

SURREY COUNTY COUNCIL

PENSION FUND COMMITTEE

DATE: 25 FEBRUARY 2016

LEAD OFFICER: SHEILA LITTLE, DIRECTOR OF FINANCE

SUBJECT: ACTUARIAL ASSUMPTIONS: 2016 VALUATION



SUMMARY OF ISSUE:

Members are required to have knowledge of the actuarial assumptions to be used in the next actuarial valuation of the Pension Fund as at 31 March 2016.

RECOMMENDATIONS:

It is recommended that:

- 1 The Pension Fund Committee note this report and approve a continuation of the current approach with regard to actuarial assumptions to be used by the actuary in the 2016 valuation.

REASON FOR RECOMMENDATIONS:

To comply with best actuarial valuation practice.

INTRODUCTION

- 1 In line with the Regulations, the Local Government Pension Scheme (LGPS) funds undergo an actuarial valuation every three years. The last triennial valuation of the LGPS assets and liabilities was as at 31 March 2013 and the next one will be as at 31st March 2016.
- 2 The Regulations require that an actuarial valuation should assess the liabilities of the benefits accrued and set the contribution rates required to fund any shortfall in assets and the ongoing cost of future service.
- 3 There is a variety of differing actuarial methodologies which underpin valuation assumptions. This paper explores the assumptions that are recommended be applied to the 2016 triennial valuation.
- 4 It is proposed that the following assumptions are used for the 2016 valuation:
 - Salary increases;
 - Pension increases;
 - Longevity;
 - Discount rate and Asset Outperformance Assumption (AOA).

DETAILS:**Salary Increases**

- 5 The change to the accumulation of member pension benefits from a final salary to a career average revaluated earnings (CARE) basis will gradually reduce the importance of the salary increase assumption as member benefits will be tied to consumer prices index (CPI) inflation rather than to final salary.
- 6 The majority of liabilities accrued to date, however, are still final salary linked benefits and, given significant accrued final salary service and built in protections as part of LGPS 2014, the final salary assumption remains of long term significance.
- 7 In the past two valuations, the Fund has used the market derived inflation retail prices index (RPI) value plus an additional percentage to establish a long term estimate of salary increases. RPI is calculated as the difference between the yield on long dated fixed interest gilts and long dated index-linked gilts.

Valuation	Methodology	Salary Increase Assumption
31 March 2010	RPI + 1.5%	5.3%
31 March 2013	RPI + 1.0%	3.8%

Pension Increases

- 8 Annual pension increases and CARE increases are determined by consumer price index (CPI) inflation. To establish a long term CPI assumption, the actuary uses a market expectation for RPI and applies a discount based upon the historical deviation between RPI and CPI.

Valuation	Methodology	Pension Increase
31 March 2010	RPI - 0.5%	3.3%
31 March 2013	RPI - 0.8%	2.5%

- 9 The variance between the two measures of inflation has widened with the actuary predicting a difference of 0.9-1.0%.

Longevity

- 10 The assumption regarding improvements in longevity are based upon latest industry standards and information derived from the Fund's membership of Club Vita (provided by the Fund actuary), such as observed mortality rates.
- 11 The longevity assumption is predicated upon the idea that the very strong improvements in life expectancy observed amongst those born in the 1930s will start to tail off, resulting in less rapid increases in longevity for subsequent generations.
- 12 The expectation is that for the longer term, longevity improvements will stabilise at one additional year for every decade.

Assumed Life Expectancy at 65	Actives		Pensioners	
	Male	Female	Male	Female
31 March 2010	23.9	25.9	21.9	23.6
31 March 2013	24.5	26.9	22.5	24.6

Discount Rate and Asset Outperformance Assumption (AOA)

- 13 The discount rate is used to place a current valuation on the Fund's future pensions promises and is a proxy for the investment return that the Fund expects to achieve on its assets.
- 14 In valuing the liabilities, the scheme actuary is required to apply a suitable discount factor to future net cash outflows to define a current value of the fund's liabilities. This enables the surplus or deficit on past service obligations to be identified so that any shortfalls are attributed to the relevant employers. There are a number of ways in which this can be done, but the three most appropriate methods are a gilts plus basis, inflation plus basis and the economic model basis.
- 15 For the purpose of the 2016 valuation, the two models being considered are the gilts plus and inflation (CPI) plus models. The economic model may become more relevant when the Fund next retenders the actuarial contract in 2017.
- 16 The choice between gilts plus and CPI plus models is important because it can drive the Fund's investment strategy. In theory, a pension fund's investment strategy should seek to generate the most efficient possible return relative to the scheme's liability risks.
- 17 The basis on which the liabilities are currently valued defines the minimum possible risk (a UK gilt is regarded as a risk free rate), so it can be seen as the starting point for strategic asset allocation decisions.

