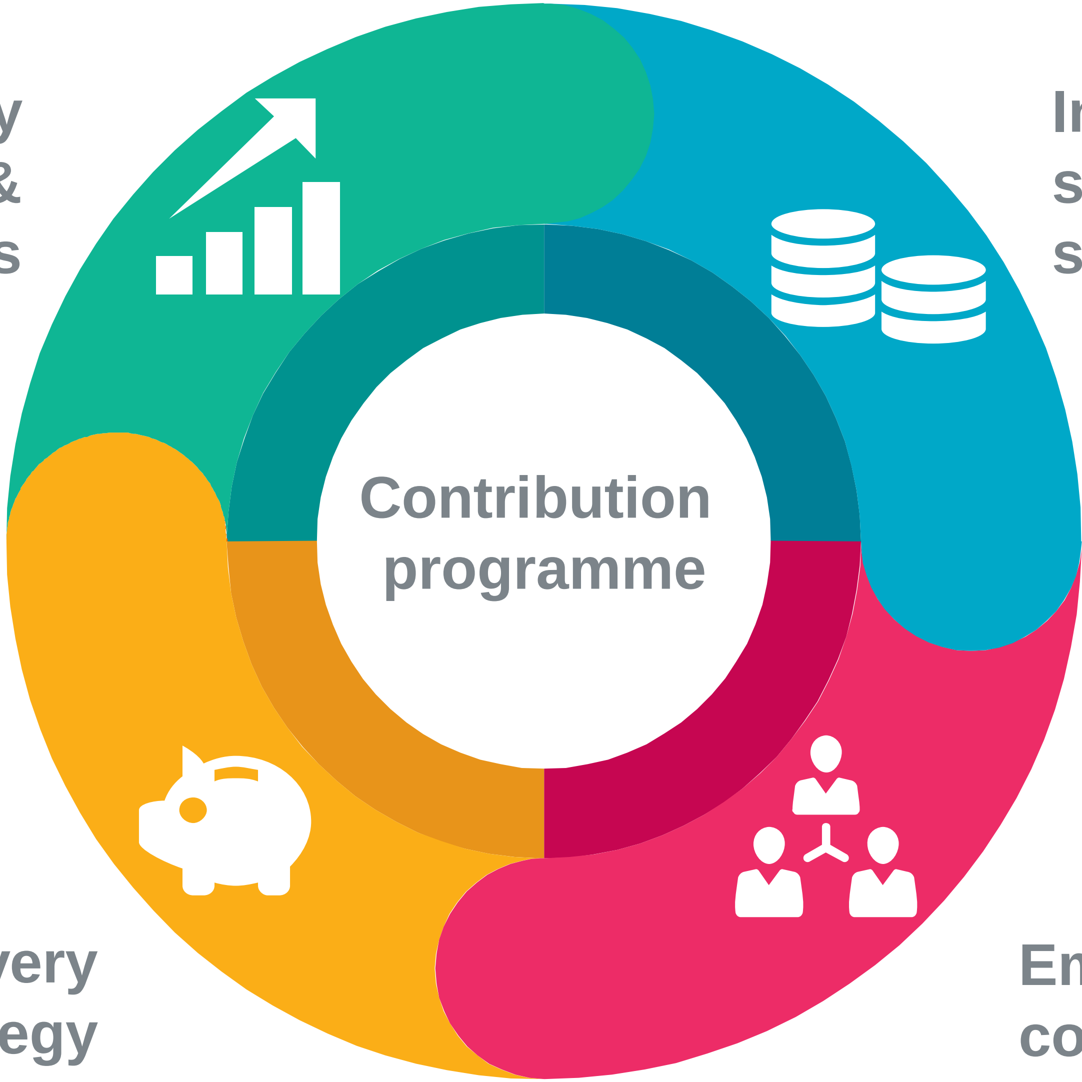
Has the Fund got enough assets to cover expected benefits built up to date

How much will the Employers have to pay to for benefits earned in the future?

PURPOSE OF AN ACTUARIAL VALUATION
REVIEW OF CONTRIBUTION PROGRAMME

Funding strategy assumptions & principles

Investment strategy / structure

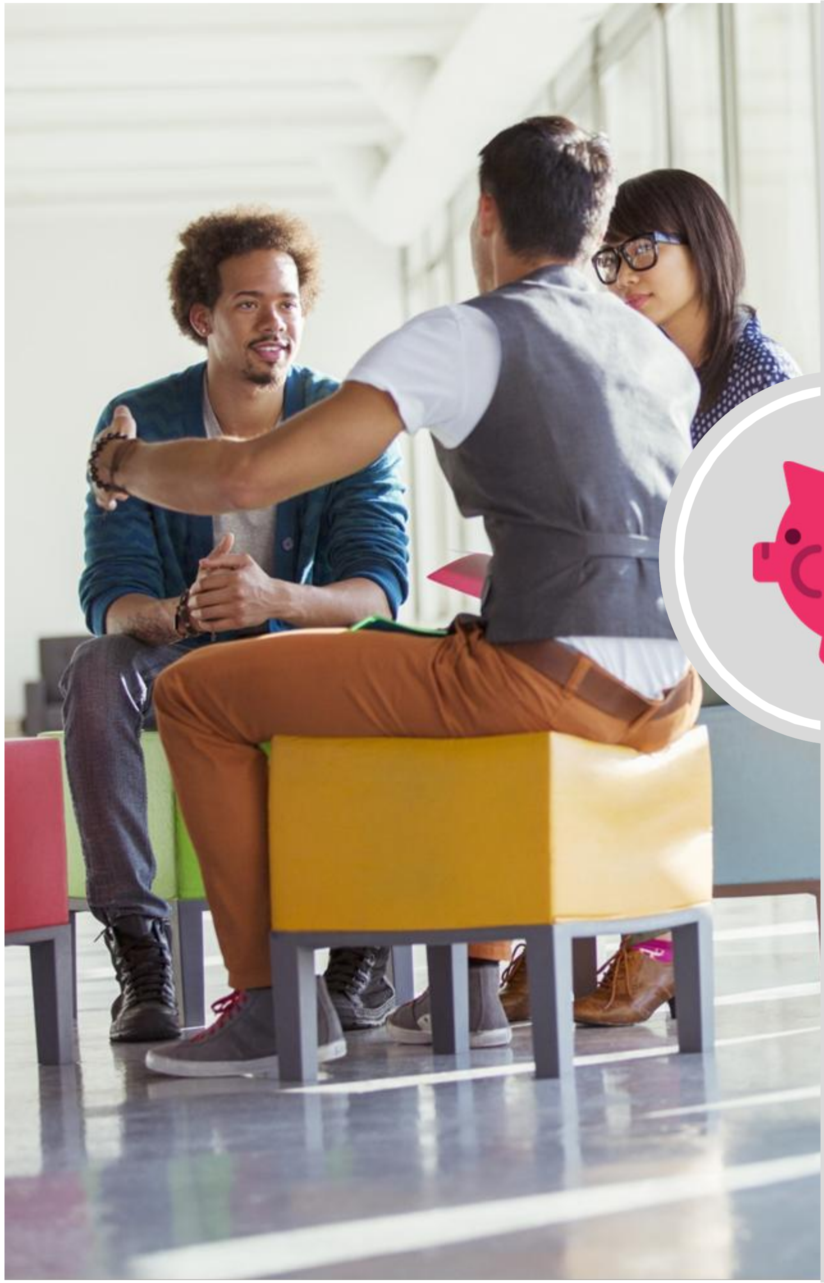


Deficit recovery strategy

Employer consultation

PURPOSE OF AN ACTUARIAL VALUATION

WHAT ABOUT FRS17 / IAS19?



Funding basis is not to be confused with Financial Reporting Standard 17 (FRS17)/International Accounting Standard 19 (IAS19) Assessment.

Solely required to adhere to accounting disclosure requirements. Performed annually and disclosed in an Employer's accounts.

Assessed using a "prescribed" set of assumptions, which differ from those used in the actuarial valuation.

Does not impact on the Employer's contribution requirements.

ASSUMPTIONS AND LIABILITY CALCULATIONS

BENEFITS BEING VALUED

Benefit changes from 1 April 2014

2010 actuarial valuation	2013 actuarial valuation
Normal retirement age 65	Normal retirement age SPA
60ths Final Salary Scheme	49ths CARE Scheme plus 50:50 option
Pay excl. overtime	Pay incl. overtime
Accrued Benefits earned	No changes

ASSUMPTIONS AND LIABILITY CALCULATIONS

PAST SERVICE BENEFITS

Contribution impact

Deficit spread over agreed “Recovery Period”

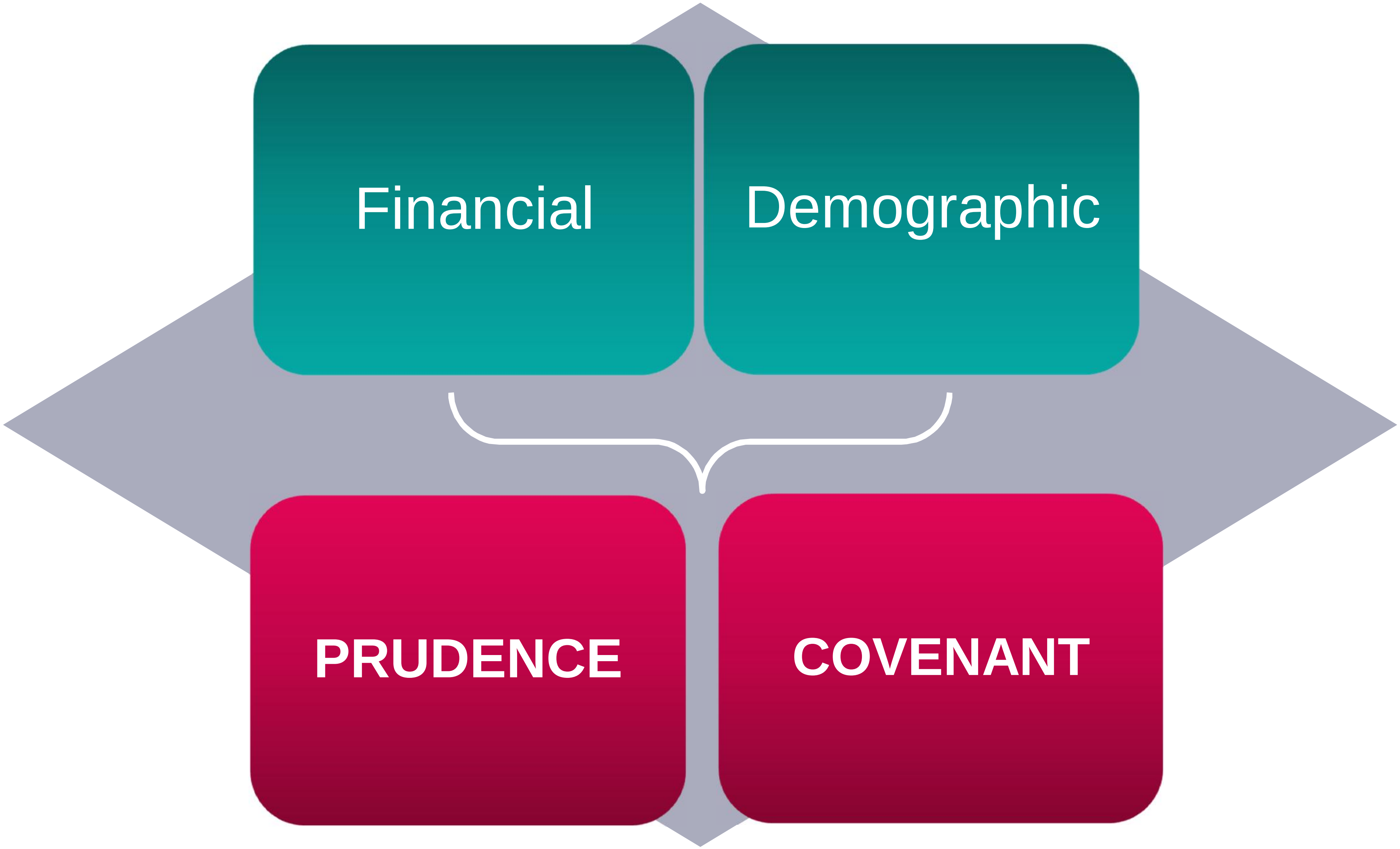
FUTURE SERVICE BENEFITS

Contribution impact

Cost of 1 year’s service

“Future service contribution rate”

PRUDENCE



ASSUMPTIONS AND LIABILITY CALCULATIONS
DIFFERENT POINTS OF VIEW?

THE FUTURE?
WHY WORRY
ABOUT THE
FUTURE?

THE SKY IS
FALLING DOWN,
THE SKY IS
FALLING
DOWN!

BASIC PRINCIPLES

Benefit formula X Probability of benefit payment arising X CPI increases of date of payment X Cost of providing pension

Discounted back to valuation date

Summed over **ALL** benefits and **ALL** existing and former members and dependants

CHANGING THE ASSUMPTIONS

Actual cost of benefits will not be known until after all benefits paid

Assumptions estimate this cost, but do not change the actual cost

Changing assumptions

↓

Changes the estimate

FINANCIAL / OTHER ASSUMPTIONS

DISCOUNT RATE – WHAT DOES IT ACTUALLY MEAN?

