



Government
Actuary's
Department

Advice to the Utility Regulator, Northern Ireland

Review of the Northern Ireland Water Limited Pension Scheme

8 September 2020

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1 Executive summary

- 1.1 The Utility Regulator for Northern Ireland (The Utility Regulator) is the economic regulator of Northern Ireland Water (NIW). The Utility Regulator commissioned the Government Actuary's Department (GAD) to review certain aspects of NIW's pension arrangements to assist the Utility Regulator in formulating its approach to pension costs for NIW's PC21 price control period (covering the period from 1 April 2021 to 31 March 2027).
- 1.2 This report analyses the principal factors which determine NIW's pension costs and predominantly covers the *defined benefit* (DB) costs arising from the Northern Ireland Water Limited Pension Scheme (referred to as the "NIWLPS" in this report). This report comprises of the following sections:
- section 2: Introduction
 - section 3: Scheme benefits
 - section 4: Investment strategy
 - section 5: Actuarial funding valuation assumptions
 - section 6: Accounting costs
 - section 7: NIW's projected pension contributions
 - section 8: Application of surplus
 - section 9: Governance and expenses
- 1.3 NIW has two pension schemes in place: The *Defined Contribution scheme (DC Scheme)* and the NIWLPS which is a *Defined Benefit Scheme*. The NIWLPS was created for the company, in which members had the option of transferring their pensionable service from the Civil Service Pension Arrangements (Northern Ireland) (CSPA (NI)) and a bulk transfer was paid in respect of liabilities transferred in August 2010. The scheme has a number of different benefit structures applying to different categories of members, with all but one scheme accepting new entrants. The variety of schemes is based on previous principle civil service schemes, such as Classic Protected, Classic Plus Protected, Premium Protected, CARE¹ 2010 Protected, and CARE 2015 Core. New members can choose whether to join the *DC scheme* or NIWLPS. There are ongoing costs for both schemes which must be reviewed in setting PC21 price control allowances.
- 1.4 The results of this review enable the Utility Regulator to understand the factors affecting NIW's future cash pension contributions, and the extent to which the NIWLPS's funding approach is consistent with that of the CSPA (NI). The report also compares the approach of the NIWLPS with of other UK private sector *defined benefit* pension schemes and pension schemes of other regulated companies. Further, this review should assist the Utility Regulator in determining whether it needs to adjust the PC21 pension cost allowance amounts requested by NIW.

Scheme benefits

- 1.5 Scheme benefits are one of the main determinants of *defined benefit* (DB) pension schemes' ultimate costs.

¹ CARE = Career Average Revalued Earnings

- 1.6 The NIWLPS was established with the intention that it would provide similar benefits to those offered by the CSPA (NI). The NIWLPS followed the CSPA (NI) benefit changes in 2015 when the alpha section was opened, with the NIWLPS opening the CARE 2015 section for its members.
- 1.7 **The NIWLPS benefits are similar to those offered by the CSPA (NI). By allowing for future accrual the NIWLPS is more generous than typical UK private sector DB schemes (of which only around 10% remain open). Our review considers only the benefits currently provided by the NIWLPS. The Utility Regulator may wish to consider whether there is any scope for changes to the benefits provided, taking account of any legal protections and overall remuneration considerations.**

Investment strategy

- 1.8 A scheme's investment strategy affects its investment returns (and therefore its current and future *funding levels*) and the choice of actuarial assumptions for funding valuations. A number of factors affect schemes' investment strategies such as *employer covenant, risk appetite* and *scheme maturity*.
- 1.9 The proportion of assets invested in *return-seeking assets* (such as equities) within the NIWLPS was 59% in the most recently published valuation as at 31 March 2017. However, the actual allocation differs from the benchmark allocation. The benchmark allocation, based on the 2019 Statement of Investment Principles, is to hold up to 85% of their assets in *return-seeking assets*. All else being equal, a reduction in *return-seeking assets* implies lower long term expected investment returns and therefore higher contributions. However, it also implies less investment risk and hence less volatile funding outcomes.
- 1.10 The proportion of the NIWLPS's assets invested in *return-seeking assets* is broadly in excess of that suggested by data² on average UK pension schemes' investment strategies for schemes of a similar *maturity*. Although such a simplified comparison ignores many factors, such as the open nature and *employer covenant* strength of the scheme (all else being equal, an immature scheme with strong employer support can reasonably justify a higher risk strategy).
- 1.11 The investment strategy of the NIWLPS has undergone a series of changes since the valuation at 31 March 2017. These changes have been enacted to reduce the NIWLPS's exposure to downside risk whilst maintaining a constant level of expected return. This has been achieved through diversification and the introduction of leveraged *Liability Driven Investments (LDI)*. The changes to the investment strategy are intended to maintain the level of expected performance whilst reducing the overall downside risk. By making the portfolio more efficient this reduces the chance that at future valuations NIWLPS will be required to ask the sponsor for contributions to repair a deficit.
- 1.12 **At a high level the current investment strategy appears reasonable, given the scheme circumstances. Returns experienced within the last few years do not highlight any noticeable concern.**

² [The Purple Book](#): DB Pensions Universe Risk Profile 2017 published by the Pension Protection Fund

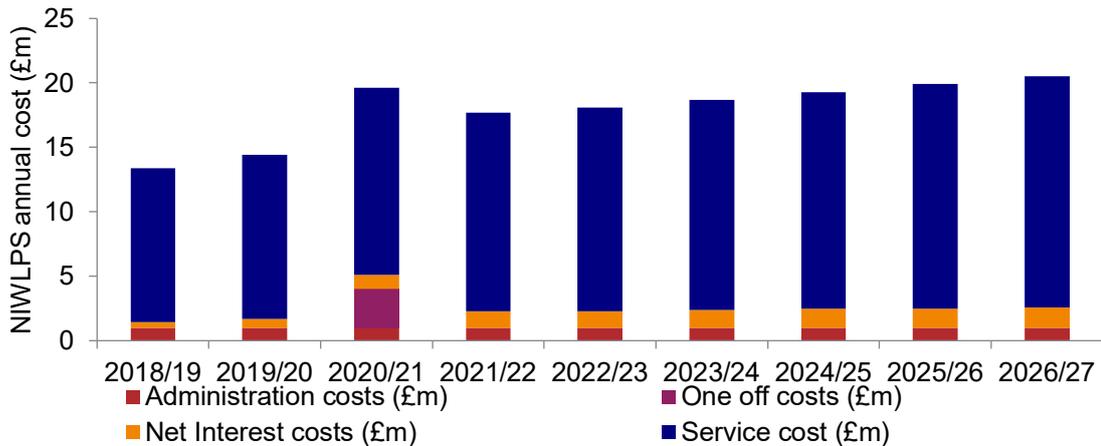
Actuarial funding valuation assumptions

- 1.13 The results of actuarial funding valuations of the NIWLPS, and therefore NIW's cash pension contributions, depend significantly on the assumptions made for future experience. This report considers the assumptions adopted for the actuarial funding valuation as at 31 March 2017, as well as the assumptions on which the pension costs have been requested.
- 1.14 The assumptions adopted for a funding valuation are set by the Trustees and must be prudent when assessing the *Technical Provisions*. At the 2017 actuarial funding valuation the main source of *prudence* was within the *discount rate*. The liabilities of the NIWLPS in the actuarial funding valuation at 31 March 2017 were £249.6million and the *standard contribution rate* ("SCR") was 29.2%. Approximate calculations suggest the degree of *prudence* in the valuation assumptions is in the region of £70 million, or 25%-30% of the value of the total liabilities, and around 5%-10% of *pensionable pay* within the SCR, again a 25%-30% increase on expected costs for future service.
- 1.15 The most important assumption is the *discount rate*. The NIWLPS adopts a single *discount rate* for the periods pre and post retirement equivalent to a *discount rate* of gilts+1.5% a year. This is higher than the average rate adopted by UK *DB schemes* of around gilts+0.9% a year which could be a reflection that the NIWLPS has a broadly larger proportion of *return-seeking assets* to the average UK *DB scheme*. Given the expected returns from the investment strategy are significantly higher than those of a typical *DB scheme* it is not clear whether a greater margin for *prudence* has been allowed for when determining the *discount rate* than in a typical *DB scheme*.
- 1.16 In 2017 the NIWLPS moved to a *discount rate* that moves in line with the long term expected returns on the scheme's investment strategy, less an adjustment to allow for a margin of *prudence*. This changed from a more typical method of adding a margin of *outperformance* above the yield available on gilts. This change of approach is indicative that the NIWLPS has the intention of retaining risk within their investment strategy, with no implicit de-risking as the NIWLPS matures, as allowed for at the 2014 valuation.
- 1.17 **In general, the assumptions adopted for the 2017 actuarial funding valuation of the NIWLPS are considered to be within a broadly reasonable range compared to wider practice. The NIWLPS has a strong employer covenant, as assessed by its Trustees at the 2017 actuarial funding valuation. The Utility Regulator may seek to understand to what extent NIW discussed the flexibility to include a lower margin of prudence in the discount rate, and to encourage suitably robust discussions at future valuations.**

NIW's projected pension contributions

- 1.18 Figure 1.1 shows NIW's requested pension contributions to the NIWLPS for business years to 2027 split between new accrual, expenses and one-off costs (in respect of activities related to the *McCloud judgement*). The costs have been assessed on an accounting basis rather than a funding basis.

Figure 1.1: NIW’s breakdown of projected pension contributions – (as included in Appendix 5.1 of NIW’s initial business plan)



- 1.19 Following the 2017 actuarial funding valuation results the employer’s *standard contribution rate* increased from 23.3% of *pensionable pay* to 29.2% of *pensionable pay*. The projected pension contributions contained within NIWLPS Scheme Funding Report appear reasonable to the extent we have been able to verify them. However, the request for contributions in the PC21 business plan does not align with the SCR from the most recent schedule of contributions, as the request is based on accounting assumptions and not funding assumptions.
- 1.20 **NIW have requested allowances based on the *International Accounting Standard (IAS 19)* basis, which does not align to the actual payments required to be paid into the scheme under legislation. Legislation requires contributions to be calculated at least every 3 years at an actuarial valuation. This provides more judgement on the long term nature of the scheme, with appropriate investment choices and the strength of the *employer covenant* taken into consideration. The *IAS 19* assessment for NIWLPS leads to a higher assessment of costs as it uses a lower *discount rate* based on a prescriptive set of standards which do not reflect the scheme’s investment strategy or *employer covenant* strength. The Utility Regulator may wish to engage NIW further on this point to understand the rationale and to ensure that the pension costs requested are assessed on a suitable basis.**

Defined contribution pension costs

- 1.21 NIW contribute 6%, 8% or 10% of *pensionable pay* towards the *DC scheme* and employees pay 3%, 4% or 5% of *pensionable pay*. The default arrangement is that employees contribute 3% of their pensionable salary and NIW paying 6%. NIW stated in the response to NIAUR Query 050 that that the average employer contribution into the NIW *DC Scheme* is 10%. This is in line with what might be considered typical, with FTSE100 companies on average paying around 10% of *pensionable pay*³.
- 1.22 **We would expect to see an employer contribution rate closer to the default arrangement; an average of 10% seems high given the default employer contribution rate of 6%. However, it could be that this group of employees are more financially aware than the membership of a typical scheme and so the majority opt to pay the higher contributions to receive the maximum employer contribution.**

³ 12th edition of the Willis Towers Watson FTSE DC Pension Scheme [Survey](#)

Application of surplus

- 1.23 At the last actuarial funding valuation at 31 March 2017, the scheme was 97% funded, with a deficit of £8.3 million. However, depending on scheme experience and market conditions a surplus may emerge (noting that the funding assumptions are set prudently, so all else being equal, it is reasonable to expect a surplus to emerge over the long-term). If a surplus does emerge then the Trustees could consider using that surplus to de-risk the investment strategy or reduce employer contributions. A reduction in employer contributions could be passed onto consumers as a saving. De-risking the investment strategy could reduce the volatility of requested costs, but risks increasing costs in the long term.
- 1.24 **When questioned on the plans for how future surplus would be managed, NIW did not provide a full explanation. The Utility Regulator may wish to explore views on this policy point further to ensure the consumer interest is being appropriately considered.**

Reviewing the deficit recovery plan

- 1.25 During the course of the Price Control period the NIWLPS will undergo three further actuarial valuations, the 2020, 2023 and the 2026 valuations. The funding position of the NIWLPS at each valuation will impact the contributions required from NIW.
- 1.26 Were a deficit to emerge then this would need to be rectified by agreeing a recovery plan. The current recovery plan following the 2017 actuarial funding valuation requires contributions payable by NIW from April 2021 to March 2023. The Interim Funding Test, which took place after the 31 March 2020 valuation date required an updated recovery plan which is being negotiated between the employer and Trustees and is likely to be superseded following the results of the valuation as at 31 March 2020 position.
- 1.27 The 2020 actuarial valuation is likely to involve some detailed discussion with the Trustees about the longer-term financial impact on the NIWLPS of the COVID-19 pandemic. **We would expect an efficient company to negotiate robustly with the Trustees. If any contribution increases are requested by the Trustees, it would be reasonable to expect the company to view a request with regard to the long-term, and balance consumer interests (now and in the future) when agreeing a suitable recovery plan.**

Expenses and governance

- 1.28 We have reviewed the expenses incurred in the NIWLPS over 2016-2019. Overall, the level of expenses appears to be higher than the typical level, when compared to data from other *DB schemes* published by the Pensions Regulator⁴.
- 1.29 Based on the data, the expenses incurred under actuarial and consulting and legal fees were significantly higher than seen across schemes of a similar size. The investment manager expenses represented a small proportion of the invested assets and did not indicate any particular concerns. **The Utility Regulator may wish to consider the reasons why expenses were notably high for the period of 2016-2019, and whether fees are likely to remain at this level throughout the PC21 period, and / or understand what steps are being taken to ensure expenses are managed appropriately.**

⁴ <http://www.thepensionsregulator.gov.uk/trustees/your-db-scheme-costs.aspx>

Considerations for the Utility Regulator

- 1.30 The Utility Regulator will be assessing, in broad terms, the overall efficiency of costs in NIW's initial business plan. Throughout this report we have highlighted some areas for pension costs which the Utility Regulator may like to consider within its assessment. These areas and the relevant sections of the report are highlighted in the summary above and the main considerations summarised below:
- The level of *prudence* within the *discount rate* used in the actuarial funding valuations – section 5.
 - the appropriateness of the basis chosen to assess the cost incurred by the sponsor in respect of future accrual within the NIWLPS – section 7;
 - the application of any future surplus arising within the scheme – section 8;
 - whether the administrative costs incurred represent value for money – section 9.

Limitations

- 1.31 This review considers NIW's pension arrangements only. It is recognised that pension arrangements are only part of overall remuneration packages.
- 1.32 This report compares the NIWLPS with publicly available information on the CSPA (NI) and other UK private sector *DB pension schemes*. Such comparisons do not take into account factors which affect particular industries, sponsoring employers or pension schemes in isolation, and are provided as a guide only.
- 1.33 Pension schemes' benefits, investment strategies and funding approaches should reflect each scheme's particular circumstances. It is beyond the scope of this report to consider all such factors. It is recognised that a "one-size fits all" approach is not appropriate. This review must not be interpreted as advising that a particular approach is necessarily inappropriate.
- 1.34 The purpose of this report is to assist the Utility Regulator in considering its price controls for the period 1 April 2021 to 31 March 2027. GAD does not accept any responsibility to third parties who may read this report or extracts from it.



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8 September 2020

2 Introduction

- 2.1 This report has been prepared by the Government Actuary's Department (GAD) at the request of the Utility Regulator for Northern Ireland (the Utility Regulator).
- 2.2 The Utility Regulator is the economic regulator of Northern Ireland Water (NIW). The Utility Regulator sets price controls which limit the maximum revenue NIW is permitted to earn from its regulated businesses over a period agreed following a consultation. The Utility Regulator is currently reviewing the price controls for period PC21, 1 April 2021 to 31 March 2027.
- 2.3 As part of this review, the Utility Regulator considers pension costs incurred. NIW's pension costs are with respect to a *defined benefit* (DB) pension scheme and a *defined contribution* (DC) pension scheme. The relevant *DB scheme* is the Northern Ireland Water Limited Pension Scheme (referred to as the "NIWLPS" in this report).
- 2.4 The Utility Regulator has asked GAD to perform a review of the pension costs of NIW. This report sets out the results of our analysis. This report should enable the Utility Regulator to understand the factors affecting NIW's pension costs and the extent to which NIWLPS's funding approach is consistent with that of other UK private sector *DB schemes*, recognising its public sector heritage.

Structure of this report

- 2.5 The main areas we have considered in our review are:
- **Section 3: Scheme benefits** – a comparison with typical *DB scheme* provision and the Civil Service Pension Arrangements in Northern Ireland. The more generous the benefits the higher the ultimate cost for consumers
 - **Section 4: Investment strategy** – this affects investment returns which impacts on current and future *funding levels* as well as the choice of *discount rate*
 - **Section 5: Actuarial funding valuation assumptions** – primarily the choice of *discount rate* and mortality assumptions affecting the level of cash contributions assessed to be required
 - **Section 6: Accounting costs** – the basis on which the cost of accrual is assessed and requested in NIW's business plan.
 - **Section 7: NIW's projected pension contributions** – comments on the level of contributions required following the 31 March 2017 actuarial funding valuation, including how the deficit recovery plan has been structured. Comparisons with the costs requested in NIW's business plan.
 - **Section 8: Application of surplus** – the intention and application of any surplus arising within the NIWLPS in future valuations, and wider areas that will impact the future costs for consumers
 - **Section 9: Expenses and governance** – discussion on the level of administration expenses and the governance of NIW's pension arrangements
- 2.6 This report mainly considers NIW's *DB scheme*, the Northern Ireland Water Limited Pension Scheme (NIWLPS). Reviewing NIW's *DC pension scheme* is more straightforward than reviewing the NIWLPS because the DC pension costs are equal to the set level of contribution which, subject to legislative requirements, is in the control of the employer. NIW's DC pension contributions are covered in section 7.

- 2.7 Appendix A provides a high-level summary of the terms of reference for this review. Appendix C provides some background on factors affecting pension scheme funding and contributions. Appendix D summarises factors affecting a pension scheme's high-level investment strategy. A glossary is included in Appendix E which contains any terms in *italics* within the main report.

Information used

- 2.8 Appendix B lists the information on NIW's pension arrangements which has been provided to us by the Utility Regulator, as well as information in the public domain, such as that published by The Pensions Regulator ("TPR") and Pension Protection Fund ("PPF"). My analysis is based solely on this information and relies on it being complete and accurate. I have not independently verified any of the information provided.
- 2.9 The Utility Regulator was shown a draft of this report before it was finalised, for comment and to check factual accuracy. The Utility Regulator's comments have been borne in mind when preparing the final version.

Distribution and publication of this report

- 2.10 This report is addressed to the Utility Regulator for Northern Ireland. I am aware that the Utility Regulator may make this report available to other parties, including NIW and the NIWLPS Trustees. GAD reserves the right to review and comment on any documents in which the Utility Regulator quotes or refers to this report in part.
- 2.11 Advice provided by GAD to the Utility Regulator is intended solely for the use of the Utility Regulator. GAD does not accept any responsibility to third parties who may read this report or extracts from it.

Compliance

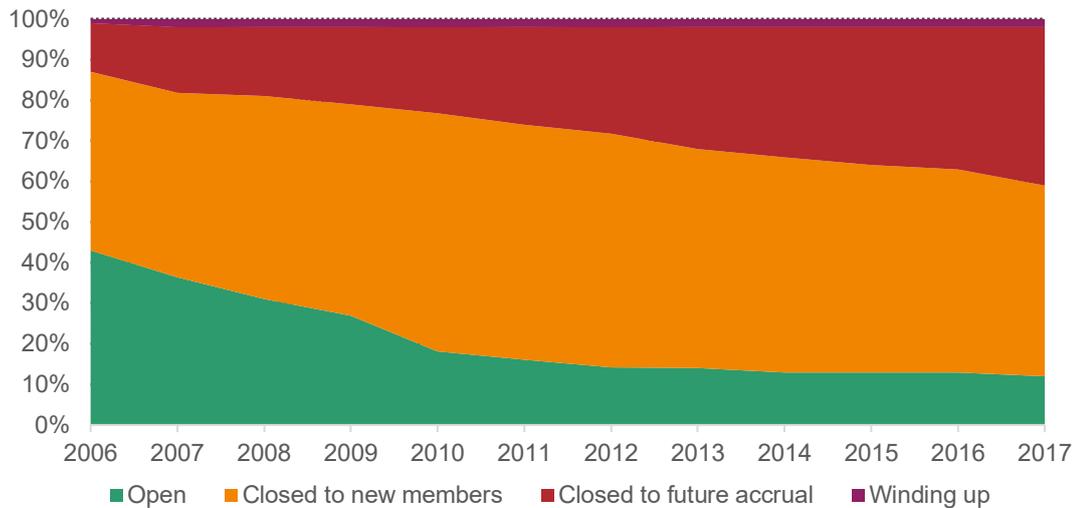
- 2.12 This work has been carried out in accordance with the applicable Technical Actuarial Standard: TAS 100 issued by the Financial Reporting Council (FRC). The FRC sets technical standards for actuarial work in the UK.

3 Scheme benefits

- 3.1 Scheme benefits are one of the main determinants of *DB schemes'* ultimate costs, and therefore also of contribution rates to schemes, with the more generous the benefits, the higher the contributions. This section considers the benefits provided by the NIWLPS, in particular a comparison with the benefits of the Civil Service Pension Arrangements in Northern Ireland (CSPA (NI)), which the benefits broadly mirror. The purpose of this is to understand the level of the required contributions.
- 3.2 I understand that the NIWLPS benefits reflect the scheme's public sector origins and that they may be protected under provisions in the NIWLPS's Trust Deed and Rules. The Utility Regulator may wish to take legal advice if necessary, to understand the extent to which the NIWLPS's provisions can be amended.
- 3.3 A key difference in the approach between the NIWLPS and the CSPA (NI) is the approach that the sponsor takes to funding. The CSPA (NI) is unfunded, contributions are used to pay benefits, without a fund being accrued. The NIWLPS build up a fund to support the payment of the benefits over time. Therefore, the contributions required to support each scheme may differ in their response to fluctuations in demographic and financial assumptions and experience. There are also different legislative requirements for both private sector and public sector schemes, with private schemes being required to fund to provide benefit security.

Consideration of the open nature of the NIWLPS

- 3.4 DC arrangements typically, but need not, involve lower employer pension contributions than a *DB scheme*. Whether contributions are lower to a DC arrangement rather to a *DB scheme* depends on the design of the two schemes.
- 3.5 The main difference between DB and DC provision for an employer relates to risk: in a *DB scheme* the employer bears the risk of adverse future experience through the possibility of *deficit repair contributions* being required, whereas in a DC arrangement the risk of adverse future experience rests with the member through lower than expected benefits.
- 3.6 Following the most recent formal actuarial funding valuation at 31 March 2017, NIW's contribution rate to the NIWLPS of 29.2% of *pensionable pay* in respect of benefit accrual (before allowing for any planned additional contributions to address the scheme's assessed deficit) is significantly higher than its employer contribution rate to the *DC scheme*, which was an average of 10% of *pensionable pay*.
- 3.7 Figure 3.1 below shows how the distribution of open and closed schemes in the UK has evolved from 2006 to 2017. This shows only 10% of *DB schemes* are currently open to new members, with 90% being closed to new members or future accrual. NIW's provision of a DB pension for new entrants is not typical compared to wider UK private sector practice. However, it is consistent with the CSPA (NI), which is still open to new members.

Figure 3.1 Proportion of all UK defined benefit pension schemes closed from 2006-2017⁵

Note: the proportion of UK schemes closed to new members decreases from 2010 onwards as more schemes move from this status to being fully closed to future accrual.

Recent changes to benefits

- 3.8 In line with changes to the CSPA (NI), the NIWLPS have recently made changes which will reduce the ultimate cost of providing the benefits and therefore the level of contributions required. The majority of members will be in the new section of the NIWLPS, so we have focussed on this section when comparing benefits.
- 3.9 In 2015 the CSPA(NI) opened a new alpha section, which changed accrual from a proportion of an employee's final salary to the salary accrued in any given year, revalued to the retirement date in line with CPI inflation, known as Career Average Revaluation (CARE). The NIWLPS mirrored this change, opening their CARE 2015 Core sections for new members. A number of legacy sections exist to cater for those members that have transferred from the existing benefit structure and have transitional protection. These members retain some of the benefits previously promised, these sections are:
- the CARE 2015 ex-Classic
 - the CARE 2015 ex-Premium
 - the CARE 2015 ex-CARE 2010
 - the CARE 2015 Core

Over time it would be expected that the accrued pension would be lower under CARE, as the CPI revalued earnings would be expected to be lower than salary increases. Therefore the ultimate cost of providing the benefits is decreased.

⁵ [PPF Purple Book 2017.pdf – figure 3.2](#)

Benefit structure

- 3.10 The principal benefits provided by the NIWLPS are summarised in table 3.1 against those offered by the CSPA (NI). This table also shows the benefits offered by “typical” UK private sector *DB schemes*⁶ from ONS survey data.

Table 3.1 NIWLPS pension scheme benefits (CARE 2015 Core benefits only)

	NIWLPS CARE 2015 Core	CSPA (NI) Alpha	“Typical” UK scheme
Age at which unreduced benefits are paid (NRA)	State pension age	State pension age	65
<i>Accrual rate</i> of:	54ths career average	43rds career average	60ths final salary
Dependants’ pension after death of member	33.75%	37.5%	50%
Lump sum on retirement	By commutation and through a lump sum credit accrued at 3/54 ^{ths}	By commutation	By commutation
Member contributions (% of pay)	3.5-6.9% ⁽ⁱ⁾	4.6% - 8.05% ⁽ⁱⁱ⁾	6%
Pension increases (in payment)	CPI ⁽ⁱⁱⁱ⁾	CPI ⁽ⁱⁱⁱ⁾	RPI/CPI with cap ^(iv)

⁽ⁱ⁾ Members pay higher contributions of 6.9% of pay above a salary threshold.

⁽ⁱⁱ⁾ Members pay 4.6% of pay below £21,000 each year and higher contributions of up to 8.05% above a certain salary threshold.

⁽ⁱⁱⁱ⁾ Benefits earned in respect of service before 31 October 2013 are increased in line with the Retail Prices Index (RPI). The Consumer Prices Index (CPI) is expected to increase by less than RPI on average over the long-term, although we note the future RPI methodology is currently subject to consultation.

^(iv) UK private sector *DB pension schemes*’ pension increases typically reflect increases in either the RPI or CPI, depending on the scheme rules.

- 3.11 Table 3.1 shows that the NIWLPS benefits are comparable with the CSPA (NI) benefits, and less generous than typical UK private sector *DB schemes*. The NIWLPS benefits accrue at a slightly quicker rate than a typical *DB scheme* (54ths vs 60ths), however the accrued pension is revalued to retirement in line with price inflation, rather than salary linkage (which is typically higher than prices inflation), and state pension age is typically higher than 65 for new entrants. Dependants in NIWLPS receive a lower pension, as a proportion of the member’s, than in a typical *DB scheme*.
- 3.12 The member contributions in the CARE 2015 Core section in the NIWLPS are slightly lower than in alpha (NI). NIW state that this is to allow for the slightly lower benefits provided by NIWLPS in comparison to alpha (NI). The member contributions in the CARE 2015 Core section were increased in 2017, from 3.5% to 6.9%, for members earning over £21,000 a year.

⁶ [Occupational Pension Schemes Survey 2016](#) (ONS), Tables 11, 12, 13, 16

- 3.13 Commutation on the CSPA(NI) allows for additional cash to be taken at retirement in excess of the lump sum accrued. This is provided on terms of £12 of cash for each £1 pa of pension commuted. In the NIWLPS the Trustees set the factors based on advice given by their Scheme Actuary, and the factor set was that for each £1 pa of pension commuted the member is entitled to £13.80 of cash at retirement. This is however less generous than might be expected from a “typical” UK private sector *DB scheme*.
- 3.14 This comparison with the CSPA (NI) and a “typical” UK private sector *DB scheme* is approximate only. It considers pension benefits in isolation, ignoring industry or company specific factors and other elements of the remuneration package.

McCloud judgement

- 3.15 The NIWLPS closely followed the CSPA (NI) in the pension reforms that were conducted across public sector schemes in 2015. The *McCloud judgement* will impact the public sector schemes’ benefit obligations, although the financial impacts of the judgement are unknown.
- 3.16 The judgement ruled that the public service scheme reforms introduced by the Government in 2015 gave rise to unlawful discrimination on the basis of age. The discrimination occurred in the differential treatment of ‘transitional protection’ that was offered to members of the pre-2015 public service schemes as at 31 March 2012.
- 3.17 NIWLPS have requested a one-off cost of £3m in respect of settling the increased benefit obligation incurred by the resolution of the *McCloud judgement*. This figure has been derived from 1.5% of pensionable salary for each year since the NIWLPS was reformed in 2015.
- 3.18 Due to the uncertain quantification of the impact of the *McCloud judgement*, a reserve of £3m does not seem an inappropriate allowance for any benefit obligation rectification.
- 3.19 The *McCloud judgement* is also likely to lead to further benefit reforms within the public sector, which may also lead to further benefit reforms within NIWLPS to maintain its consistency with the CSPA (NI).

4 Investment strategy

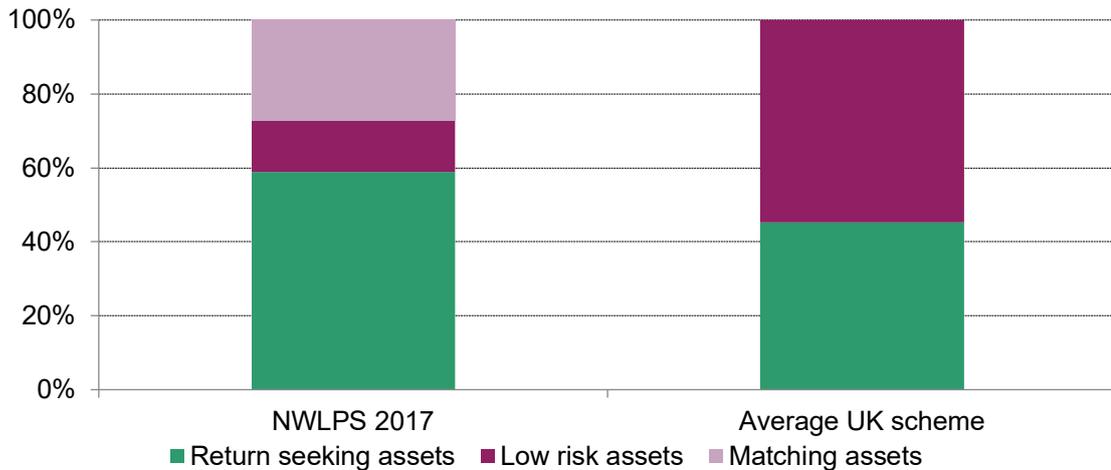
- 4.1 *Employer covenant, risk appetite and scheme maturity* affect the Trustees' choice of investment strategy and therefore investment returns. This feeds into the choice of actuarial assumptions for funding valuations, and therefore projected contributions. A summary of the key factors that influence the high-level strategic investment strategy for a funded defined benefit pension scheme is given in Appendix D. The analysis in this section concentrates on a high-level split between *return-seeking assets*, low risk assets and *matching assets*. A more detailed analysis of specific asset classes is beyond the scope of this report.
- 4.2 At a high level the current investment strategy, and target investment strategy, has a higher exposure to investment risk than a typical private sector *DB scheme* of similar *maturity*. This is reflective of the strong *employer covenant*. **The Utility Regulator may wish to engage with NIW with the intention of clarifying what future changes, if any, to the level of portfolio risk are expected which will take into account the best interests of the consumer (now and in future).**

NIWLPS investment strategy

- 4.3 At the 2017 valuation date, the NIWLPS assets were invested as follows:
- 59% invested in *return-seeking assets* (equities, property and alternatives)
 - 14% invested in low risk assets (corporate bonds and cash)
 - 27% invested in *matching assets* (government bonds)
- The allocation at the valuation date differed from the target allocation, with the target allocation having only a 15% allocation government bonds, and a diverse range of other *return-seeking assets* such as UK equities, secured finance, diversified growth funds and sustainable investments.
- 4.4 Figure 4.1 illustrates the NIWLPS investment strategy at the 2017 valuation and the average asset allocation for UK private sector *DB schemes* in 2017⁷. It is more useful to compare the respective allocations to *return-seeking assets* (the green bars in figure 4.1) with the average UK scheme as the Purple Book does not differentiate between *matching* and low risk assets.

⁷ Taken from [The Purple Book](#): DB Pensions Universe Risk Profile 2017 published by the Pension Protection Fund

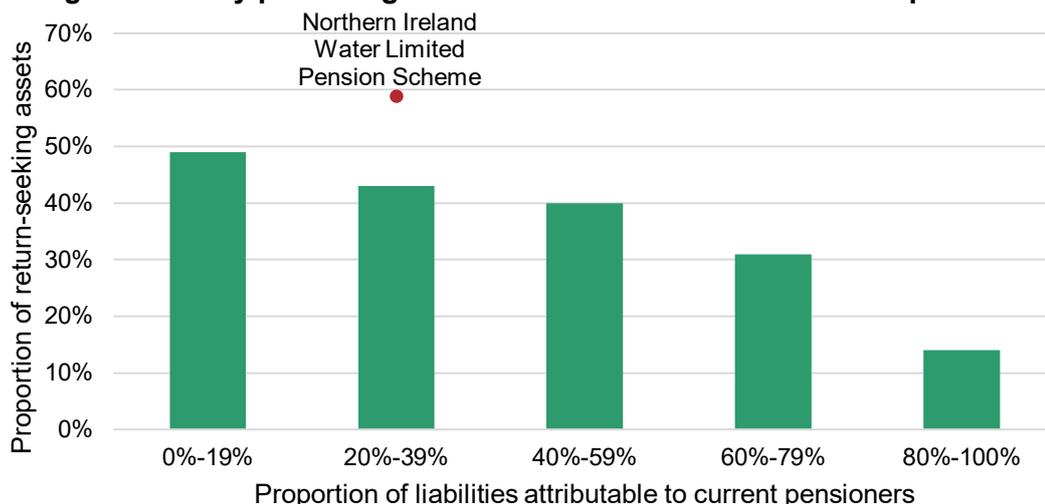
Figure 4.1 NIWLPS’s investments versus average asset allocation of UK defined benefit pension schemes



4.5 Figure 4.1 shows that around 59% of the NIWLPS’s assets were invested in *return-seeking assets* at 31 March 2017. The NIWLPS has a higher allocation to *return-seeking assets* than the average UK private sector *DB scheme*. Changes to the investment strategy since the 2017 valuation are discussed in paragraphs 4.10 to 4.16.

4.6 I have also considered the investment strategy of schemes with a similar *maturity* profile to NIWLPS. One of the main factors affecting investment strategy is the *maturity* of the scheme: all things being equal, a scheme with a more mature liability profile would be expected to invest a lower proportion of its assets in *return-seeking assets*. Figure 4.2 illustrates this by showing how the average allocation to *return-seeking assets* reduces as the proportion of liabilities attributable to pensioners increases⁸ (which reflects *scheme maturity*).

Figure 4.2 UK defined benefit pension scheme average investment in return-seeking assets – by percentage of liabilities attributable to current pensioners



4.7 The NIWLPS has 23% of its liabilities relating to pensioners so would fall in the second group, but has a 59% allocation to *return-seeking assets* which is slightly higher than the average at this *maturity* level of 43%, as marked in red above.

⁸ Taken from [The Purple Book](#): DB Pensions Universe Risk Profile 2017 published by the Pension Protection Fund

- 4.8 However, this comparison does not take into account the strength of the *employer covenant*. The NIWLPS has a strong *employer covenant*, as assessed by its Trustees at the 2017 valuation. This materialises in the special exemption category in which the NIWLPS falls for the purposes of assessing the PPF levy. Typically, a strong *employer covenant* allows Trustees greater flexibility to seek higher returns and therefore an expectation of lower long-term employer contributions. The NIWLPS has made some allowance of its strong *employer covenant* by having a higher proportion of *return-seeking assets* than average for its *maturity* profile. This is at the expense of higher investment risk and therefore potentially more volatile contribution rates. The expectation is that the volatility can be tolerated by the sponsoring employer.
- 4.9 This comparison also does not take into account the open nature of the NIWLPS. Future accrual will keep the *maturity* of the scheme lower. Therefore, it would be reasonable for the NIWLPS to have a higher allocation to *return-seeking assets* than a closed defined benefit scheme with the same proportion of past service liabilities in respect of pensioners.

Recent changes to investment strategy

- 4.10 Since the 2017 valuation the NIWLPS has changed its investment strategy and introduced higher allocations to secured property and secured finance mandates, funded by disinvestments from corporate bonds.
- 4.11 The NIWLPS has also switched the managers of the diversified growth fund mandates.
- 4.12 The NIWLPS intends to appoint a manager to invest in infrastructure and sustainable investments.
- 4.13 The NIWLPS introduced a formal approach to protecting against inflation risk by introducing leveraged *LDI*. They have chosen to hedge their inflation risk using an allocation to equity-linked bonds. These bonds are levered, such that each £1 invested will provide £1 of equity exposure and £0.75 of exposure to the value of index-linked government bonds. Leverage is a typical approach to hedging inflation risks, and it is viewed as making an efficient use of the capital available to the pension scheme. However, leverage introduces the risk that capital is required at inopportune moments, known as a “cash call”.
- 4.14 The NIWLPS hedges inflation using RPI linked instruments, however the majority of the NIWLPS’s benefits are linked to CPI. There is a very limited market which will allow investors to hedge using CPI linked instruments. NIWLPS has therefore taken an approximate approach based on an assumed fixed gap between CPI and RPI. This is consistent with the approach taken in valuing its liabilities. Since the 2017 valuation, the subject of RPI reform has moved forward and the future of the RPI index remains uncertain, although a consensus view is that RPI will be aligned to CPI in the future. Holding RPI linked instruments may therefore result in a loss of market value (relative to previous expectations), given that CPI is generally lower than RPI.
- 4.15 The NIWLPS also considers their exposure to risks posed by environmental, social and governance issues (collectively “ESG”) and the sustainability of their investments. This complies with TPR’s requirements that these considerations are made and documented.

- 4.16 As at 31 March 2019, the NIWLPS was underweight in its allocation to *risk seeking assets* compared to their target allocation, holding an overweight allocation to index-linked bonds issued by the UK Government (“Gilts”). This does not impact the calculation of the liabilities, which are based on the expected return of the target allocation, but may impact the actual returns achieved by the assets. The target strategy will take a number of years to implement, during the transition period the actual allocation may not match the target allocation.

COVID-19

- 4.17 The COVID-19 pandemic will have affected the actual returns of the investment strategy, particularly when they are considered for the valuation as at 31 March 2020. NIWLPS is more heavily invested in *return-seeking assets* and are less matched to the liabilities than for a typical *DB scheme*. Therefore, we would expect the returns experienced by the NIWLPS to be more volatile than those of a typical *DB scheme*. However, it is important to note that the valuation assumptions and discussions around a deficit recovery plan should be focussed on the expected long term returns and strategy for the scheme.

Limitations of this analysis

- 4.18 The analysis in this section focuses on high-level investment strategy only. It ignores many detailed risk and return factors which schemes’ Trustees take into account when deciding on investment strategy.

5 Actuarial funding valuation assumptions

- 5.1 The results of a pension scheme's actuarial funding valuation, and therefore the sponsor's future cash contributions depend on the assumptions adopted for that assessment. Assumptions have to be made in relation to both the financial aspects of the pension scheme and the demographic aspects of the scheme membership. This section looks at the assumptions adopted for the NIWLPS valuation at 31 March 2017 and compares the assumptions used with publicly available information on the CSPA (NI) other UK private sector *DB schemes*.
- 5.2 **In general, the assumptions adopted for the 2017 funding valuation of the NIWLPS are within a broadly reasonable range compared to wider practice. The NIWLPS has a strong *employer covenant*, as assessed by its Trustees at the 2017 actuarial funding valuation. The Utility Regulator may seek to understand to what extent NIW discussed the flexibility to include a lower margin of *prudence* in the *discount rate*, and to encourage suitably robust discussions at future valuations.**
- 5.3 Generally, assumptions will affect the timing of when contributions are made rather than the actual cost of providing benefits (higher contributions in the short-term will result in lower contributions in the long term and vice versa). There is also the issue of inter-generational equity between consumers when considering the timing of contribution reductions or payment of *deficit repair contributions*.
- 5.4 The assumptions used for funding purposes are set by the pension scheme Trustees, after taking actuarial advice, and are agreed by the sponsoring employer. The Utility Regulator's focus for this purpose is on the powers of the sponsoring employer to influence and agree the funding valuation's outcomes. I understand that NIW, alongside their actuarial advisers, met with the Trustees regularly throughout the 2017 valuation process in order to review and discuss the assumptions.
- 5.5 The assumptions for assessing the *Technical Provisions* must be prudent, with the degree of *prudence* depending on the scheme's circumstances, in particular the Trustees' view of the sponsoring *employer covenant*. Typically, the stronger the *employer covenant* the lower the margin for *prudence*. The main source of *prudence* is generally contained within the *discount rate*. The NIWLPS valuation assumptions also include a small margin for *prudence* in the post-retirement mortality assumption, with all other assumptions being broadly best estimate.
- 5.6 Appendix C provides background on scheme funding valuations and assumptions.

Financial assumptions

Discount rate

- 5.7 The *discount rate* is the rate at which a scheme's expected future benefit outgo is discounted back to provide a current capitalised value. It can be thought of as corresponding to an assumed rate of return on the scheme's assets. The assumed *discount rate* is usually the most important valuation assumption in determining contribution requirements because valuation outcomes are very sensitive to changes in the *discount rate*. For example, a 0.5% pa increase in the *discount rate* could reduce NIW's ongoing contributions calculated at the 2017 actuarial funding valuation in respect of new benefit accrual by 3% and eliminate the need for any contributions in respect of a deficit recovery plan. The *funding level* at the valuation date would have increased from 97% to 108%.

- 5.8 A higher *discount rate* (or assumed rate of return) means that the scheme’s assets are expected to generate higher investment returns, and therefore the scheme needs to hold less money now in order to meet future benefit payments. Therefore, the value placed on its liabilities is lower, its *funding level* is higher, and its *standard contribution rate (SCR)* is lower.
- 5.9 *Discount rates* are often described by reference to gilt yields (or swap curves), plus an allowance for assumed *outperformance of return-seeking assets* relative to gilts⁹. It is also common to consider the *discount rate* for the periods pre and post retirement separately to reflect the different investment strategies associated with each period. Pre-retirement may be expected to correspond to a more *return-seeking* investment strategy, and post retirement to a more *matched* investment strategy. At the 2017 valuation, the Trustees adopted the same *discount rate* for pre-retirement and post-retirement periods, and it had regard to the best estimate asset returns. This is a reasonable approach given the open nature of the NIWLPS. The asset return assumption adopted was based on the target allocation of the NIWLPS’s assets, noting that the target allocation reflected a higher allocation to *return-seeking assets* than the current holding.
- 5.10 Table 5.1 shows the *discount rate outperformance* adopted at the NIWLPS valuations at 31 March 2014 and 2017, as well as the average/typical *discount rate outperformance* adopted by UK private sector *DB pension schemes* published by The Pensions Regulator¹⁰.

Table 5.1: Discount rate outperformance above long dated gilts

Discount rate in excess of gilts, pa		
	Pre-retirement	Post-retirement
NIWLPS 2014 valuation	1.5%	0.5%
TPR average 2014	~1.7%	~0.4%
Discount rate in excess of gilts, pa		
NIWLPS 2017 valuation	1.5%	
TPR average 2017	~0.9%	

- 5.11 The table above shows typical *outperformance* assumptions for funding purposes at both the 2014 and 2017 valuations. The move to a single *discount rate* both pre-retirement and post-retirement would be consistent with a strategy to keep the scheme open and maintain the current *risk appetite* (with no stated intention to de-risk as the scheme matures).
- 5.12 The single equivalent *discount rate* at the 2017 valuation is 1.5% in excess of gilts at a *maturity* over 20 years. Table 5.2 compares the single equivalent *discount rate* against The Pensions Regulator data, including looking at similar schemes (those with a strong *employer covenant* and a similar *maturity*).

⁹ Gilt yields are taken to represent the market’s view of the expected rate of return on risk-free assets

¹⁰ [TPR’s Scheme Funding Annex 2019](#), table 4.1. “Tranche 12” schemes covering valuation dates between 22 September 2016 and 21 September 2017

Table 5.2 Single equivalent discount rates

Single equivalent discount rate in excess of gilts, pa	
NIWLPS 2017 valuation	1.5%
TPR average (all schemes)	~0.9%
TPR average (strong covenant)	~0.9%
TPR average (similar maturity to NIWLPS: less than 25% pensioner liabilities)	~0.8%

- 5.13 Table 5.2 suggests that the *discount rate* structure adopted overall at the 2017 valuation was higher than what might be considered typical for schemes of similar *maturity*, which arguably may reflect the relatively strong *employer covenant* offered by a regulated company. However, conversely Table 5.2 shows that the strength of *employer covenant* does not appear to result in different *discount rates* being adopted across UK *DB schemes* on average. The slightly higher than average proportion of *return-seeking assets* given the *scheme maturity* as shown in Figure 4.2 will contribute to a higher than average *discount rate* assumption.
- 5.14 In practice a wide range of *discount rates* are adopted which reflect a wide variety of scheme circumstances. To add some further context, a single equivalent *discount rate* of around 1.3% in excess of gilts represents the upper quartile of all schemes, and around 2.2% in excess of gilts represents the 95th percentile¹¹.

Best estimate

- 5.15 A best estimate is an indication of likely future experience on a *best-estimate basis*, rather than on a prudent basis which is required by scheme funding legislation. The Scheme Actuary, Mercer, anticipate an expected return of 4.6% a year over the long term given the scheme's investment strategy, as quoted in the 2017 scheme funding report. This therefore implies a 1.5% margin for *prudence* in the *discount rate* of 3.1% p.a.
- 5.16 If this margin for *prudence* in the *discount rate* was removed then our approximate calculations, based on the sensitivities detailed in Section 7, suggest a best estimate of the liability might be around £180 million, compared to £250 million on the prudent funding basis. Or, in other words the scheme's funding target is currently £70 million higher (around 25% of the value of the liability) than is expected to be required to meet future benefit outgo if the existing investment strategy were to continue indefinitely. On a *best estimate basis* the employer *standard contribution rate* may also be expected to be around 20% of *pensionable pay*, rather than the 29.2% assessed at the 2017 valuation.
- 5.17 The NIWLPS has a strong *employer covenant*, as assessed by its Trustees at the 2017 valuation so the Utility Regulator may want to consider if this level of *prudence* strikes the right balance between the interest of consumers and the long term strategy for the scheme, or whether a higher *discount rate* could be negotiated with the Trustees.

¹¹ That is 5% of UK *DB schemes* have a single equivalent *discount rate* of at least 1.9% in excess of gilts

Assumed rates of price inflation and pension increases

- 5.18 An assumption is required for the assumed rates of the Consumer Prices Index (CPI), as a large proportion of the benefits provided by the NIWLPS are increased by reference to CPI in service and retirement. The 2017 valuation assumes that CPI will be 1.0% a year lower than RPI. Estimates of this difference vary between commentators, however a gap of 1.0% a year is within a range that might be considered a reasonable assumption as at 2017.
- 5.19 The assumed rates of Retail Prices Index (RPI) price inflation in the 2017 valuation was derived using market data, allowing for the differences between yields on fixed-interest gilts and real yields on index-linked gilts. This is a common approach.
- 5.20 Since the 2017 valuation the House of Lords Economic Affairs Committee published its report on 'Measuring Inflation', which has initiated a consultation into the future of RPI. Whilst the decisions on RPI are outstanding, the market has built in an assumption that the gap is currently significantly narrower than the 1.0% in the 2017 valuation assumptions. We would expect to see a similar reduction in the assumed RPI to CPI gap for the 2020 valuation.

Assumed rates of pay increases

- 5.21 The assumption of future pay increases materially impacts benefits that are dictated by a member's final salary. The NIWLPS moved to CARE in 2015, and therefore the majority of benefits accrued from this point are provided CPI linked increases, with no allowance for salary increases which are typically higher. The assumptions for future pay therefore impact legacy final salary benefits within the scheme.
- 5.22 The allowance for future pay increases in the funding valuation comprises two elements:
- assumed future general (inflationary) pay increases; and
 - assumed future pay increases due to promotion and progression
- 5.23 The assumed future general (inflationary) pay increase is equal to the assumed rate of CPI price inflation plus a margin of 1.2%. This assumption was retained from the 2014 valuation for the 2017 valuation. The assumption for future pay increases due to promotion and progression has also been retained from the 2014 valuation for the 2017 valuation, and the assumption is that an additional 0.75% should be assumed for all non-frontline staff.
- 5.24 Whether these are reasonable or not depends on NIW policy and their longer-term view. We note from NIW accounts that the increases in average *pensionable pay* have not been significantly out of line with these assumptions. Any restrictions on pay increases would need to be considered in the context of wider remuneration discussions and any contractual or legal issues.

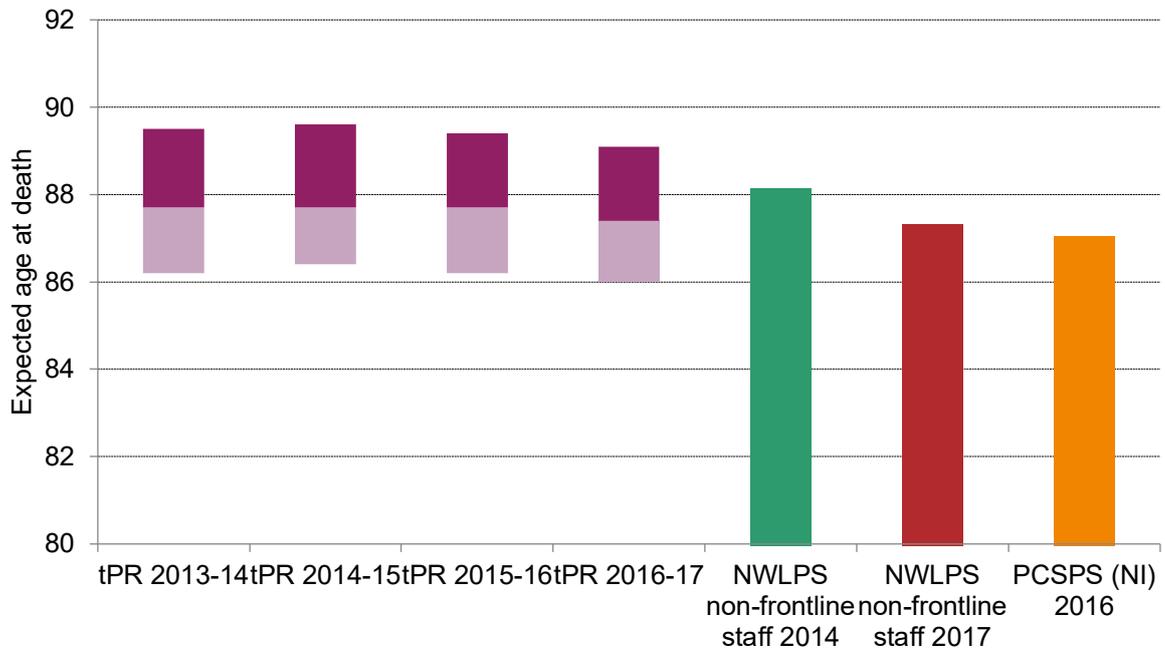
Demographic assumptions

Assumed longevity

- 5.25 The longer a pensioner lives after retirement, the greater the cost of providing a pension. Funding valuations require an assumption regarding the assumed longevity of members and their dependants. Such assumptions should reflect the particular membership of the scheme (in other words, whether the members' industry or geographical location suggests they might live for shorter or longer than average) and should allow for expected future improvements in longevity.

- 5.26 Figures 5.1 and 5.2 show the expected age at death for a 65 year old male non-frontline staff pension scheme member (in Figure 5.1), and for an active member currently aged 45 non-frontline staff (Figure 5.2), for the 2017 valuation date and the previous NIWLPS valuation. Figures 5.1 and 5.2 also show the corresponding data published by the Pensions Regulator on the range of longevity assumptions used for funding valuation purposes by UK private sector *DB schemes*, as well as the mortality assumptions used in the latest valuation of the CSPA (NI)¹².
- 5.27 The Pensions Regulator data¹³ in Figures 5.1 and 5.2 are shown separately for valuation dates occurring in each of the last three years for which data is available (September to September in each case). For each year, the following statistics are shown:
- the 5th percentile of schemes (bottom of the light mauve block)
 - the median of schemes (boundary between the light and dark mauve blocks)
 - the 95th percentile of schemes (top of the dark mauve block)

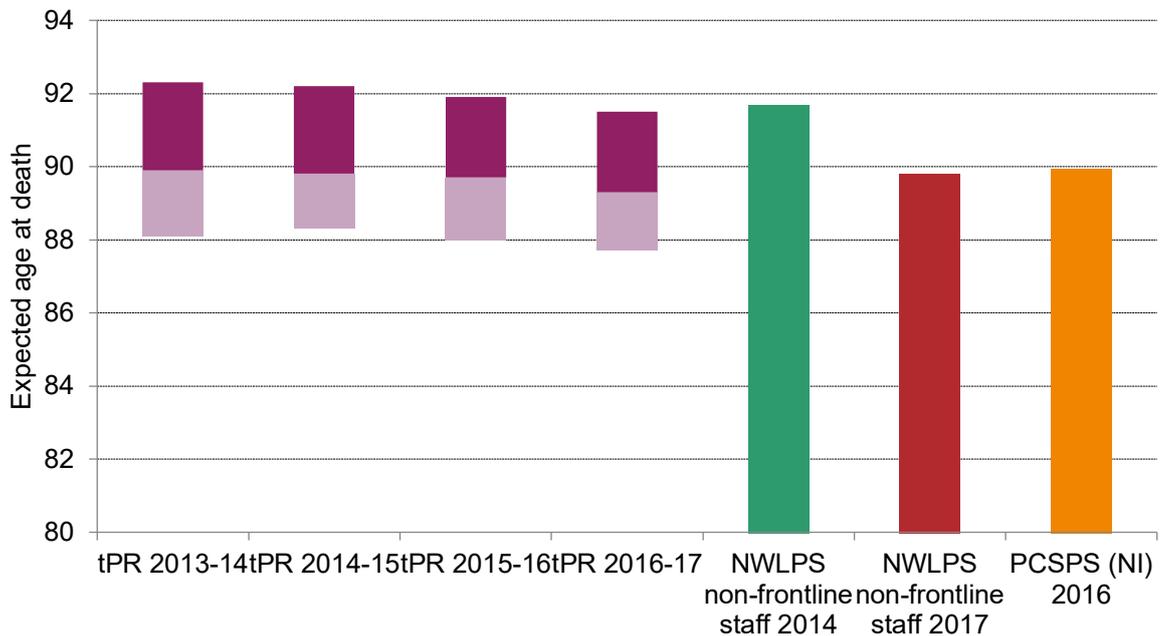
Figure 5.1 Assumed expected age at death for a 65 year old male at the valuation date, from TPR data (the 5th percentile, median and 95th percentile) and for the 2014 and 2017 valuations of the NIWLPS



¹² <https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/NICSPS-2016-Valuation-Report-11-03-2019.pdf>

¹³ "Scheme Funding Statistics" (TPR), June 2018

Figure 5.2 Assumed expected age at death for a male retiring at age 65, 20 years after the valuation date, from TPR data (the 5th percentile, median and 95th percentile) and for the 2014 and 2017 valuations of the NIWLPS



- 5.28 Figures 5.1 and 5.2 show that the assumed expectations of life for the 2014 valuation of the NIWLPS are towards the top end of the range adopted by other schemes. The NIWLPS mortality assumptions reflect recent mortality experience within the scheme, so aside from the small margin for *prudence* incorporated into the rate of future mortality improvement discussed below, the higher than average life expectancies reflect the scheme’s membership. The NIWLPS’s assumptions are broadly in line with those set as a part of the 2016 PCSPS (NI) actuarial valuation.
- 5.29 The reduction in assumed life expectancy of about one year between the 2014 and 2017 valuations is expected. The 2016 Continuous Mortality Investigation (CMI) model which was the latest available at the time of the 2017 valuation contains lower future rates of improvement in mortality than previous versions of the model, based on recent observed mortality trends in the UK population. All else being equal, this would reduce the calculated liability.
- 5.30 Assumptions for future mortality improvements, adopted by NIWLPS were based on a model produced by the CMI. Table 5.4 of the Scheme Funding Statistics Appendix published by the Pensions Regulator in June 2018 indicates that over 90% of *DB schemes* base their mortality improvements on the CMI model. The CMI model allows users to select the long term rate of improvement. Table 5.5 of the Scheme Funding Statistics Appendix published by the Pensions Regulator in June 2018 suggests that around 75% of those schemes who use CMI mortality improvements adopt a 1.5% long term rate of improvement, in line with the assumption made by NIWLPS at the 2014 and 2017 valuations.
- 5.31 Overall the mortality assumptions used in the 2017 valuation appear broadly reasonable.

Changes to demographic assumptions

- 5.32 Changes to the demographic assumptions at the 2017 valuation resulted in a £11.7 million improvement in funding position all else being equal. The majority (£9.0m) of this will be attributable to a reduction in life expectancy as discussed above.

- 5.33 There was the introduction of an assumption for the allowance for members who withdraw subsequently taking a transfer out on a *best estimate basis* terms, which will represent a saving to the scheme on the *Technical Provisions* basis. Schemes have experienced high volumes of transfers since the introduction of pensions freedoms. Therefore, we believe that it is reasonable to allow for this in the scheme's *Technical Provisions*.

Other factors

- 5.34 A number of other actuarial assumptions affect the results of a funding valuation. These include the allowance made for commutation, the assumed rates of withdrawal, ill-health and early retirement, and the allowance made for expenses. We have not independently reviewed in detail every such assumption, but we understand from the valuation documentation that they are in line with scheme experience and on that basis can therefore be considered reasonable.

6 Accounting costs

- 6.1 In line with PC15, NIW have submitted their request for pension costs in PC21 in line with their accounting assumptions, reflecting the *accounting cost* of funding the scheme.
- 6.2 NIW prepare their accounting disclosures in line with the International Accounting Standards (“IAS”); the requirements for the valuing of employee benefits are covered by *International Accounting Standards Rule Nineteen (“IAS 19”)*.

Discount rate

- 6.3 Whilst the general approach for setting *IAS 19* assumptions is “best estimate”, a key feature is the setting of the *discount rate* which is prescribed and reflects market conditions at the assessment date. The *discount rate* on an *IAS 19* basis is set in line with the yield available on high quality corporate bonds at a suitable duration.
- 6.4 As outlined in Section 4, the investment strategy of the NIWLPS is more *return-seeking* than other *DB schemes*, reflecting *employer covenant* strength, a relatively immature profile and its open nature. NIW and the Trustees agreed the 2017 actuarial funding valuation assumptions reflecting this investment strategy which led to a *discount rate* of 3.1% pa. This was a prudent estimate of the long term expected investment return on the NIWLPS’s assets.
- 6.5 Comparatively the *discount rate* used by NIW in the preparation of their 2019 Annual Report and Accounts¹⁴ is 2.5% pa. This reflects that, even on a prudent basis, the Trustees and the sponsor recognise that the long term expected return on the NIWLPS’s assets is greater than NIW are able to reflect in their accounts.
- 6.6 From our calculations based on the information we have been provided, sensitivities provided in the Scheme Actuary’s Scheme Funding Report, and NIW’s Annual Report and Accounts, we anticipate that the increased cost of funding the scheme on an accounting basis would be around 10% of payroll, at around 39-40% of payroll each year. Following the 2017 valuation, NIW agreed to pay 29.2% of salary in respect of future accrual.
- 6.7 With no intention to reduce risk within the investment strategy it appears that the accounting basis places a higher cost in respect of pension scheme accrual. NIW have stated that the investment approach is centred around achieving longer term returns by diversification of investment and to focus on achieving an appropriate balance pension costs across different generations of consumers. However, the *accounting costs* make no allowance for the expected return on the scheme assets and so current consumers may be meeting higher costs than required.
- 6.8 NIW have stated in the response to NIAUR Query 084 that ‘in setting the *discount rate* we do not wish to have to rely fully on the NIWLPS being open to new entrants and future accruals, as this could limit our strategy in the future in the event that changes to the current arrangements were felt to be appropriate for the business. In relation to the *employer covenant*, whilst we are a financially strong organisation our ability to spend is tightly controlled by the Northern Ireland government, and in the event of a downturn in the funding position of the NIWLPS we can find ourselves competing for resources from the Northern Ireland government with their other more general demands for finance.’

¹⁴ <https://www.niwater.com/annual-report-2019/>

- 6.9 Whilst we understand the arguments being made, we expect this issue would have been discussed at the time the valuation *discount rate* was being considered and would not be a reason to request costs based on an accounting basis, rather than on the *Technical Provisions* basis. **We recommend that the Utility Regulator considers whether NIW have a sufficiently strong argument to request costs on the accounting basis, rather than on expected cash contributions to the scheme.**

Volatility

- 6.10 In the response to NIAUR Query 084, NIW suggest that the cash contributions calculated every three years based on the most recent funding valuation at the time can lead to more volatile contribution requests, as there can be a significant adjustment to contribution levels to take into account any past service surplus or deficit, as well as the three-year accumulated effect of any changes in financial conditions and demographic assumption
- 6.11 However, we would argue that as the contributions agreed by the Trustees and the sponsoring employer are reviewed every three years as a part of the actuarial valuation there is expected to be an inherent stability from year to year between reviews of the contributions requested. The accounting basis is subject to review by NIW's company adviser each year and is based on market conditions at a single point in time. This therefore creates volatility in the cost to NIW on this basis from year to year – despite the actual cash contribution remaining stable. It is also worth noting that the *discount rate* in the funding valuation is based on the long term expected return of the assets held by the scheme.

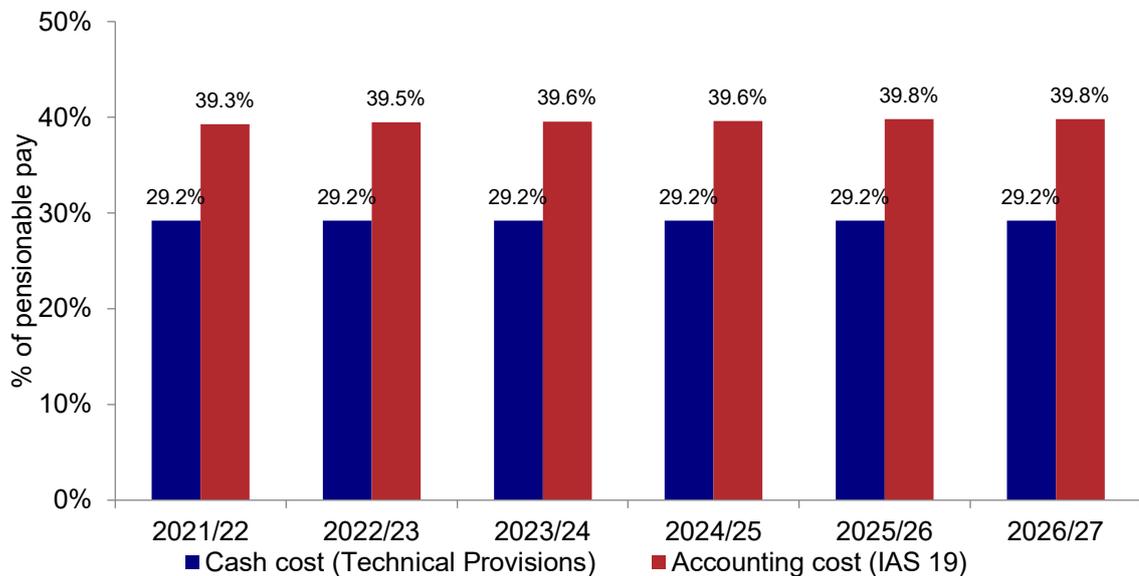
Net Interest costs

- 6.12 In the PC21 business plan NIW set out the net interest costs under *IAS 19* in relation to the NIWLPS. However, this appears to have been offset and not requested as part of PC21, therefore we have not reviewed these costs in detail. It is important to note that the net interest costs are a feature of NIW using the *IAS 19* approach to request pension costs. Should allowances be granted based on cash contributions paid into the scheme then net interest costs should not be a feature of any request.

7 NIW's projected pension contributions

- 7.1 This section discusses NIW's projected contributions as contained within their initial business plan for PC21, and the extent to which they appear reasonable.
- 7.2 The defined benefit employer standard contributions are the employer's share of the contributions required to meet the expected cost of pension benefits accruing to active members in the relevant period, including an allowance for administration expenses. The employer standard contributions payable following the 2017 actuarial funding valuation were 29.2% of *pensionable pay*, an increase from the 23.3% payable following the 2014 actuarial funding valuation. This increase is due to changes in market conditions, specifically the reduction in gilt yields between 31 March 2014 and 31 March 2017, which has partially been offset by the changes in the *discount rate* approach, the future gap between the rates of RPI and CPI, and a reduction in life expectancies.
- 7.3 The *standard contribution rate* is a function of the level of benefits and valuation assumptions adopted, which are reviewed in Sections 3 and 5 respectively. Given the level of benefits and assumptions adopted the assessed employer *standard contribution rate* of 29.2% appears reasonable.
- 7.4 Figures 7.1 and Table 7.1 show NIW's projected pension contributions for the period 1 April 2021 to 31 March 2027 as contained within their initial business plan. These contributions are in respect of the NIWLPS only. Figure 7.1 shows NIW's total contributions as a percentage of *pensionable pay*.

Figure 7.1: NIW's total projected pension contributions – percentage of pensionable pay on a cash cost vs an account cost basis¹⁵



¹⁵ *Accounting costs* are calculated from NIW's response to Query 060, calculated as the service cost in each year divided by the pensionable salaries provided.

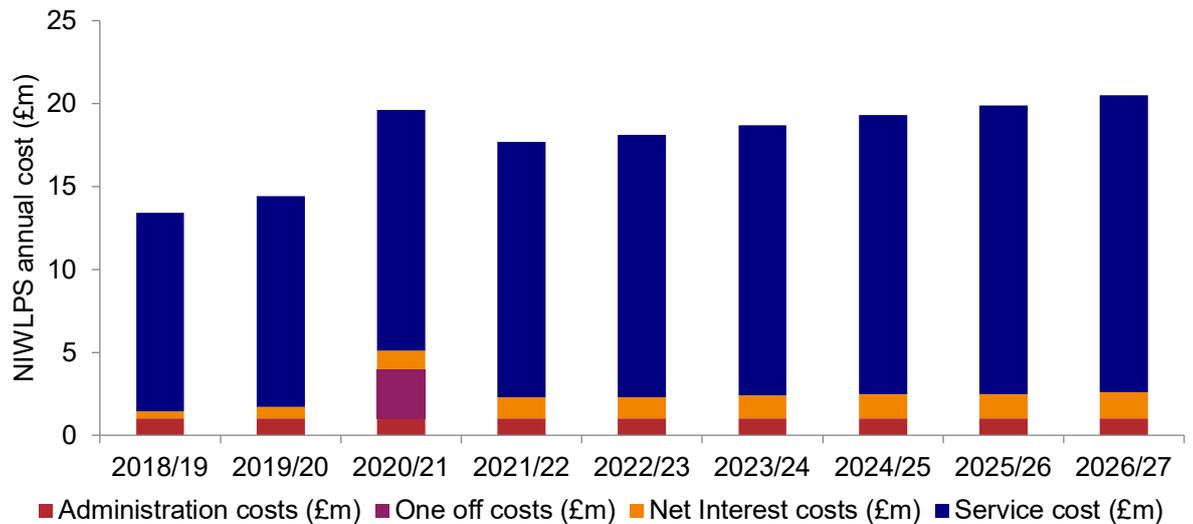
Table 7.1: NIW's requested breakdown of projected cash contributions and accounting costs in respect of the defined benefit scheme

£m	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
Pensionable salaries	39.2	40.0	41.2	42.4	43.7	45.0
Cash contributions	13.2*	13.5*	12.0	12.4	12.7	13.1
Requested service cost	15.4	15.8	16.3	16.8	17.4	17.9

*Figures stated are inclusive of £1.8m of planned *deficit repair contributions* in 2021/22 and 2022/23 above the 29.2% of *pensionable pay*.

- 7.5 Figure 7.1 and Table 7.1 show that NIW's total pension contributions are projected to step up to the 29.2% *pensionable pay* agreed at the 2017 valuation. The costs requested by NIW are shown in red in Figure 7.1. These have been assessed on the accounting basis and are projected to be in excess of those that NIW will be required to pay into the NIWLPS. The cash contributions reflect the cash contributions required in respect of future accrual of 29.2% pa and £1.8m p.a. in each of 2021/22 and 2022/23 included within the Schedule of Contributions dated June 2018.
- 7.6 The Schedule of Contributions included details about an Interim Funding Test as at 31 March 2020. Based on the Interim Funding Test, it is my understanding that the contributions in 2021/22 and 2022/23 will likely be in excess of the £1.8m annual contribution included within the Schedule of Contributions. In providing information to the Utility Regulator, NIW stated that the outcome of the Interim Funding Test would require annual contributions of £4.6m with effect from 1 April 2020, for a period of five years. NIW noted that the Trustees have acknowledged the unique set of circumstances leading to the deficit assessment, and NIW expect that the ongoing negotiations with the Trustees would likely result in the agreed contributions being lower than the calculated figure of £4.6m pa.
- 7.7 A recovery plan agreed by NIW and the Trustees as a part of the 2020 Actuarial Valuation would be expected to supersede the adjusted recovery plan outlined in Paragraph 7.6. The statutory deadline for the 2020 Actuarial Valuation to be agreed is 30 June 2021, 15 months from the date of the valuation. The basis to assess the NIWLPS past service liability, and the recovery plan to remedy any deficit is currently under negotiation between NIW and the Trustees. I would expect that the negotiations and the final agreed basis would have regard to the key material features of the NIWLPS and NIW's sponsorship of the scheme: the strength of the *employer covenant*; the open nature of the NIWLPS; the high level of targeted returns by the investment strategy; and an appropriate balance of long-term and short-term costs to the consumer.
- 7.8 Table 7.1 illustrates the level of *pensionable pay* projected over the course of the price control period. From the 2019 Trustees Report and Accounts, we understand that there were 1,150 active members of the NIWLPS as at 31 March 2019. If we assume that the membership remains in a steady state (that new entrants balance out those leaving through withdrawal and retirement), the average *pensionable pay* would be expected to increase from £34,100 pa to £39,100 pa over the six years of the price control period. This reflects an average assumed salary increase of 2.8% pa. This appears to be broadly reasonable relative to the CPI assumption on the IAS 19 basis of 2.1% pa used by the company in preparing their 2019 Annual Report and Accounts. However, it should be noted that a number of factors could influence this; for example, the impact of the COVID-19 pandemic.

Figure 7.2: NIW's breakdown of projected pension contributions in respect of the defined benefit scheme



7.9 Figure 7.2 shows the following features:

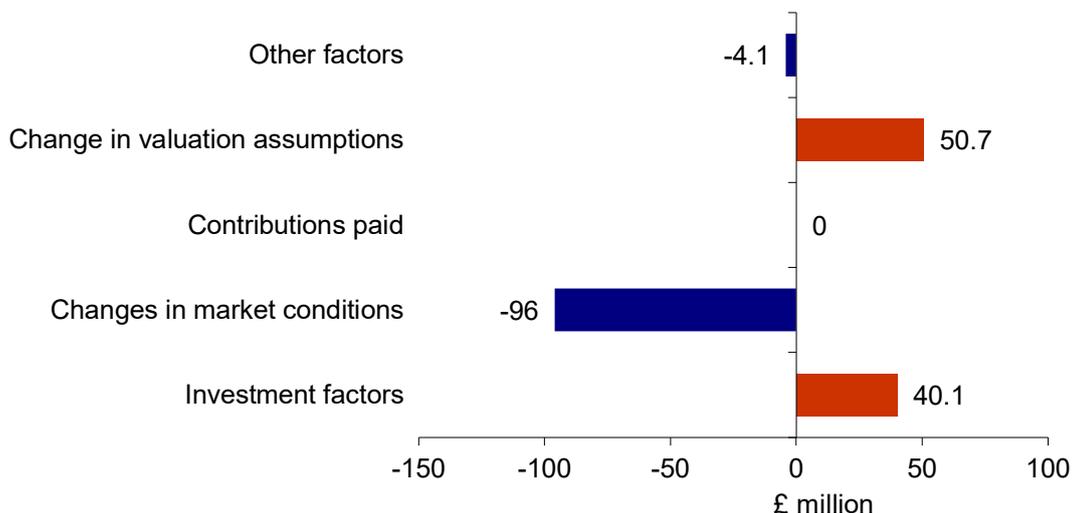
- the majority of NIW's pension costs are with respect of the NIWLPS. We are not aware of PC21 pension costs relating to the *DC scheme*.
- the cost of meeting benefit accrual (Service Cost) is the biggest ongoing cost to the scheme
- the Service Cost increases for the 2020/21 year onwards, reflecting the impact of setting cost allowances in line with the accounting basis, and therefore the profit and loss that goes through NIW's accounts. Between 31 March 2019 and 31 March 2020 the yield available on corporate bonds fell by approximately 0.6% pa (which all else being equal, would increase *IAS 19* cost assessments)
- a one-off cost is anticipated in respect of the *McCloud judgement*. NIW have estimated that there will be a cost of £3m, however they recognise that this is uncertain, and the ultimate cost will be assessed once the CSPA (NI) have rectified their benefits with respect to the final judgment. The £3m is based on assuming a cost of 1.5% of *pensionable pay* since 2015 (the implementation year). As there is not yet a remedy solution decided, the costs of this are unknown, however, 1.5% of *pensionable pay* does not seem an unreasonable allowance

7.10 **Given this comparison, and the comments in section 6, we suggest that the Utility Regulator discusses this aspect with NIW to understand the reasons why *accounting costs* are requested in respect of future accrual so it can consider whether any further action is appropriate.**

NIWLPS deficit repair contributions

- 7.11 *Deficit repair contributions* arise due to the value of the assets at the valuation date being less than the assessed value of the liabilities. A recovery plan is then put in place which sets out the *deficit repair contributions* payable in order to correct the deficit between assets and the assessed value of the liabilities. The amount of *deficit repair contributions* depends on the size of the deficit and the period over which it has been agreed to repay the deficit (*recovery period*). The majority of the deficit in the NIWLPS was expected to be made good through investment returns, however due to the adverse experience before the Interim Funding Test on 31 March 2020, we understand that additional contributions will be required.
- 7.12 The deficit in NIWLPS worsened from a surplus of £1.0 million as at 31 March 2014 to a deficit of £8.3 million as at 31 March 2017, resulting in a recovery plan being required. Figure 7.3 shows the principal reasons for the worsening in the scheme's funding position over the period.

Figure 7.3 Change in valuation deficit between the 2014 and 2017 valuations



- 7.13 Figure 7.3 indicates that the main reasons for the emergence of a deficit between the 2014 and 2017 actuarial funding valuations is due to change in the market conditions. This has been partially offset by investment returns being better than expected. The offsetting in deficit due to a change in valuation assumptions is partly due to a reduction in life expectancy consistent with recent mortality trends observed within the UK. The NIWLPS also adopted an asset-based *discount rate* having moved from an approach which took a margin above gilts. Therefore the change to a *discount rate* which did not reference gilt yields, in isolation, improved the funding position by £35.4m. These items all seem reasonable.

Deficit recovery plan

- 7.14 The main features of the recovery plan agreed at the 2017 valuation are as follows:
- runs until 31 March 2023
 - includes an allowance for investment returns at the best estimate rate until 31 March 2020, thereafter the returns are assumed to be in line with the *discount rate*

- an Interim Funding Test is to be applied to the scheme’s funding position as at 31 March 2020, at which point the contributions up to the end of the recovery plan will be set
 - £1.8 million annually required in monthly instalments from 31 March 2021 to 31 March 2023, contingent on the outcome of the Interim Funding Test
- 7.15 Assuming that some of the valuation deficit will be met by excess investment returns instead of employer contributions is relatively common but not universally used. In the absence of this assumption, then increased *deficit repair contributions* would be required to meet the whole of the deficit.
- 7.16 The scheme’s *funding level* will be reassessed at least triennially and the recovery plan amended as necessary depending on the scheme’s experience. The next formal funding valuation is as at 31 March 2020.
- 7.17 Table 7.2 compares the characteristics of the NIWLPS recovery plan to the average across other UK *DB schemes*¹⁶.

Table 7.2 Recovery plan characteristics

	Recovery plan length (years)	Annual recovery contribution as percentage of liabilities ¹⁷
NIWLPS pension scheme	2.0*	0.7%
Industry average (all)	7.3	2.1%
Industry average ('strong covenant')	5.4	2.5%
Industry average (over 90% funded)	4.5	1.0%

*Contributions in payment for two years only, with the recovery plan extending for six years from the date of the 2017 valuation.

- 7.18 Table 7.2 shows that the NIWLPS has a shorter recovery plan and pays lower relative deficit repair contributions than the average. A recovery plan of 2 years is significantly shorter than the average of those schemes who have a strong *employer covenant* or a similar *funding level* to the NIWLPS. However, a wide range of *recovery periods* are adopted in practice depending on the individual circumstances of the scheme. With a *recovery period* of around 10 years representing the upper quartile of all schemes, and around 17 years representing the 95th percentile¹⁸.
- 7.19 There is no simple actuarial answer as to what a “correct” deficit *recovery period* should be. Typically schemes with stronger *employer covenants* are associated with shorter periods, however we also note that there are regulatory policy issues which may need to be taken into consideration (for example, wanting to adopt a period which strikes a fair balance for different generations of consumers). The implications on any surplus management policy as discussed in section 8 should also be considered when setting the length of the recovery plan.

¹⁶ ‘Tranche 10’ schemes from [TPR’s 2017 Scheme Funding Appendix](#). Tranche 10 schemes are those schemes whose valuation was between 22 September 2014 and 21 September 2015

¹⁷ Liabilities estimated on a reference basis of gilts+0.5% to allow meaningful comparison

¹⁸ In other words 5% of UK *DB schemes* have a *recovery period* of at least 17 years

- 7.20 It is noted that the deficit recovery plan has an allowance for investment returns in excess of the *discount rate* used for the *Technical Provisions*. This leads to lower *deficit repair contributions* being payable over the *recovery period*. This can be viewed as a reasonable approach given the nature of the *employer covenant* and *maturity* of the NIWLPS.
- 7.21 The Interim Funding Test showed a *funding level* of approximately 92% as at 31 March 2020, leading to an additional £4.6 million per year required in *deficit repair contributions* from 1 April 2020. However, as mentioned in paragraph 7.6 this is still being negotiated with the Trustees and is likely to be superseded when a new recovery plan is agreed following the finalised valuation as at 31 March 2020.

Sensitivities

- 7.22 The assessed value of the *Technical Provisions* and level of contributions are sensitive to the assumptions adopted. For reference, we have summarised the sensitivity analysis contained within the 2017 valuation documentation. We have estimated the impact of a change in the *discount rate* to the *standard contribution rate* using the duration of the NIWLPS’s liabilities implied by the sensitivities within the valuation report.

Table 7.3 Discount rate sensitivities

	Change to discount rate	Change in total Technical Provisions	Change in standard contribution rate as a % of pensionable pay
Discount rate	-0.50%	+11.5%	+3.1%

- 7.23 Table 7.3 shows that the valuation results are sensitive to relatively small changes in the *discount rates*. Given that the *discount rate* is now set relative to the long term expected return on the NIWLPS’s assets, this is expected to remain more stable over time than the yield available on government bonds. Although there will still be some volatility, especially given the market movements around the 31 March 2020 valuation date. Therefore, results may be significantly different at the next funding valuation due at 31 March 2020.
- 7.24 Some “what if” scenarios and their impact on the *surplus/(deficit)* as at 31 March 2017, as included in the 2017 funding valuation report, are summarised in Table 7.4. In particular it can be seen that any changes in investment markets could have a material impact on the *funding level* of the scheme (and hence level of *deficit repair contributions*).

Table 7.4 “What if” scenarios

Scenario	Change to surplus/(deficit) £m
2017 valuation <i>Technical Provisions</i> basis	(8.3)
Long-term inflation is 0.25% p.a. higher than assumed	-13.2
Pensionable pay growth is 0.25% p.a. higher than assumed	-2.6
Members live one year longer than assumed	-6.8

Valuation as at 31 March 2020

- 7.25 NIWLPS is presently undertaking a valuation as at 31 March 2020. This report has considered the results and assumptions from the 31 March 2017, which have been used to inform the pension costs requested in PC21. NIWLPS have not finalised the results of the valuation as at 31 March 2020, although NIW have indicated that the provisional *funding level* as at 31 March 2020 was 92%. As part of the recovery plan agreed at the 2017 valuation, an Interim Funding Test was required as at 31 March 2020. If the provisional *funding level* as at 31 March 2020 was less than 98% then interim contributions become payable. The payment amounts target clearing any shortfall identified over a five-year period.
- 7.26 Applying the Interim Funding Test formula, as it was originally prepared, would result in an additional contribution requirement of £4.6 million a year with effect from 1 April 2020, but this amount can be adjusted if NIW and the Trustees agree. In practice, the Trustees have acknowledged that this outcome has been driven by a fairly unique set of circumstances caused by the COVID-19 pandemic, and NIW are in discussion with the Trustees with a view to agreeing a lower contribution amount. It is noted that any additional contributions agreed do not currently form part of the PC21 pension costs request.

Defined Contribution pension costs

- 7.27 DC pension costs depend directly on the level of contribution rates paid and so do not require projections of expected future benefit outgo in the same way as *DB schemes*. Within their *DC scheme* NIW pay employer contributions at a level of twice the amount the employee decides to pay in, up to a maximum employer cost of 10% of *pensionable pay*. NIW's projections assume the average employer contribution will be 10% of *pensionable pay*, based on recent experience.
- 7.28 It is usual for employers to operate a matching contribution structure as NIW have done as it incentivises employees to contribute more and therefore build up a bigger retirement fund.
- 7.29 The Occupational Pension Schemes Survey published by the Office for National Statistics states that the average employer contribution rate into *DC schemes* in the UK in 2016 was 3.2%. Due to the introduction of auto-enrolment this statistic is likely to be skewed by auto-enrolled companies paying at the minimum possible level. A 2016 Aon Hewitt¹⁹ survey reported an average DC employer contribution rate of 7.5% in 2014 and noted the impact of auto enrolment pulling average rates down. An alternative benchmark is against the contribution rates paid by FTSE100 companies. Willis Towers Watson²⁰ report that in 2017 FTSE100 companies were on average paying around 10% of pay towards *DC schemes*.
- 7.30 **Overall the average employer contribution rate is broadly in line with those typically paid elsewhere. The level of employer contributions made towards a *DC scheme* needs to be considered as part of the whole remuneration package. To the extent that DC contributions (10% on average) are considerably lower than DB contributions (29.2% from 2020) this represents a reduction in costs passed on to the consumer for the portion of the workforce choosing the *DC scheme*.**

¹⁹ [Aon Hewitt DC Member Survey 2016](#) – page 8

²⁰ [12th edition of the FTSE DC Pension Scheme Survey](#)

8 Application of surplus

- 8.1 This section considers the treatment of any surplus that may arise and actions NIW have taken to manage pension costs.
- 8.2 The two main areas to be considered regarding the treatment of surplus is whether surplus is used for de-risking the investment strategy and therefore is not returned to NIW (and ultimately consumers) and whether there is the possibility for a long term trapped surplus.

Application of future surplus

- 8.3 If the best estimate investment returns are achieved in practice then a surplus is expected to emerge. NIW have stated that their long-term strategy is to adopt an approach which will result in NIWLPS being fully funded at future valuations with a probability of 80%. Whilst the timing of any future surplus arising is unknown, it is reasonable to expect that management of future surpluses would be one of the relevant considerations when taking into account the consumer's long-term interest.
- 8.4 In the event of a future surplus arising in the scheme the Trustees could consider using that surplus to de-risk the investment strategy and/or reduce employer contributions (with savings passed on to the consumer). NIW have not provided information to confirm the longer-term plan.
- 8.5 If there is an intention to use surplus to de-risk the investment strategy, the pace at which it occurs is important, as it may result in lower *discount rates* being adopted at an actuarial funding valuation and therefore an increase in the employer *standard contribution rate*. Material de-risking when there are still active members in the scheme may therefore ultimately increase costs for consumers.
- 8.6 However, de-risking would be expected to result in less volatile funding valuation outcomes at future valuations, so the chance of a deficit re-emerging and requiring further *deficit repair contributions* at a cost to consumers will be lower.
- 8.7 An alternative application for a surplus may be to reduce the contributions that NIW pay in respect of future accrual. This would be agreed as a part of the valuation with the Trustees such that the surplus was eroded over time. Given that NIW assess their pensions cost for the PC21 submission on the accounting basis, any reduction in contribution may not necessarily be passed on to the consumer.
- 8.8 NIW have stated in their response to NIAUR Query 084 that they are of the view that they would have adequate time to discuss and develop proposals with the Trustees, in conjunction with wider stakeholders, about longer-term risk if a surplus was expected to emerge in the future.
- 8.9 TPR are holding a consultation on the long-term funding of *DB schemes*. It is expected that it will be required that the Trustees and NIW will have to agree and document a long term plan once that consultation is completed. Once the outcome of the consultation is published the Trustees and NIW will have greater clarity on what they need to agree and document in relation to the long-term plan.
- 8.10 **The Utility Regulator may wish to engage with NIW on the plan for managing a surplus, with the intention of identifying a long term strategy which appropriately reflects the consumer interest.**

Trapped surplus

- 8.11 A trapped surplus is where there is still a surplus in the scheme once the investment strategy is fully de-risked and there are no more active members (and hence no further employer contributions to the scheme). In these circumstances NIW would be unable to take a contribution holiday or pay lower contributions to access the surplus.
- 8.12 However, the probability of a trapped surplus occurring in the NIWLPS in the short-term is low given the current *funding level* and open status. The 2017 Scheme Funding Report indicates a *funding level* of 48% on wind up basis, which looks at the amount that would be required to *buy-out* the benefits with an insurer.

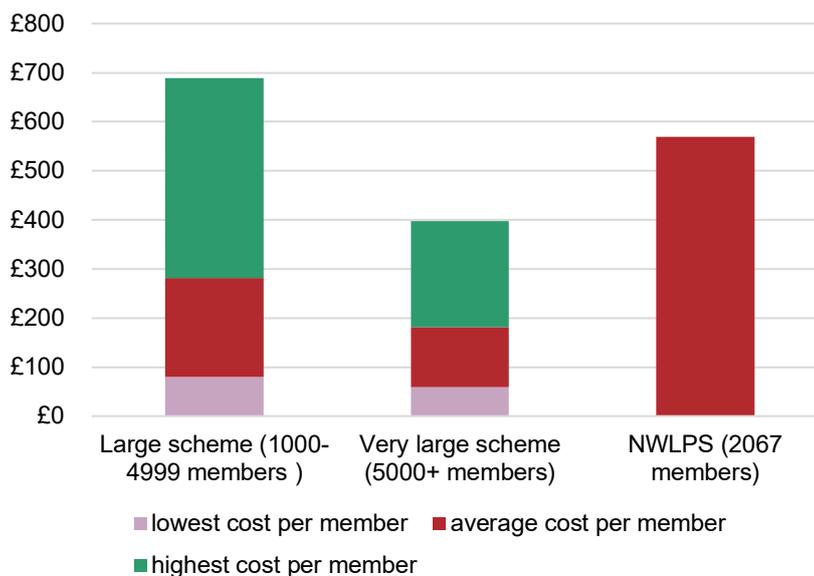
Approaches taken by other schemes

- 8.13 In seeking to manage the scheme as efficiently as possible we would expect NIW to consider the merits of approaches used by other pension schemes to reduce costs/risks.

9 Expenses and governance

- 9.1 This section considers the level of expenses in the NIWLPS. The level of expenses incurred within the NIWLPS is higher than average *DB schemes* according to data published by The Pensions Regulator. The annual level of investment expenses appears reasonable as a proportion of the overall value of the fund.
- 9.2 We have compared the average annual level of expenses incurred by the NIWLPS over the past three years of published accounts (1 April 2016 to 31 March 2019) with data published by the Pensions Regulator²¹. The expenses data is classified according to scheme size to enable a more informative comparison (larger schemes are expected to have lower per member expenses charges due to economies of scale). Accordingly the NIWLPS expenses are compared with expenses incurred by schemes of a similar size; that is with large schemes (between 1,000 and 5,000 members) and given the expected size of the scheme is expected to continue to grow, with very large schemes (over 5,000 members).
- 9.3 Figure 9.1 below compares the annual cost per member for total administrative and investment management charges.

Figure 9.1: annual expense charge per member



- 9.4 As can be seen from Figure 9.1, the NIWLPS’s average expense costs appear higher than the average in the sample data²². Table 9.1 below shows the split between the annual average cost per member between administrative and investment costs

²¹ <https://www.thepensionsregulator.gov.uk/en/trustees/managing-db-benefits/db-scheme-costs-comparison-tool/your-db-scheme-costs>

²² The Pensions Regulator’s sample contained 75 schemes in the ‘large’ category and 24 schemes in the ‘very large’ category

Table 9.1: average annual expense charge per member split by administrative and investment costs

	NIWLPS (2,067 members)	Large schemes (1,000 – 4,999 members)	Very large schemes (5000+ members)
Actuarial and consultancy fees	£261	£39	£13
Administrative costs ²³	£70	£87	£64
Investment costs	£78	£76	£78
Legal and other professional fees	£49	£22	£9
Other costs	£111	£56	£18
Total	£570	£280	£180

- 9.5 Actuarial and legal fees over the period 1 April 2016 to 31 March 2019 were higher than a typical scheme of a similar size. By analysing the expenses over three years this should smooth out any timing inconsistencies, for instance especially high fees for the triennial valuation. There may be reasons why these fees during the period appear notably high based on this comparison, e.g. due to the opening of the CARE section of the scheme and the administrative, actuarial and legal work involved in transitioning to the new scheme benefits.
- 9.6 Investment expenses would be typically considered as a percentage of assets rather than per member.
- 9.7 The annual NIWLPS investment expenses are around 0.07% of the value of the assets. This appears to be lower than other *DB schemes* that we hold information on. There is a lack of publicly available benchmarks across all UK *DB schemes*, however I note that a sample of 18 Local Government Pension Scheme (LGPS) funds were found in 2012 to have average annual investment costs of 0.44% of assets²⁴. In that context, the level of investment expenses do not appear unreasonable. The requested expense allowance has not been broken down into these elements. It is therefore not clear whether NIW anticipate a similar level of investment expenses as they transition to the updated investment strategy.
- 9.8 For the expenses that are reasonable to assess on a per member basis (those not in respect of the management of investments), the sample per member data provided by the Pensions Regulator indicates that NIWLPS incur higher fees per member than average schemes of a similar size. **Given the current level of expenses, the Utility Regulator may like to discuss with NIW if any further action is required.**

²³ Excluding PPF levy

²⁴ <https://www.gov.uk/government/consultations/local-government-pension-scheme-opportunities-for-collaboration-cost-savings-and-efficiencies>

Trustees directors

- 9.9 The Trustees entity is a company, the NIW Pension Trust Company Limited. The directors of the company act as Trustees Directors; four are nominated by the employer and four are nominated by the members. None of the employer nominated Trustees directors are members of NIW's board of directors. There is an even split on the Trustees' board of directors nominated by the members and by the sponsor. This is a typical arrangement and raises no concerns.

Appendix A: Objectives of the review

A high level summary of the requirements for this review, based on the Terms of Reference, as described in the Review of Northern Ireland Water Pension allowances for the PC21 price control period – Work Package 1 (WP1), is set out below.

Requirement - Pension Valuation

- perform an assessment of the reasonableness of the 2017 NIWLPS actuarial valuation, assessing underlying methodology and assumptions
- review the reasonableness of the investment portfolio, comparing to similar companies and utilities
- review whether the scheme's benefits, funding methodology, assumptions, funding level or standard contributions are outside of the expected range compared to industry peers and regulated entities
- to highlight and quantify the impact upon future valuations of the McCloud judgement in July 2019

Requirement - Pension scheme deficit recovery programme

- consider the appropriateness of the pension deficit recovery programme, the derivation of the established and incremental deficits, and the recovery programme proposed by NIW in PC21. Identify any alternative approaches and comment on implications for future price controls.

Requirement - current pension scheme contributions and review of the PC21 allowance requested

- perform an assessment of the reasonableness of the current contributions (including expenses) for the DC and DB Schemes, separately

Requirement – Additional areas

- comment on allowance for the cost of the McCloud judgement, and whether the actuarial forecast of the costs is reasonable and appropriate
- plans to deal with future valuations in the context of the deficit or surpluses that may arise, including accounting implications
- whether the composition of the scheme's Trustees boards is suitable, including the level of independence of the Trustees and the relationship between the Trustees and NIW

Appendix B: Information used for the review

Information regarding the NIWLPS

1. The Scheme Actuary's actuarial valuation report as at 31 March 2017;
2. The Scheme Actuary's actuarial valuation report as at 31 March 2014;
3. The Trustees' annual report & accounts 2017, 2018 and 2019;
4. Statement of Funding Principles, dated June 2018;
5. Schedule of Contributions, dated June 2018;
6. Recovery plan, dated June 2018;
7. Statement of Investment Principles, dated June 2019
8. Letter entitled "Proposed Investment Strategy Changes" from Chairman of NIW Pension Trust Company to CEO of NIW, dated 29 November 2019
9. The pension costs section in section 5 of NIW's initial business plan;
10. Information provided by NIW under PC21 Pension Reasonableness Review – questions for NI Water, forwarded via email from the Utility Regulator on 12 May 2020;
11. NIW Annual Report and Accounts 2018/19
12. Response to Utility Regulator queries:
 - NIAUR Query 025
 - NIAUR Query 050
 - NIAUR Query 059
 - NIAUR Query 060
 - NIAUR Query 067
 - NIAUR Query 084

Publicly available reference information

13. ["The Purple Book"](#), Pension Protection Fund, 2017
14. ["Scheme funding statistics, Appendix"](#), The Pensions Regulator, 2018 and 2017.
15. ["Occupational pension schemes survey 2016"](#), Office for National Statistics, September 2017.

Information regarding approaches by other regulators

16. Ofgem - <https://www.ofgem.gov.uk/publications-and-updates/revised-pension-allowance-values-and-completion-2017-reasonableness-review>

17. Ofgem's consultation - <https://www.ofgem.gov.uk/publications-and-updates/decision-ofgems-policy-funding-pension-scheme-established-deficits>
18. Utility Regulator, Northern Ireland - <https://www.uregni.gov.uk/consultations/nie-networks-transmission-and-distribution-price-control-rp6-draft-determination>
19. Ofwat's treatment of deficit costs - https://www.ofwat.gov.uk/wp-content/uploads/2015/11/prs_in1317pr14pension.pdf
20. Ofcom's treatment of deficit cost - <https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2010/ofcom-statement-on-bt-pensions>

Appendix C: Background to scheme funding and contributions

C.1 Most UK private sector *defined benefit pension schemes* are subject to the scheme funding requirements of Part 3 of the Pensions Act 2004²⁵. Pension schemes must have a full actuarial valuation carried out at least every three years. The purposes of such an actuarial valuation are:

- to check whether the pension scheme's assets are sufficient to cover its accrued liabilities (referred to as its *Technical Provisions* in the Pensions Act 2004); and
- to determine the contribution rate payable by the employer going forward²⁶

C.2 Employers' contribution rates usually comprise two elements:

- the employer's share of the *Standard Contribution Rate (SCR)*: this is the contribution rate required to meet the expected cost of pension benefits accruing to active members in respect of service in the relevant period (often the next three years), after deducting the members' contribution rate. The higher the members' contribution rate, the lower the employer's share of the SCR
- adjustments for past service surplus or deficit: where an actuarial valuation shows that the scheme's assets are less than required to cover the expected cost of members' benefits which have accrued up to the valuation date, additional *deficit repair contributions* are required from the employer to make up the shortfall. Conversely, where the scheme's assets are more than sufficient, the employer's contributions may be reduced, depending on the scheme's rules

C.3 The *Standard Contribution Rate (SCR)* therefore depends on the following three main factors:

- the level of benefits being provided: the more generous the benefits, the higher the SCR. Also, the lower the members' contribution rate (as specified in the scheme rules), the higher the employer's share of the SCR
- the actuarial assumptions used: the more optimistic the assumptions, the lower the expected cost now of providing the defined benefits²⁷
- the membership profile of the pension scheme: the expected cost of providing a pension depends on the age of the members. SCRs are expected to increase as a member ages

²⁵ For further information, please refer to the Pensions Regulator's regulatory code of practice 03, "[Funding defined benefits](#)".

²⁶ The pension scheme's rules usually determine the rate of members' contributions. In a *defined benefit scheme*, the employer's contributions are usually variable, and depend on the scheme's experience. In other words, given a fixed rate of member contributions, the employer must ensure the scheme has sufficient assets to pay the specified benefits.

²⁷ Other things being equal, the more optimistic the assumptions used to calculate the SCR, the greater the risk of actual future experience being worse than the assumptions used and hence of a deficit emerging in the pension scheme in the future.

- C.4 The amount of any *deficit repair contributions* depends on the following factors:
- the scheme's funding position: this depends on the scheme's actual past experience, and also on the assumptions used for the valuation with regard to the scheme's future experience. Past experience affects both the scheme's liabilities (its obligations to pay members' pensions) and the scheme's assets (the fund which has built up from past contributions and the actual investment performance achieved to date)
 - the *recovery period*: in other words, the period over which any shortfall must be met by the employer through additional contributions. For any given deficit, the annual *deficit repair contribution* will be lower the longer the period over which the deficit is to be repaid
- C.5 Some key points on the scheme funding process are²⁸:
- the assumptions to be adopted for funding purposes are not prescribed in legislation or guidance
 - assumptions must be set by the pension scheme Trustees, after taking actuarial advice, and they generally must be agreed by the sponsoring employer. Assumptions must reflect the scheme's and the sponsoring employer's specific circumstances, in particular the Trustees' view of the sponsoring *employer's covenant*
 - when calculating past service liabilities, assumptions must be prudent. The degree of *prudence* is not defined and will depend on the scheme's circumstances²⁹
 - the *recovery period* must also be agreed with the sponsoring employer. The Trustees should aim to eliminate any funding shortfall 'as quickly as the employer can reasonably afford'
- C.6 A number of assumptions affect the results of an ongoing funding valuation. These include:
- financial assumptions: including the *discount rate* (or equivalently, the assumed rate of return on the scheme's assets), pay increases, price inflation and pension increases
 - demographic assumptions: including assumed longevity (allowing for expected future longevity improvements), assumed rates of withdrawal from active service (and whether this is through voluntary withdrawal, ill-health, death or retirement), and the proportion of members in respect of whom dependants' benefits will be paid
- C.7 Actuarial valuations may be carried out for other purposes, for example to determine pension costs and liabilities for the sponsoring employer's financial statements under FRS102 or IAS 19, or to assess the extent to which the pension scheme's assets would be sufficient to *buy-out* the accrued liabilities with an insurer if the scheme were to wind up (referred to as a solvency valuation). Different types of actuarial valuations use different methods and assumptions, as appropriate for the purposes of the valuation. This report considers scheme funding valuations of the NIWLPS, which are used to determine NIW's cash contributions to the scheme.
- C.8 The NIWLPS uses an actuarial method called the *projected unit method*. This is a standard method which is commonly used for funding valuations

²⁸ This list is not exhaustive.

²⁹ Please refer to Appendix F for a definition of "*prudence*" in this context.

- C.9 The expected cost of pension benefits accruing to active members, expressed as a percentage of payroll, usually increases with age (although this depends on the actuarial assumptions used to calculate the expected cost). Where a pension scheme is closed to new entrants, this would be expected to result in an increase in the average age of active members over time, and hence an increase in the expected cost of benefits accruing to active members, expressed as a percentage of payroll.
- C.10 If the employer *standard contribution rate* (SCR) is calculated to be sufficient to meet the expected cost of benefits accruing to active members in the few (typically three) years following the valuation date, then the employer SCR (expressed as a percentage of payroll) would be expected to increase in the future for a closed scheme. Such an approach is called the *projected unit method*.
- C.11 Alternatively, the employer SCR could be calculated to be sufficient to meet the average expected cost of benefits accruing to active members for the remainder of their expected working lifetimes. This can result in a higher initial SCR, but with no further increases being expected in the future as the average age of active members increases. This is called the *attained age method*.
- C.12 Both the *projected unit method* and the *attained age method* are commonly used for funding valuations of closed pension schemes. The *projected unit method* would be expected to result in lower initial employer contributions than if the *attained age method* were used. The *projected unit method* is expected to lead to future increases in the employer SCR as the average age of active members' increases, but this should be considered in light of the corresponding expected reduction in *pensionable pay*.
- C.13 A *defined benefit pension scheme's* ultimate cost depends on three factors:
- the scheme's benefits (including to what extent members pay for their own benefits);
 - the scheme's investment returns; and
 - members' experience (for example employees' pay rises, and pensioners' longevity)
- C.14 However, an employer's contributions to a pension scheme also depend on the method and assumptions used to calculate the contribution rates (in other words, the assumptions made regarding future investment returns and future experience).
- C.15 The use of more prudent assumptions causes a higher initial contribution rate but would be more likely to result in a future valuation surplus and hence lower future contribution rates (assuming that surpluses are used to reduce contribution rates rather than to improve members' benefits). Therefore, differences in contribution rates which are caused by different methods and assumptions might, in broad terms, be expected to even themselves out over time (assuming the scheme is ongoing), but raise issues of equity between customers at different times if they are reflected in price limits.

Appendix D: Factors affecting investment strategy

- D.1 A number of factors affect the high-level strategic investment strategy for a funded *defined benefit pension scheme*. The choice of investment strategy represents a trade-off between:
- return – In isolation, assets which are expected to generate higher returns would be preferred to assets with lower expected returns. Such assets include equities and property and are referred to as *return-seeking assets* in this report
 - risk – The scheme's Trustees wish to minimise the risk of sufficient assets not being available to meet the scheme's benefit payments as they fall due. The employer may also want to minimise the risk of large *deficit repair contributions* being required in the future. Investing in *matching assets*, such as government and corporate bonds, can reduce risk by providing an approximate match to future pension liabilities, and by their market values broadly reflecting changes in the present value of the scheme's liabilities³⁰
- D.2 In their consideration of risk, one key factor for the Trustees is the financial strength of the sponsoring employer (that is, its '*employer covenant*'). They wish to minimise the likelihood of there being insufficient assets in the scheme with no continuing sponsoring employer being able to meet the deficit. The greater the Trustees' perceived risk of the sponsoring employer's insolvency, the more cautious the scheme's investment strategy is likely to be, although this may be influenced by the size of any existing surplus or deficit.
- D.3 The *maturity* of the scheme is also important. Mature schemes, for example schemes where a large proportion of their liabilities relate to current pensioners, generally have net cash outflow and need certainty of investment income to ensure pensioner payments can be met. Immature schemes with significant cash inflows may choose to take a riskier approach to investment, as there is a longer time horizon to deal with fluctuations in asset values (subject to the strength of the *employer's covenant*).

³⁰ Depending on the method used to value the scheme's liabilities.

Implications of a change in holdings in return-seeking assets

- D.4 *Long-term implications:* other things being equal, less (more) investment in *return-seeking* assets implies:
- lower (higher) long-term expected investment returns; and therefore
 - an expectation of higher (lower) long-term employer contributions (in order for the scheme's assets to be able to meet future benefit payments); but with
 - less (more) investment risk; so
 - potentially less (more) volatile funding outcomes; and therefore
 - potentially less (more) volatile overall employer contribution rates
- D.5 *Short-term implications:* one possible consequence of a relatively low (high) investment in *return-seeking assets* is a relatively high (low) employer contribution rate in the short term, due to actuarial valuation assumptions anticipating lower (higher) long-term investment returns.

Appendix E: Glossary

Accounting cost – The principle that the cost incurred in providing a benefit over the course of a year is valued at the level that it impacts the profit and loss in the accounts. Compare with *cash cost*.

Accrual rate – The rate at which benefits accrue to active members in a *defined benefit scheme*. For example, in a final salary scheme where a member is entitled to a pension of one eightieth of his or her final salary for each year of pensionable service, the *accrual rate* is one eightieth.

Attained age method – A method used to calculate *standard contribution rates (SCRs)* where the *SCR* is calculated to be sufficient to meet the average expected cost of benefits accruing to active members for the remainder of their expected working lifetimes. (Compare with *projected unit method*.)

Best estimate basis – An actuarial basis where the future assumptions do not contain any *prudence*. There is felt to be an equal chance that the future experience will either be better or worse than predicted.

Buy-out – A financial transaction whereby a *DB pension scheme* pays a fixed amount to an insurance company in order for the insurance company to take on the obligation of meeting future benefit payments. This relieves the sponsoring employer of any liability associated with these benefit payments.

Cash cost – The principle that the cost incurred in providing a benefit over the course of a year is valued at the cost of providing that benefit in monetary terms, ie the cost the transaction. Compare with *accounting cost*.

Covenant – see *employer covenant*.

Deficit repair contributions – Where an actuarial funding valuation shows that the scheme's assets are less than required to cover the expected cost of members' benefits which have accrued up to the valuation date (so the scheme is in "deficit"), additional *deficit repair contributions* will be required from the employer to make up the shortfall. *Deficit repair contributions* are payable for a fixed term, known as the *recovery period*, after which the deficit would be expected to have been eliminated.

Defined benefit pension scheme (DB scheme) – A pension scheme in which an employee's pension is determined under the scheme rules. In a *final salary scheme*, the pension is based on the number of years of service and on the employee's *pensionable pay* at, or shortly before, the employee leaves active service. In a *career average scheme*, the pension reflects the employee's average *pensionable pay* throughout his or her active service. The cost of providing the defined benefits will depend on the scheme's experience. In most schemes, the employer has to provide additional funds to the scheme to meet the cost of providing the defined benefits, if experience is worse than expected. In other words, the risk of adverse experience usually rests with the sponsoring employer. Conversely, the employer usually benefits from reduced contributions if experience is favourable.

Defined contribution pension scheme (DC scheme) – A pension scheme in which the benefits paid to an employee depend on the level of contributions to the scheme, the investment return earned on the contributions, annuity rates at retirement and the provider's expense charges. There is no guaranteed level of benefits. In other words, the risk of adverse experience rests with the employee (who also benefits from any favourable experience).

Discount rate – The rate at which a *defined benefit pension scheme's* expected future benefit expenditure is discounted for the purpose of an actuarial valuation. That is, to convert a stream of expected future benefit cash flows to a current capitalised value. It can be thought of as corresponding to an assumed rate of return on assets. A higher *discount rate* (or assumed rate of return) means that the scheme's assets are expected to generate higher investment returns, and therefore the scheme needs to hold less assets now in order to meet its liabilities, its *funding level* is higher, and its *standard contribution rate* is lower.

Employer covenant – The degree to which the employer is willing and able to meet the funding requirements of the scheme.

Funding level – The ratio of the value of the pension scheme's assets to the assessed value of its accrued liabilities. A *funding level* of 100% means that the pension scheme is deemed to be "fully funded"; in other words, its assets are expected to be sufficient to meet the expected cost of the benefits accrued to the valuation date, on the basis of the assumptions adopted for the valuation. A "fully-funded" scheme is not guaranteed to be able to meet its future liabilities; it is only an expectation based on the assumptions adopted.

International Accounting Standard 19 (IAS 19) – The presiding rules under the International Financial Reporting Standards rules set by the International Accounting Standards Board covering "employee benefits" including pensions.

Liability-driven investment (LDI) – *Liability driven investment* is an investment strategy which considers the nature of both a pension scheme's assets and liabilities when determining an approach. Typically these strategies involve the use of swaps and other derivatives to manage, or hedge, a scheme's exposure to risk (most commonly interest rates and inflation). Such strategies can also incorporate 'flight paths' with the aim of reducing risk over the long-term, subject to returns delivering a suitable level of *outperformance* against low-risk asset classes in the meantime.

Matching assets – Asset classes such as government and corporate bonds, whose cashflows can provide an approximate match to future pension payments, and whose market values may broadly reflect changes in the present value of the scheme's liabilities, depending on the method used to value the scheme's liabilities. Such assets are used to reduce a pension scheme's investment risk (in simplistic terms) but at the expense of lower expected long-term investment returns compared with *return-seeking assets*.

Maturity - Pension schemes accrue a benefit obligation as active members accumulate service, and this benefit obligation is paid once members retire. *Maturity* is the relative level of accrual against the pensions being paid. For schemes with large pensioner populations, with high outgo in pension payroll and little to no active members accruing service they would be said to be very mature. For schemes with large proportion of members still accruing benefits they would be immature. Sometimes *maturity* can be framed in terms of the net cashflow of a pension scheme, ratioing the cashflow paid to the scheme in respect of contributions from the sponsors and members for accruing benefits, with the cashflow paid out of the scheme in respect of pensions benefits.

McCloud judgement – In December 2018 the Court of Appeal ruled that the 'transitional protection' offered to some members of the judges' and firefighters' schemes, as part of the 2015 reforms into public service pensions, gave rise to unlawful discrimination. The discrimination that has been identified in the public service schemes arises between the different treatment between members who were 1) members of pre-2015 public service schemes as at 31 March 2012 and were fully transitionally protected by remaining in that scheme after 1 April 2015 (as a result of being 10 years within their normal pension age) and 2) members of the pre-2015 schemes as at 31 March 2012 and were not treated as fully transitionally protected and moved to new post-2015 arrangements on or after 1 April 2015.

Employment tribunals will oversee the process of agreeing a remedy for claimants.

Outperformance – Assumed production of better returns than the risk free rate.

Pensionable pay – The amount of an employee’s salary which is used to calculate the amount of contributions to a pension scheme, and the benefits provided by a *defined benefit pension scheme*. *Pensionable pay* can exclude fluctuating elements of pay, such as overtime and bonuses.

Projected unit method – An actuarial method used in valuations where an allowance is made for the future growth of *Pensionable Salaries* between the valuation date and retirement. The cost of the benefits accruing is considered over a control period, typically three years.

Prudence (in the context of scheme funding assumptions) – A prudent (or cautious) assumption increases the value of the liabilities compared to a best-estimate assumption.

Risk appetite – A quantification of the level of risk that an organisation is willing to accept in pursuit of their targets before either risk mitigation or transfer is required, or the targets are altered such that the level of risk reduces to the level that is able to be retained.

Recovery period – See *deficit repair contributions*.

Return-seeking assets – In a pensions context, asset classes such as equities and property, which are expected to generate higher returns than *matching assets*. However, the market values of such assets are expected to demonstrate greater volatility of returns relative to the value of the liabilities than *matching assets*, increasing the risk of a future deficit.

Scheme maturity – see *Maturity*

Standard contribution rate (SCR) – The level of contributions required to meet the expected cost of the additional pension to which active members will be entitled in respect of service in the relevant period. The *SCR* is assessed at full actuarial funding valuations.

Technical provisions – The present value of a pension scheme’s past service liabilities for scheme funding purposes.