The Gilts plus model

- 18 The gilts plus model uses the yield on index-linked gilts with maturity similar to the average duration of the scheme's liabilities: in the case of the LGPS, it is about 20 years. For this reason, it can be argued that the gilts valuation method most closely matches the replacement value of pension liabilities.
- 19 The Fund's investment strategy invests in a much broader range of assets in the expectation that it will generate long term returns well above index-linked gilts.
- 20 As referred to earlier in this report, the actuary will assess AOA when determining the appropriate discount rate, but will express this as an 'index-linked gilt yield plus x%'. Since the 2004 valuation, the Fund has adopted a AOA of 1.6% per annum.

- 21 Although a gilts plus valuation basis can appear mechanistic, there is still a large element of judgment in how it is applied. The date on which the index-linked gilt yield is calculated is a single point in time (usually the close of business on the valuation date) or smoothed over a period of months. More importantly, the AOA can vary depending on the actuarial model used to assess future investment returns and the extent that expected out performance is prudently rebased.
- 22 It should be noted that, whilst a gilts plus assumption is currently used for measuring the funding position of the whole Fund, best estimate “stabilisation” assumptions are adopted for the purposes of determining contributions for the tax-raising bodies; which represent the majority of the liabilities within the Fund.
- 23 In accordance with the employer risk strategy, it is proposed that contribution rates for all employers will be managed via this “risk-based” and stabilised approach in the 2016 valuation. This will allow stable, affordable contributions to be set, based on economic assumptions and allowing for the appropriate time horizon for each employer. This approach has the effect of mitigating contribution rate volatility, sometimes attributed to a gilt plus approach.

Criticism of the Gilts plus model

- 24 The last ten years have highlighted a potential problem with the gilts plus basis for valuing assets. This is the implicit assumption it makes that the index-linked gilt yield accurately reflects investor expectations about the future.
- 25 Current demand for index-linked gilts has increased significantly and far outstrips the available supply. This has create a mismatch between index-linked gilt issuance and long-term investor demand and, as a result, the long-dated index-linked gilt market now has limited liquidity with yields well below historic levels.
- 26 The attraction of a gilts plus basis for valuing liabilities is that it is based on a market traded asset and should therefore reflect rational investor expectations for a risk free asset. Market distortions, such as liquidity or technical bias, have made this less appropriate, hence reducing the appropriateness of this model.
- 27 A gilts plus model can result in volatility when valuing Fund liabilities. However, this can be mitigated when a Fund wide stabilisation approach is adopted.

The CPI plus model

- 28 CPI inflation is one of the key drivers of the cash cost of LGPS pension payments, so a pension fund’s strategic asset allocation should be seeking to generate positive real returns over time. An inflation based valuation in effect assumes the scheme will be able to achieve this

- 29 The CPI plus model is intended to represent the growth in UK Gross Domestic Product (GDP).
- 30 The Government Actuary Department (GAD) use CPI plus to value liabilities for their cost management valuations (currently CPI plus 3%). This model was originally intended for valuing the liabilities of the unfunded public sector schemes as government revenue, inherently linked to UK GDP growth, would be used to meet ongoing pension payments.
- 31 Like the gilts plus model, the actuary will apply an AOA when determining the appropriate discount rate in the CPI plus model. This will be expressed as 'CPI plus x%'.

Criticism of the CPI plus model

- 32 While the CPI plus model is intended to track UK GDP growth, this does not match the Fund's investment strategy, which has a large weighting of overseas assets.
- 33 Inflation measures can be quite volatile in the short term. If actual inflation is to be used, judgment will be required to determine a suitable smoothing mechanism. For example, at each triennial valuation, it may be possible to use average inflation over the previous three years.
- 34 Actual CPI is a backwards-looking indicator, whereas the liabilities being valued are many years into the future. It may be possible to use a prospective inflation yardstick, such as the difference in yield between index-linked and nominal gilts. However, this would also be distorted by the imbalances between supply and demand referred to earlier. Alternatively, the actuary could assume the Bank of England's CPI target rate of 2% per annum. However, this assumes both that the Bank of England will continue to set an explicit target and that it will be successful in achieving it, something that has fluctuated over the last decade.

The Economic model

- 35 Although not directly relevant to the 2016 valuation, the economic model is worthy of greater scrutiny for the future. The economic model of valuing liabilities is not correlated to gilt yields or inflation measures. The hypothesis of this approach is that liabilities and assets do not move with gilts or inflation but, rather, with underlying market conditions and equity returns.
- 36 The economic model discount rate is most closely matched to dividend yield plus a combination of economic growth, dividend growth and capital returns.
- 37 Economic model advocates argue that the AOA changes in line with market conditions and the discount rate more closely reflect the expected return to be achieved from the Fund's investment strategy.

