



**BARNETT
WADDINGHAM**
beyond the expected

Lincolnshire Pension Fund

Actuarial valuation as at 31 March 2022

Proposed assumptions

Barnett Waddingham LLP
16 June 2022



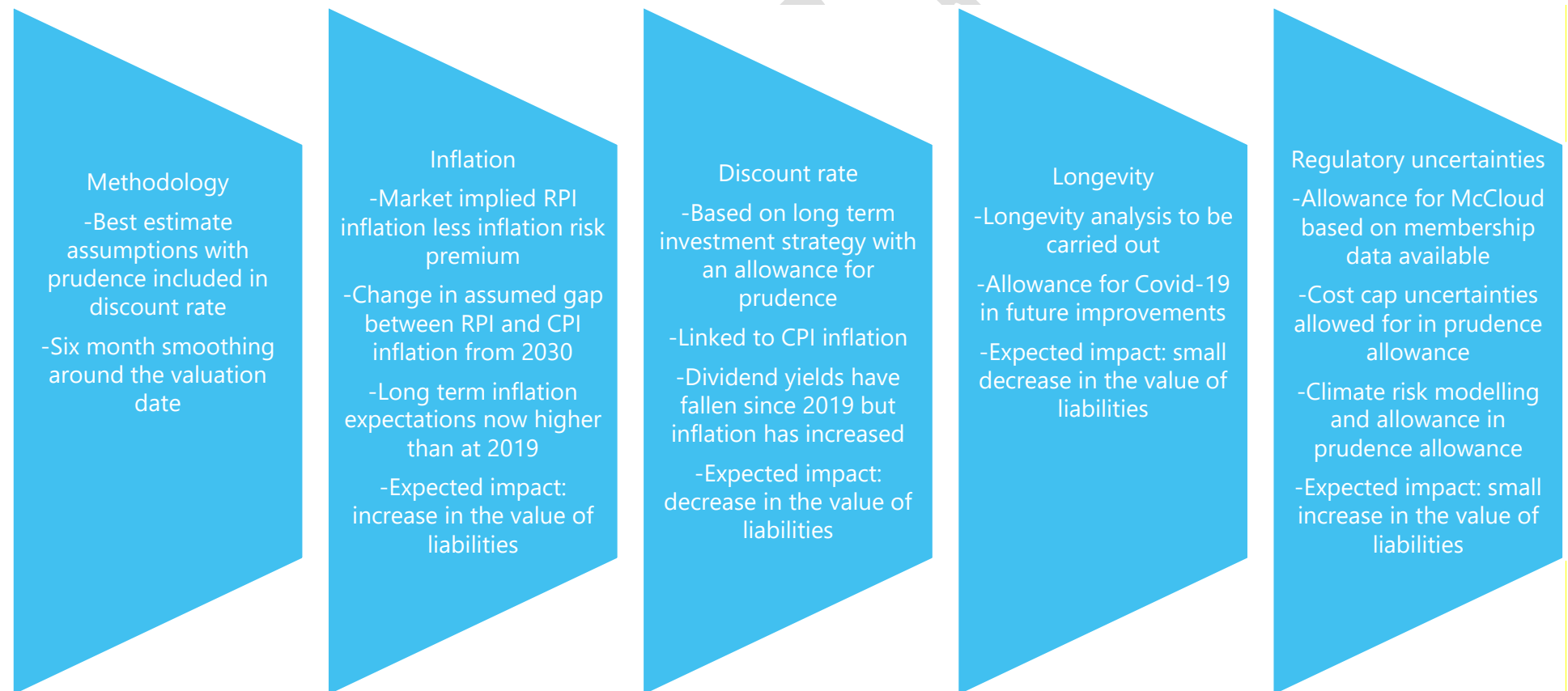
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Executive Summary

The purpose of this paper is to set out our proposed approach to the 2022 valuation for the Lincolnshire Pension Fund (the Fund) and provide illustrative assumptions based on current market conditions up to 30 May 2022. The assumptions are therefore subject to change. The final assumptions will reflect the average market position over the period from 1 January 2022 to 30 June 2022. The final assumptions used will be agreed with the administering authority and will be consistent with the Fund's Funding Strategy Statement.



There is likely to be a range of assumptions that are acceptable to both the Fund and us as the Fund actuary. Once all information is available, we will carry out further testing of the suitability of the proposed assumptions and discuss the implications with the Fund before agreeing the final assumptions to use.

Indicative assumptions

A summary of our indicative proposed assumptions (based on market conditions up to 30 May 2022) together with those used at the previous valuation are set out below:

Assumption	Indicative assumptions for the 2022 valuation 31 March 2022	Assumptions used for the 2019 valuation 31 March 2019
CPI inflation	2.9% p.a.	2.3% p.a.
Discount rate	4.4% p.a.	4.0% p.a.
Post-retirement mortality		
Base table	S3 tables	Club Vita
Male/female multipliers	TBC	Club Vita
CMI model and long-term rate	TBC	CMI 2018, 1.25% p.a.
Smoothing parameter	TBC	7.0
Initial addition to improvement	TBC	0.5% p.a. for males, 0.25% p.a. for females
2020/21 weighting parameter	TBC	n/a
Retirement assumption	Weighted average	In line with 2016 LGPS cost cap valuation
Transfer out assumption	None	None
Pre-retirement decrements	GAD 2016 scheme valuation (no salary scale and 50% multiplier to ill-health retirement)	Varied
50:50 assumption	Member data	1% of members
Commutation	50% of max	50% of max for pre-2008 service, 75% of max for post-2008 service
Family statistics		
% with qualifying dependant	75% (M), 70% (F)	Varied
Age difference	3 years	3 years

Valuation methodology

To value the Fund's liabilities and calculate the contribution rates required, we need to project the Fund's benefit payments into the future and then discount these payments back to the valuation date.

To do this we are required to make a number of assumptions about the factors affecting the Fund's future finances. We can consider these assumptions as:

- **Financial assumptions.** These determine the estimates of the *amount* of benefits and contributions payable as well as their current or present value. This includes inflation, salary increases and investment returns (also referred to as the discount rate).
- **Statistical assumptions.** These generally provide estimates of the *likelihood* of benefits and contributions being paid. This includes the rates of mortality, early retirement and staff turnover.

The assumptions are set based on a combination of market-related statistics, historical averages and judgement (e.g. future salary increases). When looking at a market yield curve we generally take the 20-year point on that curve to be consistent with the average duration of an LGPS fund's liabilities.

The base market statistics are smoothed around the valuation date and reflect the average position over the period from 1 January 2022 to 30 June 2022. The assets are also smoothed in a consistent way. The smoothing mechanism is used to help with the objective of setting reasonably stable contribution rates.

With the exception of the discount rate, all assumptions reflect our best estimate of the outlook for the Fund. We include an explicit prudence allowance in the discount rate which means that it is more likely than not that contributions will be sufficient to meet benefit promises.

My advice on the assumptions to use for the funding valuation at 31 March 2022 is set out in the following paragraphs.

Section 13

Following the funding valuation, a "Section 13" report (prepared under Section 13 of the Public Service Pensions Act 2013) will be prepared to report on whether the following aims are achieved: compliance, consistency, solvency and long-term cost efficiency, and to identify any funds that cause concerns.

The Section 13 report covering the previous valuation was published on 16 December 2021 [here](#). The report sets out several general recommendations which we have taken into consideration when preparing our assumptions advice. Individually, the Fund achieved green flags in respect of the measures assessed.

Financial assumptions

Increases to benefits

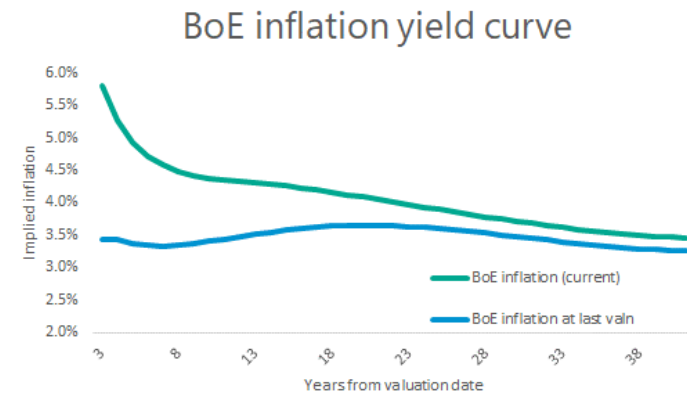
In the LGPS, active CARE revaluation, deferred revaluation and pensions in payment increase in line with Consumer Prices Index (CPI) inflation. The likely level of future inflation therefore needs to be considered. As there is currently no reliable market-derived measure for CPI inflation, we set our assumption with reference to the Retail Prices Index (RPI) inflation assumption.

Retail Prices Index inflation

A 'market view' of future RPI inflation can be obtained by looking at the difference between the yields on fixed-interest and index-linked gilts. The chart to the right shows how this has changed since the previous valuation, based on the Bank of England implied Retail Price Index (RPI) inflation curve. As can be seen, market-implied inflation is now higher than it was at the previous valuation date at all terms.

Allowing for the shape of the yield curve

Our current approach is to take the 20-year point on the curve and use this single inflation rate to project all cashflows into the future. Alternatively, a 'yield curve approach' could be adopted which would involve projecting the anticipated cashflows using a different future inflation assumption in each year. However, because of the way the yield curve was shaped in 2019, and has been shaped historically, these two approaches would usually result in a relatively similar answer.



The change in shape of the curve at recent dates means that using the 20-year point would now lead to higher inflation than the yield curve approach.

On balance, for simplicity, we believe it is reasonable to continue to use a single assumption for inflation. However, we propose to make a deduction to the 20-year yield to allow for the varying shape of the curve. Based on market conditions at 30 May 2022 we believe a deduction of 0.3% p.a. would be reasonable, however, we will review this deduction once final market conditions at the valuation date are available.

Change to RPI from 2030

The way RPI is calculated is due to change from 2030, to align it with the Consumer Prices Index including owner occupiers' housing costs (CPIH). The Bank of England has suggested that increases in CPIH would likely be around 1% p.a. lower than RPI and this is consistent with our analysis, although any effect will vary from year to year. It is therefore anticipated that RPI will now be lower than previously assumed for periods after 2030.

This is not necessarily reflected in the graph above, however, there are further theoretical reasons that suggest the market view of inflation is overstated across the full yield curve which we have considered further below.

Inflation risk premium

Investors are thought to be willing to pay a premium for inflation-linked products to provide protection against unexpected inflation. We therefore propose including an inflation risk premium such that our assumed level of future RPI inflation is lower than that implied by the market. There is a relative degree of subjectivity in setting this value and we will make a final assessment once final market conditions are available. We are currently proposing to incorporate an inflation risk premium of 0.4% p.a. based on market conditions as at 30 May 2022.

Proposed RPI inflation assumption



Based on market conditions up to 30 May 2022, and allowing for an inflation risk premium of 0.4% p.a. at that date, our illustrative RPI inflation assumption for the 2022 valuation is **3.3% p.a.**

This compares to an RPI inflation assumption of 3.3% p.a. at the previous valuation.

Consumer Prices Index (CPI) inflation

Historically, CPI inflation has been lower on average than RPI inflation, primarily due to the 'formula effect', which occurs because of CPI being calculated using a different statistical method compared to RPI.

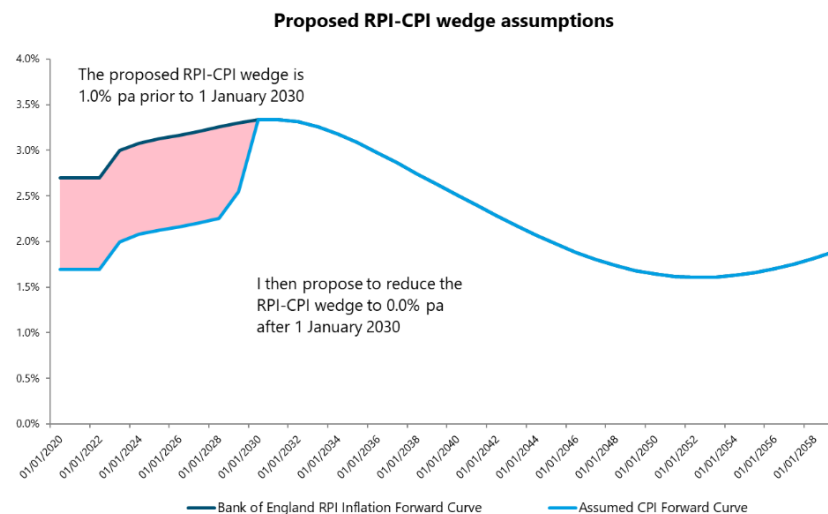
Based on a decomposition by the Office for National Statistics (ONS) of recent differences between the two indices, we believe that the formula effect is likely to cause CPI inflation to be around 1.0% p.a. lower than RPI inflation (based on the current RPI method). This is the same as the assumed gap between RPI and CPI for the previous valuation.

Impact of change to RPI from 2030

As mentioned above, the RPI is due to be aligned with the CPIH from 2030. Given the similarities between CPI and CPIH, this is likely to make the difference between RPI and CPI inflation negligible from 2030. We therefore propose that the RPI-CPI gap is assumed to be nil from 2030.

This change in derivation from 2030 is illustrated by the chart to the right.

The average difference between RPI and CPI inflation over the term of the Fund's liabilities is 0.35% p.a. at the valuation date. We believe this is a reasonable estimate for the future differences in the indices at the valuation date. This gap will narrow as we approach 1 January 2030.



Proposed CPI inflation assumption



Based on market conditions up to 30 May 2022, our illustrative CPI inflation assumption for the 2022 valuation is **2.9% p.a.**

This compares to a CPI inflation assumption of 2.3% p.a. at the previous valuation.

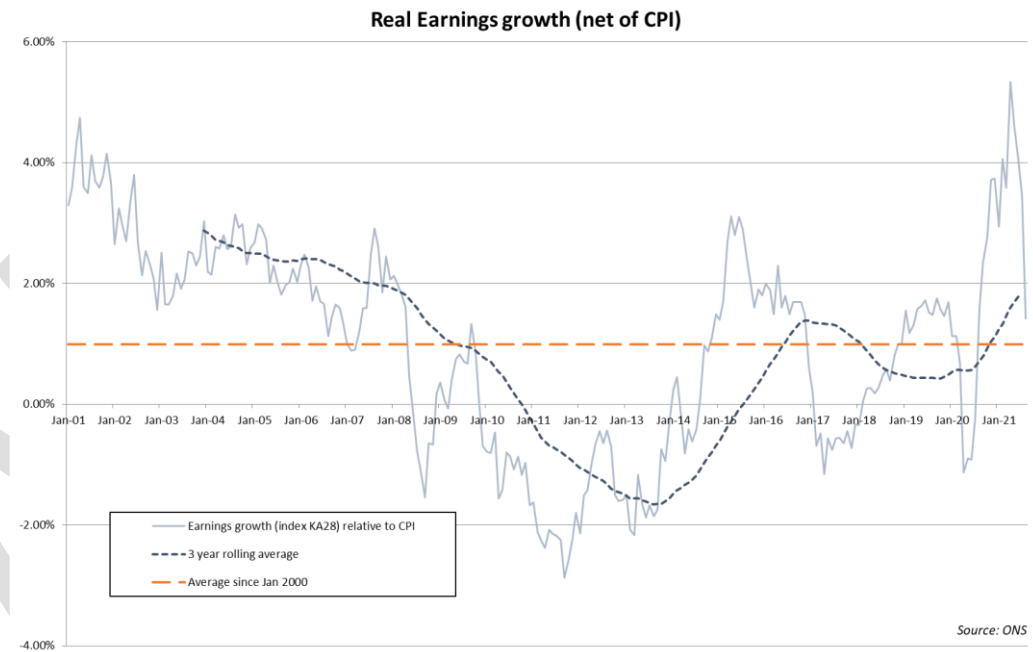
Salary increases

Prior to 1 April 2014, the LGPS was a final salary scheme and benefits earned before this date increase in line with salary increases, rather than CPI inflation. Overall, the significance of the salary increase assumption has decreased as less benefits are now linked to salary increases, although the likely remedy to address the age discrimination issues relating to McCloud needs to be considered.

As new benefits accrued increase in line with CPI inflation, the primary rate is largely unaffected by the salary increase assumption.

The chart to the right shows past UK earnings growth reflected in the ONS's Average Weekly Earnings (AWE) statistics (which reflect both inflationary and promotional increases).

Earnings growth has typically been relatively volatile, especially over short time periods. It has historically been more stable in real terms although we can see from the chart that there is still significant volatility over the last 20 years. Since January 2000 the overall average rate has been around 1.0% p.a. above CPI inflation.



Earnings growth

We would propose this as a reasonable starting point for estimating long-term future earnings growth.

Proposed salary increase assumption



Based on recent market conditions we believe a salary increase assumption of **CPI inflation plus 1.0% p.a.** would be appropriate for the 2022 valuation. This reflects both inflationary and promotional increases.

At the 2019 valuation, a salary increase assumption of CPI inflation plus 0.3% p.a. was adopted in addition to a separate promotional salary scale which varied by age. The expected impact of the overall change is a small increase in liabilities.

Guaranteed Minimum Pension (GMP) equalisation and indexation

On 23 March 2021, the Government published the outcome to its GMP Indexation consultation, concluding that all public service pension schemes, including the LGPS, will be directed to provide full indexation to members with a GMP reaching State Pension Age (SPA) beyond 5 April 2021. This is a permanent extension of the 'interim solution' that has applied to members with a GMP reaching SPA on or after 6 April 2016. Details of the consultation outcome can be found [here](#).

At the previous valuation it was assumed that the Fund will pay limited increases for members that have reached SPA by 6 April 2016, with the Government providing the remainder of the inflationary increase. For members that reach SPA after this date, it was assumed that the Fund will be required to pay the entire inflationary increase. Therefore, the previous assumption is consistent with the consultation outcome. We, therefore, do not intend to make any changes to this assumption for the 2022 valuation.

Discount rate

To determine the value of accrued liabilities and future contribution requirements at any given point in time it is necessary to discount future payments to and from the Fund. Different approaches can be taken to derive the discount rate; however, we believe it is appropriate to consider a neutral estimate of the investment return for each broad asset class in the Fund's long-term investment strategy, then combine these and make an overall explicit adjustment for expenses and prudence. Our approach is what could be called a "best-estimate minus" approach.

A breakdown of our indicative discount rate assumption for the Fund is set out in the table below. This is based on market conditions up to 30 May 2022 and the Fund's long-term strategic benchmark allocation as set out in the Investment Strategy Statement dated March 2022. Further details of our proposed derivation for the neutral returns for each asset class and the expenses adjustment are set out in the Appendices. The prudence allowance is discussed further on the following page.

Asset class	Strategic asset allocation	Derivation of neutral expected return	Assumption (p.a.) based on market conditions up to 30 May 2022
Gilts	5.0%	Gilt yields	1.8%
Other bonds	7.5%	Gilts + 90% credit spread	2.7%
Cash/temporary investments	1.0%	20-year ML UK (Swap) Spot-Semi yield	1.4%
Public Equities	55.0%	Dividend yield + CPI + real capital growth	6.9%
Property	10.0%	CPI + 4.0%	6.9%
Infrastructure	2.5%	CPI + 3.0%	5.9%
Absolute return fund – cash plus 3.8% p.a.	19.0%	Cash + 3.8% p.a.	5.2%
Less expenses			0.2%
Neutral return			5.7%
Less prudence allowance			1.3%
Prudent discount rate assumption			4.4% p.a. (i.e. CPI + 1.5%)



At the previous valuation, the discount rate was 4.0% p.a. (i.e. 1.7% p.a. above CPI inflation at the time). The net discount rate is therefore now lower than it was at the last valuation which will, all else being equal, place a higher value on the liabilities.

Allowance for prudence

Based on the methodology described above, our investment return assumptions would result in a neutral estimate – in other words assumptions that produce returns that are not overly pessimistic nor optimistic. Where there is greater uncertainty in a particular assumption, such as the discount rate, the recommended assumption should include a margin for prudence. We feel that it is appropriate to include a prudence margin into the discount rate assumption to reflect this uncertainty.

However, making significant deductions to the discount rate assumption might lead to an unduly pessimistic discount rate which can cause issues for individual employers through contributions becoming unaffordable, so an appropriate balance needs to be found.

Ultimately, the adjustment to allow for prudence is a subjective one, having considered:

- Views on the ability of employers to pay more later if required (the employer covenant)
- Attitude to risk and risk appetite of the administering authority
- Levels of volatility in the assumed asset returns
- Views on the risks and opportunities associated with climate change
- Consistency of the prudence margin with the previous valuation
- The potential impact of Regulatory uncertainties.

Further information relating to climate change risks and current regulatory uncertainties can be found in the Appendices.



On balance, for the purpose of these illustrative assumptions, we have assumed a prudence allowance of **1.3% p.a.** at 31 March 2022.

The funding basis at the previous valuation was based on a different “gilts plus” methodology and so the two approaches are not directly comparable, however the overall level of prudence is at a slightly higher level than at the last valuation.

Section 13 considerations

The discount rate in real terms should also be considered in light of the SAB standardised comparative basis and estimate of the basis that will be used for the Section 13 valuation. The discount rate used to provide results to the SAB on a standardised set of assumptions has not been confirmed, but we suspect it will be equal to the “SCAPE” rate used for unfunded schemes which is currently CPI plus 2.4% p.a. The outcome of a recent consultation of the methodology underlying the SCAPE rate is still awaited.

The proposed discount rate of CPI plus 1.5% p.a. is therefore likely to be within acceptable bounds for GAD’s analysis.

Statistical assumptions

The key demographic assumption required for determining the pension liabilities is the post-retirement mortality assumption. However, we also need to consider the retirement age assumptions as well as pre-retirement assumptions such as withdrawals and transfers out. As previously mentioned, we propose to incorporate all margins for prudence in the discount rate assumption and therefore the assumptions detailed in this section are “best-estimate” assumptions.

Post-retirement mortality

The Fund should review their post-retirement mortality assumptions at each valuation, taking into account all available evidence, to ensure they remain appropriate for the Fund.

There are two aspects to consider in determining appropriate post-retirement mortality assumptions:

- **The base table.** Choosing an appropriate mortality assumption applicable today taking into account characteristics of the Fund members.
- **Future improvements.** Making an appropriate allowance for mortality to improve in future.

Our specialist longevity team will be carrying out a full analysis of longevity experience of the Fund, including the consideration of any adjustments required due to the coronavirus pandemic. The precise base tables and future improvement assumptions will therefore be confirmed later.

Retirement ages

Members can be subject to multiple retirement age regimes in the LGPS. At the last valuation, the previous Fund Actuary assumed that members would retire in line with the assumptions used for the 2016 LGPS cost cap valuation. We propose to update this assumption at this valuation, to assume that members will retire at the average age that their various tranches of benefit are payable from. For example, if a member has a large amount of pension payable from age 60, it is likely to be financially advantageous for them to take their benefits closer to age 60 than to age 65, or later. However, if most of their benefit is payable from their State Pension Age and they only have a small amount of pension available without reduction at earlier ages, they are likely to retire later.

We have completed an analysis of retirement patterns using data covering the 2 years to 31 March 2021 for the LGPS funds that we advise (where data was made available). The analysis revealed that this assumption was not materially different to the actual experience of retiring members, over all funds that we analysed.



For the 2022 valuation, we propose to assume that members retire at the average of each tranche retirement age, weighted by pension. At whole Fund level, we do not expect there to be a material impact on funding as a result of updating this assumption.

Transfer out decrement

No allowance was made for individual transfers out at the 2019 valuation.



For the 2022 valuation, we propose to continue to assume that no members will transfer their benefits out of the Fund, as this is unlikely to be material from a funding perspective.

Pre-retirement decrements (withdrawals, ill-health retirement, death in service and salary scales)

At the 2019 valuation, the previous Fund Actuary applied pre-retirement decrement tables based on their own analysis of LGPS Funds. At this valuation, we propose to use assumptions that were equal to those assumed by GAD when they carried out their 2016 valuation of the LGPS for cost management purposes, except for the ill-health retirement assumption which we will assume to be 50% of that assumed by GAD. This reflects the results of the analysis we have carried out for our funds.

We also intend to remove the promotional salary scale, instead including an allowance for this within our general salary increase assumption.

No further analysis is expected from GAD before the 2022 valuation.



We have considered recent experience against the previous tables provided by GAD and propose to base our pre-retirement assumptions on these, with the adjustments noted above. We do not expect the impact of this change to be material.

50:50 membership

Some active members may elect to reduce their accrual rate in return for paying lower contributions. Actual take-up has been very low, but we are aware of the work being undertaken by SAB to encourage take up of membership in the 50:50 scheme. At the previous valuation, it was assumed that 1.0% of members (uniformly distributed across the age, service and salary range) would choose the 50:50 option. We propose to update this assumption to be based on current take-up rates within the Fund.



We will assume that members will continue to participate in their current section. We do not expect the impact of this change to be material.

Commutation

At the 2019 valuation, it was assumed that 50% of future retirements would elect to exchange pension for additional tax free cash up to HMRC limits for service to 1 April 2008 (equivalent 75% service from 1 April 2008). We propose to update this assumption slightly at this valuation and assume that members will, on average, exchange pension to get 50% of the maximum available cash on retirement for all periods of service.

We have carried out an analysis using the data for the two years to 31 March 2021 for the LGPS funds that we advise (where data was made available). The analysis suggested that 50% for all periods of service is an appropriate assumption for the LGPS funds we advise.



We therefore propose to assume that members will, on average, exchange pension to get 50% of the maximum available cash on retirement. We do not expect the impact of this change to be material.

Family statistics

At the 2019 valuation, it was assumed that a varying proportion of members would have a dependant at retirement or earlier death, depending on current age. We propose to simplify this assumption slightly at this valuation and assume that 75% of males and 70% of females have an eligible dependant at retirement or earlier death. This is based on ONS projections to 2023 (published as at 2014) and the ONS snapshot population data for married or cohabiting partners in 2020, which appeared to be broadly in line with this.



For the 2022 valuation, we propose to assume that 75% of males and 70% of females have an eligible dependant at retirement or earlier death and that male members are three years older than their partners. We do not expect the impact of this change to be material.

Projected funding position

Based on the proposed assumptions outlined above, we estimate that the ongoing funding position of the Fund as at 31 March 2022 would be as follows:

Ongoing funding position		
	31 March 2019	31 March 2022
	£m	£m
	Reported	Projected
Assets	2,353	2,966
Past service liabilities	2,536	2,968
Surplus/(deficit)	-183	-2
Funding level	93%	100%

We estimate that the funding position will have improved since the last valuation mainly due to the following factors:

- Investment returns. Since 31 March 2019, investment returns have been very strong, averaging around 8.7% p.a. This greatly exceeds the assumed investment return of 4.0% p.a. which was set at the last valuation. The investment growth that has been achieved is also expected to more than offset the increase in liabilities as a result of the lower real discount rate we are proposing to apply at this valuation.
- Payment of secondary contributions. Those employers that were found to be in deficit at the 2019 valuation will have paid an additional secondary rate of contributions towards that deficit. All else being equal, this improves the overall funding position of the Fund.
- Pension increase experience. Since 31 March 2019, benefits have increased at an average rate of 1.8% p.a. This is less than the assumed re-valuation rate of 2.3% p.a. at the last valuation. All else being equal, the actual value of benefits should therefore be less than projected at 2019. Going forward, we anticipate higher benefit increases particularly over the short-term, and this has been built into the higher long-term inflation assumption that we propose to adopt going forward.

Note that the above is an estimated funding position only. The actual funding position at the 2022 valuation will also depend on membership experience which has not yet been fully analysed and on any changes to the assumptions as a result of discussions during the valuation process itself. Contribution requirements will differ by employer depending on their own particular circumstances and experience over the inter-valuation period. However, our central expectation at the current time is that there will be sufficient scope to ensure a stable and affordable level of contributions for most employers.

Final comments

This document has been provided as background information to the triennial valuation of the Fund and provides detailed information regarding the funding model and the assumptions proposed. The assumptions are subject to change.

The financial assumptions will be based on market statistics covering the period from 1 January 2022 to 30 June 2022 and the results of the longevity analysis will be included within our final assumptions advice.

We look forward to discussing this paper with you in more detail.



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Partner
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Appendix 1 - Background and regulatory information

We have been asked by the Lincolnshire Pension Fund (the Fund) to carry out an actuarial valuation of the Fund as at 31 March 2022. The Fund is part of the Local Government Pension Scheme (LGPS).

The purpose of the 2022 actuarial valuation is to set appropriate contribution rates for each employer in the Fund for the period from 1 April 2023 to 31 March 2026, as required under regulation 62 of the LGPS Regulations.

The contribution rates for each employer consist of two elements, the primary rate and the secondary rate:

- The primary rate is the employer's future service contribution rate (i.e. the rate required to meet the cost of future accrual of benefits) expressed as a percentage of pay.
- The secondary rate is an adjustment to the primary rate to arrive at the total rate the employer is required to pay (for example, to allow for deficit recovery).

As set out in Regulation 62, there are several factors the actuary must consider when carrying out the valuation. This includes having regard to the current version of the administering authority's Funding Strategy Statement (FSS), and the desirability to maintain as nearly a constant (primary) contribution rate as possible, while also ensuring solvency of the Fund.

This report is addressed to Lincolnshire County Council and is not intended to assist any user other than Lincolnshire County Council in making decisions. We do not accept any liability to third parties in respect of this report. The administering authority must provide us with sufficient and up to date information relating to matters relevant to our advice. We will only accept responsibility for the advice based on the information provided.

This advice is subject to and complies with Technical Actuarial Standard 100: Principles for Technical Actuarial Work (TAS 100) and Technical Actuarial Standard 300: Pensions (TAS 300) as issued by the Financial Reporting Council (FRC).

Appendix 2 – Expected return on assets

Full details of our derivation of the expected return on each asset class is set out below.

Equities

When setting the equity return assumption, we take a cashflow-based approach and consider the return on a portfolio of equities as being equal to the dividends paid on these shares plus the growth in the value of the shares. We also assume that the growth in the value of the equities will, over the long-term, be in excess of and linked to inflation (i.e. if we assume that prices are going to increase at a faster/slower rate, we assume that there will be a corresponding change to equity values).

This means that our assumption is:



Finally, we compare the equity return assumption suggested by this model to other asset returns and to independent forecasts.

Dividend yield

One of the effects of including the dividend yield in the equity return assumption is when equity values fall (so that the asset value falls) the dividend yield increases so the overall equity return and discount rate assumptions increase. Effectively, we assume that at least some of the fall in the asset value will be recovered in future i.e. the value of the assets that we need now to pay the accrued benefits (the liabilities) in future also falls. This works the other way too (i.e. if there is an asset bubble, future assumed returns fall under our model) so this approach gives some automatic stabilisation when there are market shocks.

We propose to use the FTSE All-World dividend yield given the Fund has a significant proportion of assets invested in global equities. The 20-year yield based on market information up to 30 May 2022 was 2.0% p.a.

We believe this yield is currently depressed due to factors relating to the recovery from Covid-19. At the start of the pandemic there was an increased level of uncertainty and many governments round the world instructed certain sectors of their economies to suspend dividends (mainly the financial sector), with other companies also suspending or reducing their dividends. For example, the biggest payer of dividends in the world – Shell – reduced their dividend by around two thirds. The equity return model assumes that current dividends are a good indicator of future dividends which form part of the future equity return assumption and so any “artificial” suppression of dividends will impact on the future equity return assumption.

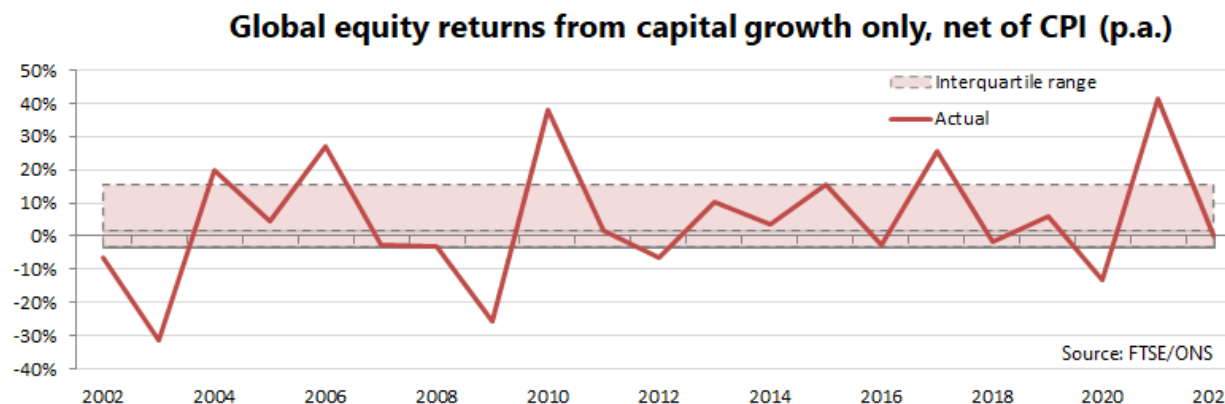
The chart below shows global dividend growth since 2016 and the growth trend prior to Covid-19.



As the chart shows, dividends did drop sharply but have been recovering as dividends are reinstated. Our analysis suggests that if dividends had stayed “on trend” then the dividend yield would have been approximately 0.5% p.a. higher. We therefore propose applying a temporary margin of around 0.5% p.a. to allow for the recovery from this depression in the long-term.

Real capital growth

The other building block for determining the equity assumption is the real capital growth assumption. As we have used a global dividend yield and a UK inflation assumption, it follows that our real capital growth assumption is global capital growth in relation to UK inflation. The next chart shows the capital growth from global equities based on the FTSE All-World index, relative to CPI, together with the inter-quartile range (i.e. the range of observations that account for 50% of all observations around the median).



As we can see, equity capital returns are very volatile. Observing the data over the last 20 years, the median return was around 1.5% p.a. above CPI, although there have been prolonged periods when the returns have been significantly different, particularly in the early 2000s. On balance, we believe that a suitable neutral assumption for the capital growth assumption (in relation to CPI) is 1.5% p.a.

Bringing this all together, our proposed equity return assumption based on market conditions up to 30 May 2022 is **6.9% p.a.**, which is:
2.0% (dividend yield) + 0.5% (dividend yield temporary adjustment) + 2.9% (CPI) + 1.5% (capital growth) = 6.9% p.a. (rounded)

Property

Property would intuitively be expected to give long-term returns somewhere between those on gilts and equities. Further, the ability to review rents might mean there is some inflation linkage. We propose a neutral assumption for property of CPI plus 4.0% p.a. which results in an assumption of 6.9% p.a. This is similar to the current benchmark for the Fund's property venture investments.

Infrastructure

We understand that the benchmark on the Fund's infrastructure investments is slightly lower than for property investments. We therefore propose a neutral assumption for infrastructure of CPI plus 3.0% p.a. which results in an assumption of 5.9% p.a.

Cash

The Fund always needs to hold cash in order to pay benefits although it might also hold it for tactical reasons. We propose to use the 20 year point of the Merrill Lynch UK (Swap) Spot-Semi yield curve as a proxy for the future return on cash investments. This currently leads to an assumption of **1.4% p.a.**

Absolute return fund – cash plus 3.8%

The Fund is invested in a Diversified Alternatives Fund and a Multi Asset Credit Fund. The average benchmark for these funds is around cash plus 3.8% p.a. We have therefore considered an overall neutral return equal to **5.2% p.a.** for these funds, consistent with the assumed return for cash investments with an outperformance of 3.8% p.a.

Bonds and fixed income

This asset class would generally be considered to consist of corporate bonds and other investable non-government debt. The yield on these can, in theory, be accessed directly from the market. Our starting point is to allow for 90% of the spread between the Merrill Lynch Non-Gilts AAA-A Over 15 year yield and the FTSE Gilts Over 15 year yield.

Gilts

Redemption yields from gilts give an indication of the future rates of return and most funds typically invest in long-dated gilts so we can use these published rates. We propose to use the smoothed 20-year point of the Bank of England nominal gilt yield curve, consistent with the duration of an average LGPS fund's liabilities.

Appendix 3 – Expenses

To allow for (passive) investment management expenses, we propose to include a deduction of 0.1% p.a. in the discount rate. In practice, this figure might be higher due to the use of active management but the aim is to more than cover these additional expenses by achieving excess returns.

The following table summarises the administrative, oversight, and governance expenses of the Fund over recent years, as disclosed in the Fund accounts:

Year	Fund assets at start of year (£000s)	Admin expenses over year (£000s)	% of Fund assets
2019/20	£2,361,194	£1,830	0.08%
2020/21	£2,219,327	£1,740	0.08%
2021/22	£2,777,535	£2,053*	0.07%*

**Estimated*

Based on this, we propose to adopt an allowance for administration expenses of 0.1% p.a.

Therefore, our total expenses allowance, including an allowance for passive investment expenses, is proposed to be a deduction of **0.2% p.a.** to the discount rate.

Appendix 4 - Current regulatory uncertainties

HMT cost control mechanism and SAB cost management (2016)

The 2016 national Scheme valuation was used to determine the results of HM Treasury's (HMT) employer cost cap mechanism for the first time. It revealed a fall in 'member costs' (e.g. costs relating to how long members are expected to live for and draw their pension) and therefore a requirement to enhance Scheme benefits from 1 April 2019.

However, as a funded Scheme, the LGPS also has a cost management process controlled by the SAB and HMT allowed SAB to propose benefit enhancements for the LGPS so the HMT cost cap was no longer breached. This exercise was paused until mid-2020 while matters relating to the McCloud judgement (discussed further below) were progressed.

On 15 October 2021 it was announced that, despite the slight shortfall in cost, the SAB agreed not to recommend any scheme changes, in particular citing the unwelcome impact that having to backdate any changes to April 2019 would have on already hard-pressed administration teams. However, the SAB did set out its determination to revisit third tier ill health and contributions for the lowest paid members with the view to making recommendations in these areas separately to the SAB cost management process. These recommendations are still to be announced, although the impact of any changes is likely to be small.

Future cost control and cost management reviews

Further cost control and cost management reviews will be carried out and may lead to future benefit changes. However, as the aim of this monitoring is to keep the cost of benefits within an affordable range, we can be relatively comfortable that future reviews will not have a significant impact on the value we currently place on the liabilities so do not intend to make any explicit allowance for these.

McCloud

When the Government reformed public service pension schemes in 2014 and 2015 they introduced protections for older members. In December 2018, the Court of Appeal ruled that younger members of the Judges' and Firefighters' Pension schemes have been discriminated against because the protections do not apply to them. The Government has confirmed that there will be changes to all main public sector schemes, including the LGPS, to remove this age discrimination. A consultation has been run in relation to the changes proposed for the LGPS and legislation is now being drafted to bring forward these changes. We understand the updated Regulations are to be consulted on over the course of 2022 with the earliest effective date expected to be April 2023.

For the 2022 valuation, we will assume that the legislation will bring forward the changes as currently proposed, and we will value the benefits in line with this. However, we understand the data extracts we will receive for valuation purposes will not yet include the full pay or service history we require to value the cost of the anticipated benefit changes. We will therefore be making estimates (for active members only) based on the information that is held in data extracts provided. Our estimates will involve projecting members' CARE benefits against the equivalent final salary benefit to determine, for each active member, whether the underpin may bite and the liability value if it does.

Appendix 5 – Climate change risks and opportunities

Climate change may have been considered in LGPS funds' investment strategies for some time, however, new reporting requirements are soon expected to set out how LGPS funds should allow for it in their covenant assessment and funding strategies too.

The Task Force on Climate-related Financial Disclosures (TCFD) is a framework that aims to help companies and investors measure, manage, and report their climate-related risk exposures and opportunities in a consistent manner.

As part of this, funds are expected to assess the resilience of their assets, liabilities and investment and funding strategies to climate-related risks by assessing the potential outcome under several different climate-related scenarios. For example, how are these affected by:

- a measured, orderly transition to a low carbon economy;
- a sudden, disorderly transition to a low carbon economy; and
- a "hot house world"?

We understand climate risk will be a focus in future section 13 reports. Although the exact requirements are still to be consulted on for the LGPS, funds are required to assess these risks now and make allowance for them in the 2022 valuation as far as possible.

Discussions are currently ongoing between GAD and the actuarial advisors to ensure a consistent approach is adopted.

The results of any scenario analysis we have carried (or will carry) out for the Fund is summarised in a separate paper for consideration.

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