£200k invested in 2015

Compound interest

10 years later	
5% p.a.	10% p.a.
£326k	£519k

Discounting is the same but the other way round

Need to invest	
5% p.a.	10% p.a.
£200k	£126k

We want £326k to pay benefits in 2025

Lower interest (discount) rate means higher sum needed now to get same amount in the future

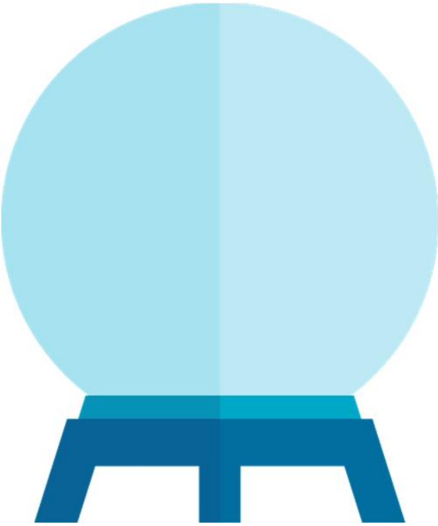
AN EXAMPLE- DISCOUNT RATE

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

AN EXAMPLE- DISCOUNT RATE

THREE SAVINGS SCHEMES ARE OFFERED:-

SCHEME 1 UNDER THE MATTRESS

Place £100 under the mattress 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 INVESTMENT MARKETS

Returning:
Money plus 100% with 50% chance

Money plus 60% with 30% chance

Money less 20% with 20% chance

THE EXPECTED RETURN OF THE THREE OPTIONS:-

SCHEME 1 UNDER THE MATTRESS

0%

SCHEME 2 BOND

40%

SCHEME 3 INVESTMENT MARKETS

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

64%

HOW MUCH DO YOU INVEST NOW?

SCHEME 1 UNDER THE MATTRESS	SCHEME 2 BOND	SCHEME 3 INVESTMENT MARKETS
£100	**£71.42**	**Expected return: £60.98?**

ASSUMPTIONS AND LIABILITY CALCULATIONS
INFLATION RATE

Market RPI inflation − Inflation Risk Premium / RPI/CPI differential = CPI inflation rate

Comments

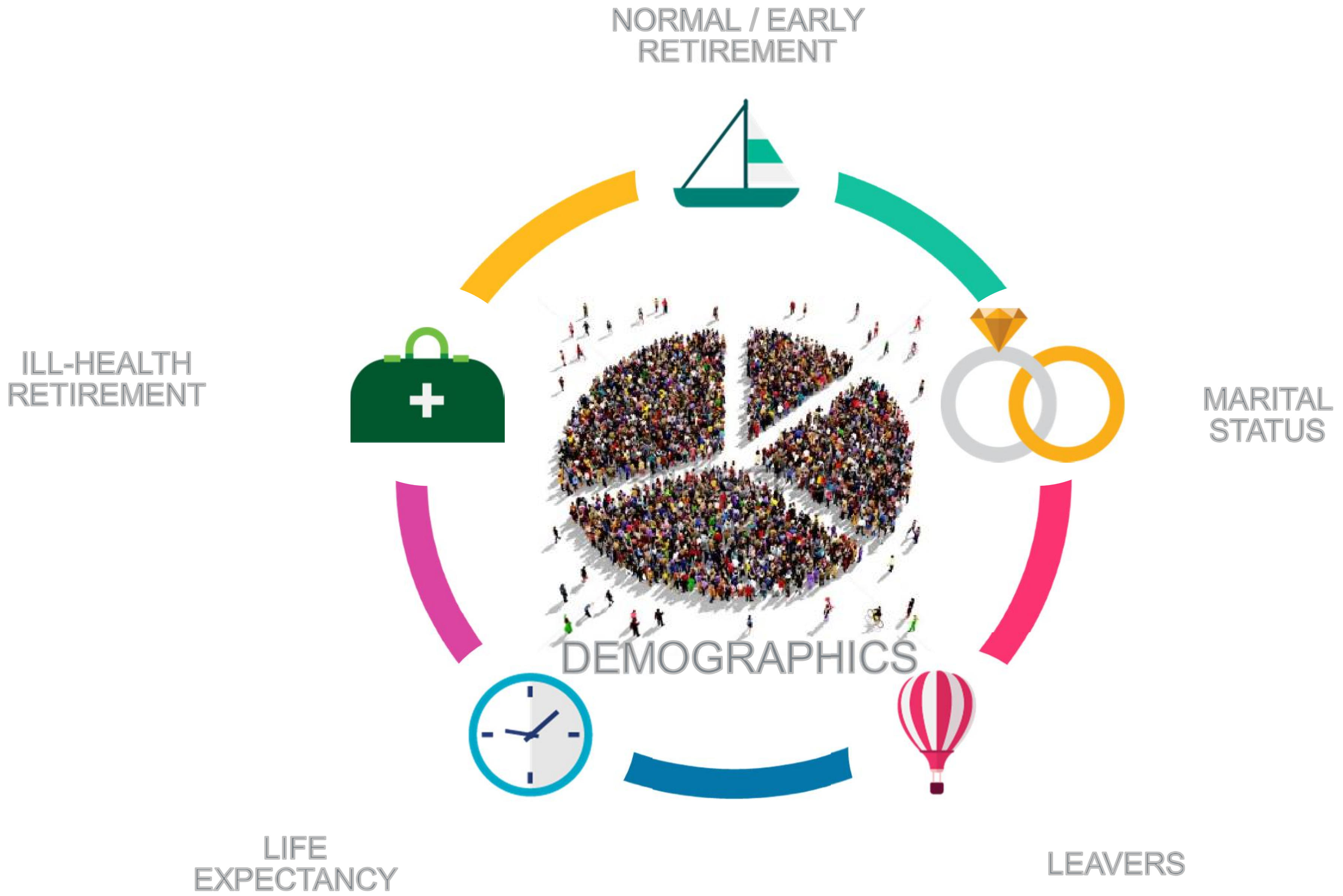
- **Market RPI inflation : derived from Government Bond nominal and real yields based on Scheme cashflows**
- **Combined effect might lead to difference of 0.7% - 1.2% below market implied RPI.**

DISCOUNT RATE/ASSET RETURN – OUR APPROACH

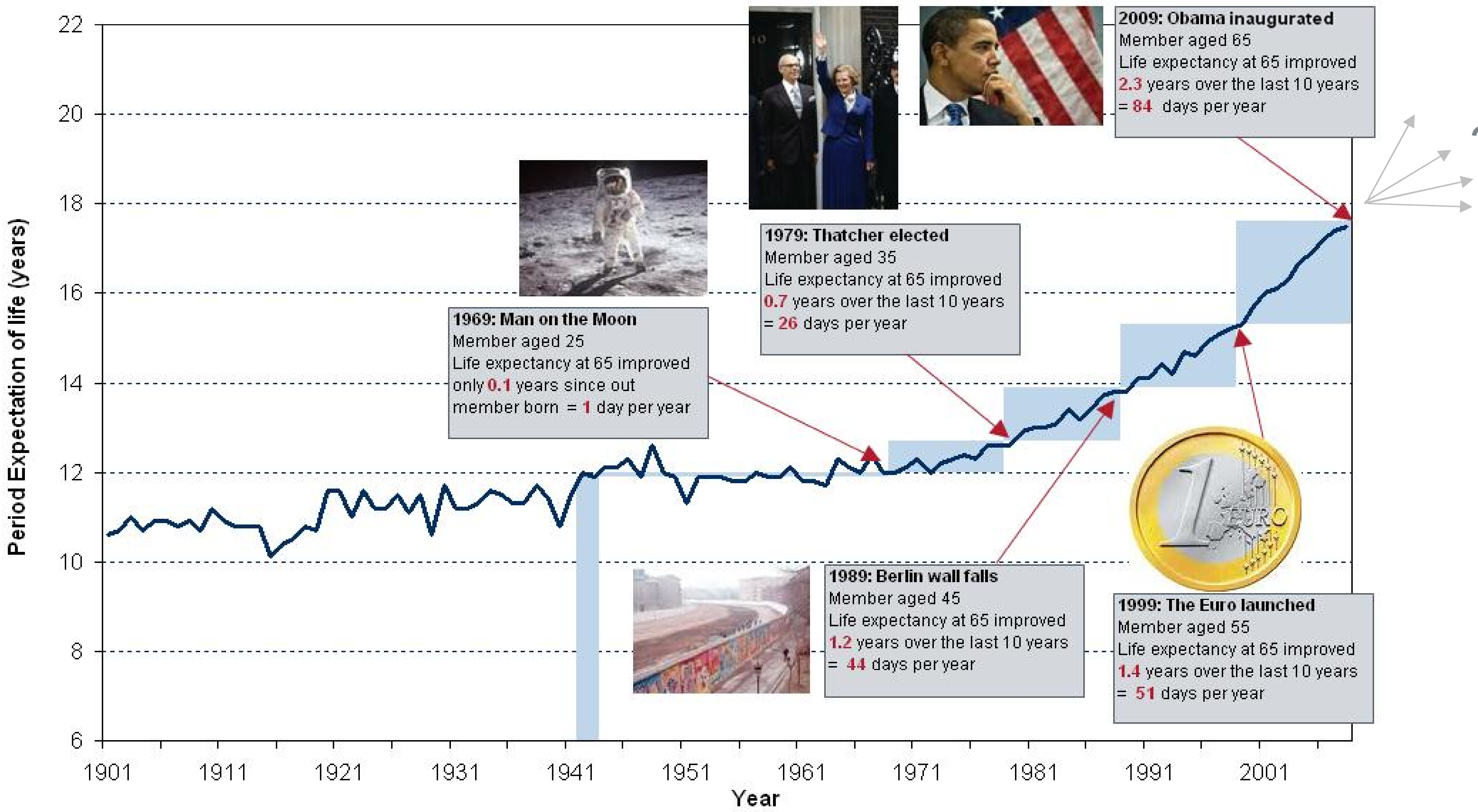
Comments

- **CPI Inflation: As per earlier slide**
- **Gilts: Currently yielding less than inflation, due to demand**
- **Other assets (property / equities): Expected to return above inflation**
- **Total expected real return: Could be around 2% to 3% above CPI, depending on assets held**

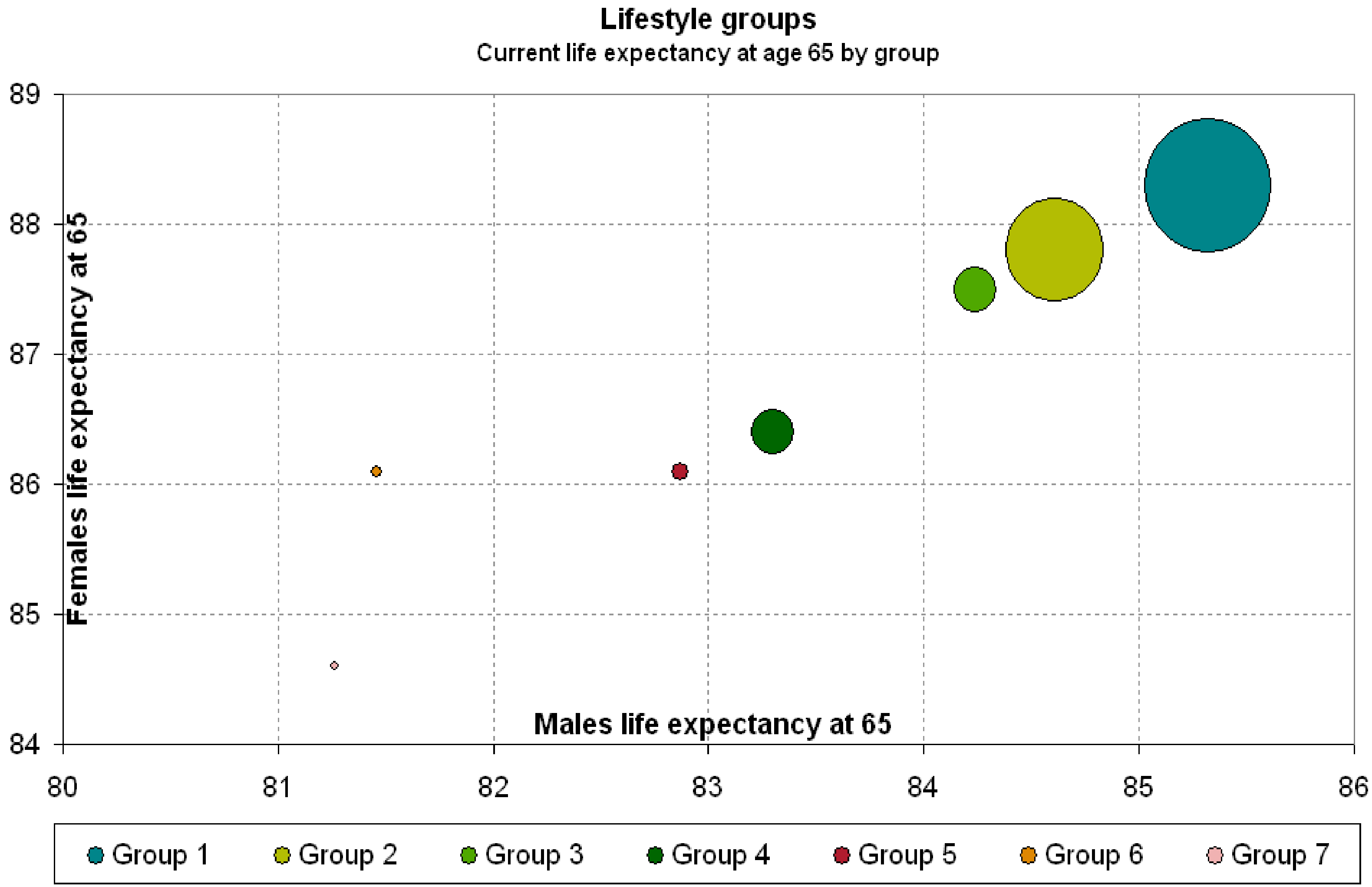
ASSUMPTIONS AND LIABILITY CALCULATIONS
DEMOGRAPHIC ASSUMPTIONS



PEOPLE ARE LIVING LONGER
PAST IMPROVEMENTS (MALES AGE 65)



ASSUMPTIONS AND LIABILITY CALCULATIONS
MORTALITY – FUND SPECIFIC POSTCODE ANALYSIS



There are around 1.8 million distinct postcodes in use in the United Kingdom, resulting in an average of around 15 houses per postcode.

ASSUMPTIONS AND LIABILITY CALCULATIONS
SENSITIVITY OF LIABILITY VALUE TO ASSUMPTION CHANGES

1% p.a. *increase* in assumption Starting liability **£10million**	Approximate Impact on *total* Fund liability value		
Discount rate / investment return	↓	20%	-£2.0million
Salary Increases	↑	5%	+£0.5million
Price Inflation (i.e. Pension Increases)	↑	18%	+£1.8million
1 year increase in life expectancy	↑	2-3%	+£0.25million

NET EFFECT IS KEY

FUNDING STRATEGY AND CONTRIBUTION REQUIREMENTS

FUNDING STRATEGY AND CONTRIBUTION REQUIREMENTS

What is the Funding Strategy?

Reg. 62(6)(b) "The actuary must have regard .... to the desirability of maintaining as nearly a ***constant common rate*** as possible".

Reg. 62(6)(d) "The actuary must have regard to the requirement to..... to ***secure the solvency of the Fund*** and the ***long term cost efficiency**** of the Scheme…"

* New for 2016 valuation

FUNDING STRATEGY AND CONTRIBUTION REQUIREMENTS

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 AND CONTRIBUTION REQUIREMENTS
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.

But ....

Ultimate responsibility rests with the Administering Authority.

FUNDING STRATEGY AND CONTRIBUTION REQUIREMENTS
ISSUES TO BE ADDRESSED IN FSS

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

FUNDING STRATEGY AND CONTRIBUTION REQUIREMENTS
DIFFERENT EMPLOYERS IN THE FUND

SCHEDULED BODIES

Councils,
Universities, Colleges
Fire / Police Authorities, etc.

ADMITTED BODIES

Outsourcing contractors
Charitable bodies
Housing associations, etc.

EMPLOYERS HAVE DIFFERENT **CHARACTERISTICS** AND **OBJECTIVES**

INDIVIDUAL EMPLOYERS
KEY DRIVERS OF CONTRIBUTION REQUIREMENTS AND RISK PROFILES

COUNCILS

- Affordability vs. Financial Health of Fund
- Long term tax raising bodies

COLLEGES / UNIVERSITIES

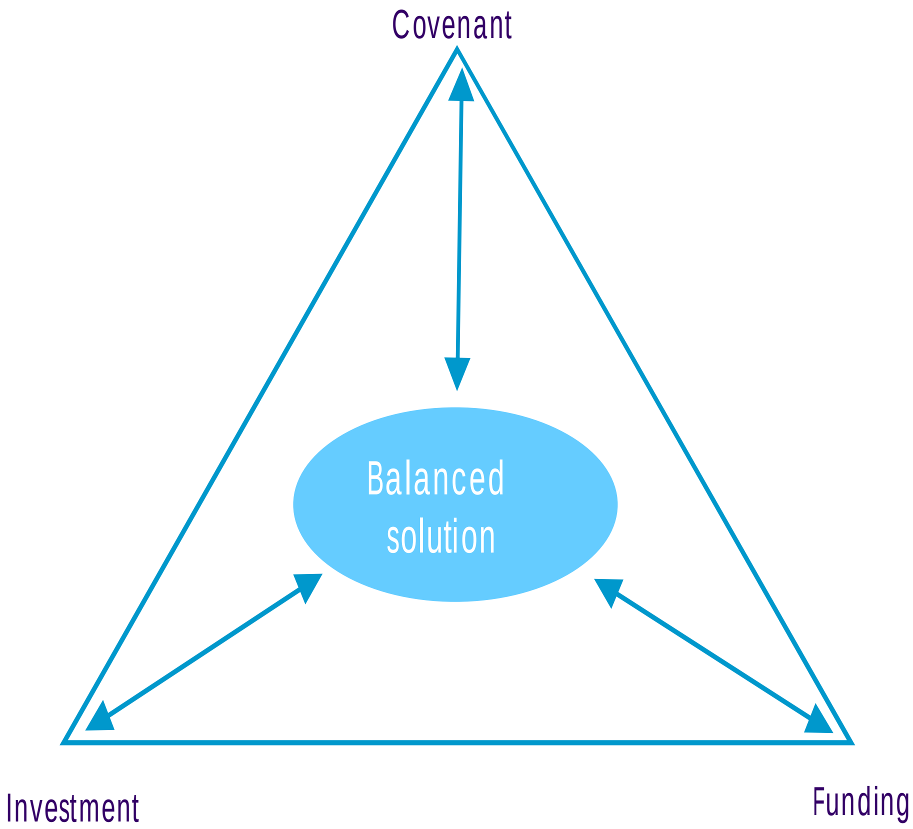
- Level of risk to the Fund? Income falling? Funding security?

TRANSFEREE ADMISSION BODIES

- Participation length?
- Councils retain long term risks so interested party

OTHER BODIES

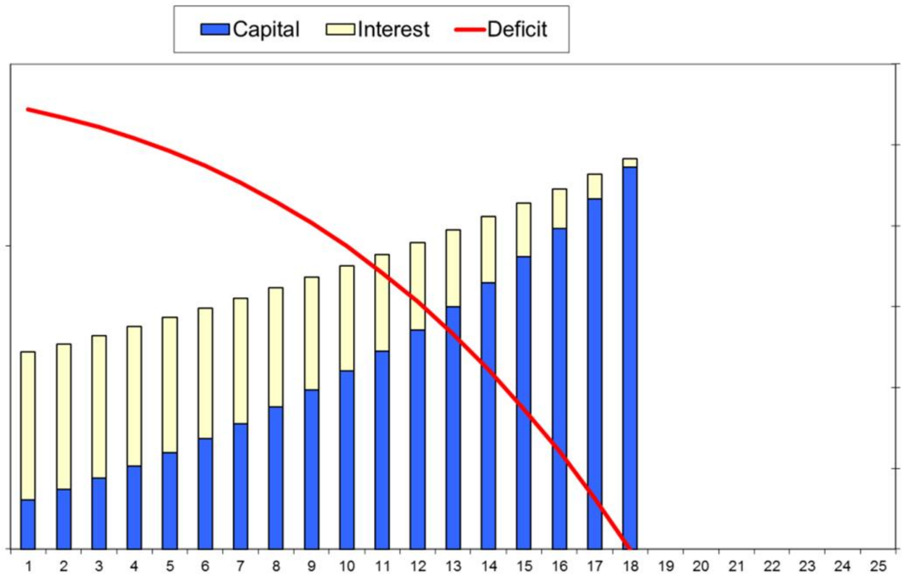
- Risk profile can be very diverse and sustainability concerns.
- Improved security backing liabilities will allow more flexibility



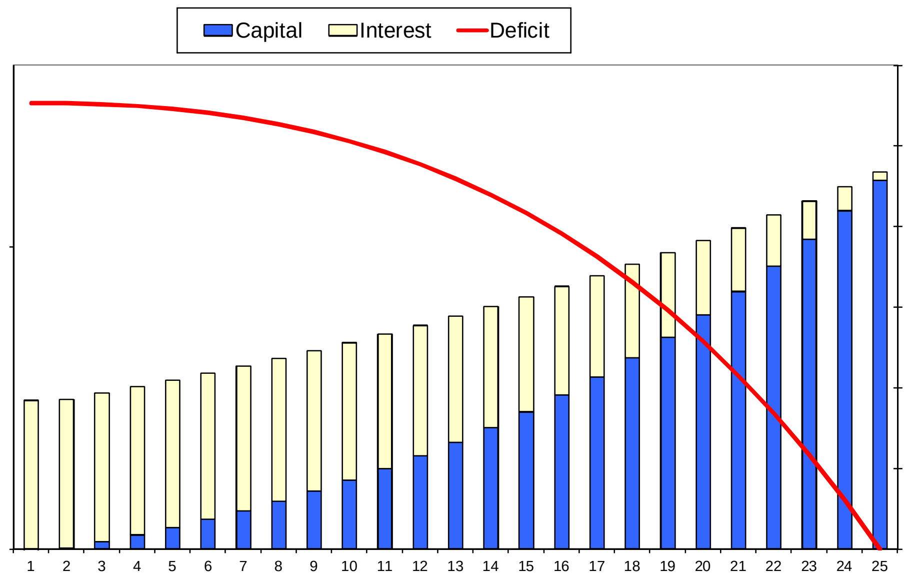
FUNDING STRATEGY AND CONTRIBUTION REQUIREMENTS

RECOVERY PERIOD

18 years



25 years



A key aspect of determining a deficit recover strategy is the recovery period. The longer the recovery period the more debt "interest" is payable.

FUNDING STRATEGY AND CONTRIBUTION REQUIREMENTS

EMPLOYER COVENANT - IMPLICATIONS FOR FUNDING AND INVESTMENT STRATEGY

Stronger covenant
Sponsoring employer *has* resources to support scheme under-funding and this is expected to continue

→ "Standard" funding target acceptable?

→ More aggressive investment strategy acceptable?

→ Deficit recovery plan? Based on affordability.

Weaker covenant
Sponsoring employer *does not have* significant resources to support scheme under-funding

→ Stronger funding target? Linked to termination policy?

→ Cautious investment strategy to reduce risk of funding level deterioration?

→ Employer cash flow constraints may necessitate a bespoke deficit recovery plan and/or additional security?

AND FINALLY…

MAKE
TOMORROW,
TODAY

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