Criticism of the economic model

- 38 The economic model methodology has been criticised for being too opaque and not sufficiently prudent.

Comparing the Gilts plus and CPI plus models

- 39 A CPI plus valuation ultimately faces the same challenge as gilts plus valuation method: a significant degree of judgment is required to set a suitable premium on top of the 'risk-free' valuation base used.
- 40 The biggest difference between the two approaches is that the gilts plus basis has an implied minimum risk strategic asset allocation (a pension fund could invest wholly in index-linked gilts with a duration that matched its liabilities). This minimum risk strategy is helpful in enabling actuarial models to calibrate liability risks with regard to specific employers. Hymans utilise this approach with regard to the various risk factors inherent along the employer spectrum.
- 41 By contrast, there is no equivalent minimum risk strategy for a CPI plus based liability valuation. A strategy wholly invested in long-dated index-linked gilts would provide significant protection against long-term inflation, but the value of the assets (the market price of the index-linked gilts) would not move in line with inflation in the shorter term, so there would still be scope for meaningful volatility in the funding level.
- 42 The gilts plus valuation methodology is widely used by corporate pension funds. This is understandable because many funds are closed to new members and are seeking an eventual 'buy-out' to transfer the legacy pension risk to an insurance company, effectively by buying annuities. The terms of buy-out transactions are based on gilt yields, so it is entirely rational for a pension fund on a de-risking flight path to use the same approach. This is less relevant for LGPS funds that remain open to new members and have liabilities valued on an ongoing basis, but it is entirely appropriate for valuing cessation debt. Indeed, all actuarial firms calculate cessation debt on a gilts basis, irrespective of their ongoing valuation methodologies.

Implications for strategic asset allocation

- 43 The gilts plus valuation methodology encourages but does not necessitate investment in liability matching assets, such as index-linked gilts as part of a leveraged strategy.
- 44 A CPI plus valuation methodology, by contrast, may favour a range of asset types that offer long-term inflation protection, including long-dated index-linked gilts.
- 45 In this context, it is worth noting that the current strategic asset allocation for the Surrey Pension Fund has very little explicit liability hedging on either valuation basis. The emphasis on riskier equity assets to generate higher long-term returns means that the funding level will be volatile on whichever basis is used.

Recommended approach

- 46 With the stabilisation approach that the Fund currently utilises, the argument to change the discount rate methodology to reduce employer contribution rate volatility is less compelling.

- 47 The existing approach of setting contribution rates through modelling potential economic scenarios rather than adopting a single set of assumptions provides a robust framework for setting stable employer contributions.
- 48 This allows the Fund to set stable and affordable contributions appropriate to employer circumstances, and assess the likelihood of meeting its objectives within an appropriate time horizon within the existing gilts plus framework.
- 49 A prudent discount rate is determined more by the AOA than either an artificially low gilt yield or inflation measure. A discount rate that more suitably reflects the the 'risk-free' return within the wider context of the investment strategy of the Fund is produced by reference to the AOA without significant bias to a gilts plus or CPI plus methodology.
- 50 For these reasons it is recommended that the Fund continues to use the gilts plus approach in the 2016 valuation.

CONSULTATION:

- 51 The Chairman of the Pension Fund Committee has been consulted with regard to the methodology used for the 2016 actuarial valuation

RISK MANAGEMENT AND IMPLICATIONS:

- 52 There are no risk related issues contained within the report.

FINANCIAL AND VALUE FOR MONEY IMPLICATIONS

- 53 There are no financial and value for money implications.

SECTION 151 (DIRECTOR OF FINANCE) COMMENTARY

- 54 The Section 151 (Director of Finance) is satisfied that the recommended actuarial methodology is an appropriate and prudent mechanism for valuing the liabilities of the Fund.

LEGAL IMPLICATIONS – MONITORING OFFICER

- 55 There are no legal implications or legislative requirements associated with this report.

EQUALITIES AND DIVERSITY

- 56 The reporting of such information will not require an equality analysis, as the initiative is not a major policy, project or function being created or changed.

OTHER IMPLICATIONS

- 57 There are no potential implications for council priorities and policy areas.

WHAT HAPPENS NEXT

58 The following next steps are planned:

- Officer will continue to work with the actuary to prepare for the 2016 actuarial valuation.
- Following the valuation date (31 March 2016) the Committee will receive a report containing the final proposed actuarial assumptions to be used in the valuation.

Contact Officer:

Phil Triggs, Strategic Finance Manager (Pension Fund and Treasury)

Consulted:

Pension Fund Committee Chairman.

Annexes: None

Sources/background papers:
