



Government
Actuary's
Department

Local Government Pension Scheme England and Wales

Funding Analysis in conjunction with Section 13 as at
31 March 2019

November 2021



Funding levels changes

The overall funding level on both the local and a standard LGPS Scheme Advisory Board (SAB) funding basis (outlined in section 5) has improved since 2016. Over this period assets have generally performed well.

However a wide range remains between individual funds and the relative strength of the local basis to the SAB funding basis. Sections 5 and 6 discuss this point in further detail.

Assumptions (local funding basis)

Since 2016 pre-retirement discount rates have decreased on average, whereas inflation assumptions have increased (see section 3).

For most categories of members life expectancy has decreased since 2016; see section 4.

Investments

On average there has been a small shift from return seeking assets to defensive assets since 2016, see section 8 for further information.

Data

As set out in section 2, the number of members participating in the LGPS has increased by around 600,000 since 2016.

Contribution Rate

The average primary contribution rate has increased since the 2016 valuations, but secondary contribution rates from 2021 have decreased (reflecting the better overall funding), see section 7 for further information.

Contents

1	Introduction	3
2	Membership Data	4
3	Financial Assumptions	6
4	Post Retirement Mortality	8
5	Funding levels on local valuation bases	10
6	Funding levels on the SAB standard bases	11
7	Contribution rates	14
8	Investments	16
9	Deficit recovery period	19
10	Net cashflow positions	20

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1. Introduction

The Government Actuary has been appointed by the Department for Levelling Up, Housing and Communities (DLUHC) to report under section 13 of the Public Service Pensions Act 2013 in connection with the Local Government Pension Scheme in England and Wales (LGPS).

This report contains our analysis of the funding position of the funds within LGPS as at 31 March 2019. It is largely factual, background information and is intended to supplement the analysis in our section 13 report published in October 2021. Please note these assumptions were adopted prior to the Covid-19 pandemic and hence no allowance could be included. We would expect such impacts to be included within subsequent valuations as appropriate. It may be read in conjunction with that report or as a standalone paper.

This paper will be of relevance to LGPS stakeholders including DLUHC, CIPFA, administering authorities and other employers, actuaries performing valuations for the funds within LGPS, the LGPS Scheme Advisory Board (SAB) and HM Treasury (HMT).

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.

The 2019 data used in this report comes from three sources:

Data available from individual funds' 2019 valuation reports

Data collected from the 2019 actuarial valuations; provided by local funds and their actuarial advisors

Data published annually by DLUHC in their "Local government pension scheme funds local authority data"; commonly referred to as SF3 statistics

We have used data from the 2016 section 13 report published in 2018 as a comparator.

Compliance

Any checks that GAD has made on the data used in this report do not represent a full independent audit of the data supplied. In particular, GAD has relied on the general completeness and accuracy of the information without independent verification. **There has been no allowance made for changes in contributions or asset that might have occurred following engagement with funds.**

GAD has no liability to any person or third party for any act or omission taken, either in whole or in part, on the basis of this report.

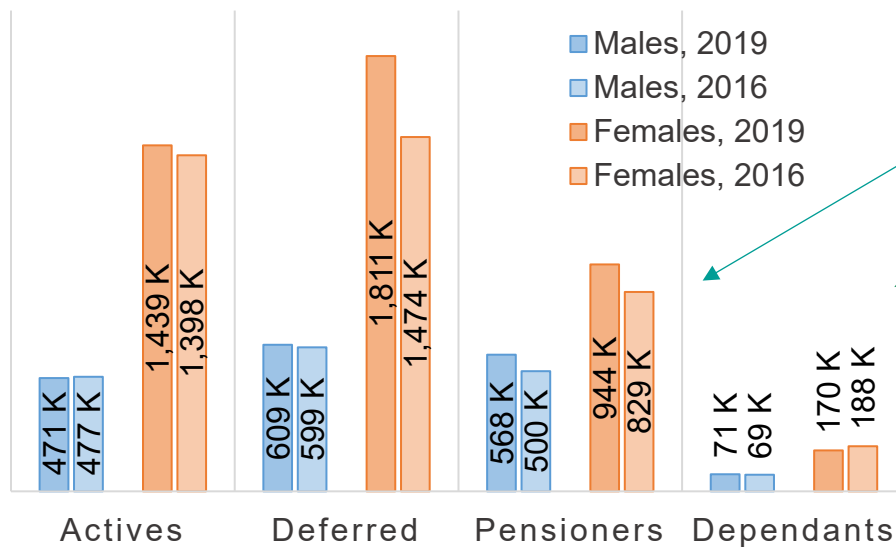
2. Membership Data

The **total number** of members in the LGPS as at 31 March 2019 was **6.1 million** which was an increase of 600,000 from the membership as at 31 March 2016.

14 funds is the same as the gender distribution across the other LGPS funds. The same approach is adopted for the average ages in the table below.

The following chart shows the overall membership split by gender and member type.

Chart 1: Number of active, deferred, pensioner and dependant members split by gender in 2019 and 2016



In this chart, 'Pensioners' refers to former members and 'Dependants' to the partners and children of former members currently in receipt of an LGPS pension.

In general, there is a greater increase in the number of female members than male members across all scheme categories.

Membership data was not provided separately for male and female members by the 14 pension funds advised by Mercer. The chart above assumes that the gender distribution for these

Average ages

The average age of all member categories has increased apart from actives which decreased by 0.3 years, however overall the average age of members increased by **0.3 years**.

Table 1: Un-weighted average age of active, deferred, pensioner and dependant members in 2019 and 2016

Member category	Un-weighted average age	
	2016	2019
Actives	46.2 years	45.9 years
Deferred	46.3 years	47.0 years
Pensioners	70.7 years	71.1 years
Dependants	72.9 years	73.1 years
Overall	53.4 years	53.7 years

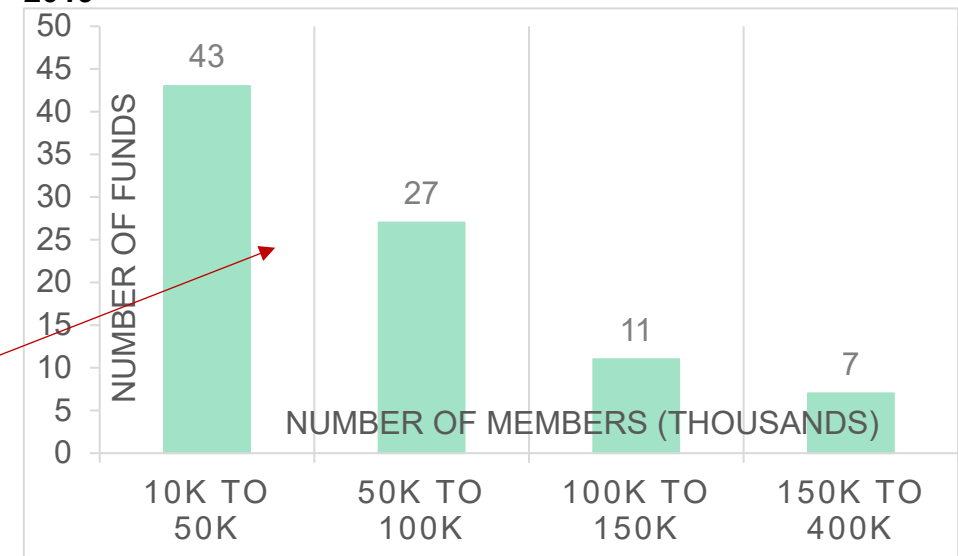
In general, the higher an average age of a pension scheme the closer it is to maturity. The average age of an individual LGPS member in each of the four member categories is shown in table 1.

The overall figure was based on data for all funds.

The average fund membership in 2019 is **69,100** members. However, there is significant variance in the total membership between individual funds, with the smallest open fund having a total membership of **10,890** members and the largest fund having a total membership of **375,730** members. The chart opposite helps summarise the extent of this variance in 2019.

As in 2016, the 10 largest funds in the LGPS comprise about **35%** of the total membership.

Chart 2: Showing funds split by number of members in 2019



3. Financial Assumptions

Financial assumptions are a key driver of funding levels in the LGPS. There is considerable variation between the financial assumptions used by individual funds to value their past service liabilities in the 2019 actuarial valuations (this may reflect local fund difference in investment strategy, risk appetite and member profile). The range of assumptions, excluding the closed Environmental Agency fund is given below:

Table 2: Minimum maximum and average assumptions for key assumptions in 2019 and 2016

	Minimum		Maximum		Average (past service liabilities)	
	2016*	2019	2016*	2019	2016*	2019
Past service discount rate	3.8%	3.1%	5.7%	5.3%	4.4%	4.1%
Earnings inflation	2.0%	2.3%	3.9%	3.9%	3.2%	3.2%
CPI inflation	1.8%	2.0%	2.4%	2.6%	2.2%	2.4%
Pre-retirement discount rate net of CPI	1.7%	0.7%	3.2%	2.6%	2.2%	1.8%

* The 2016 analysis excludes the assumptions adopted by the closed funds which subsequently merged

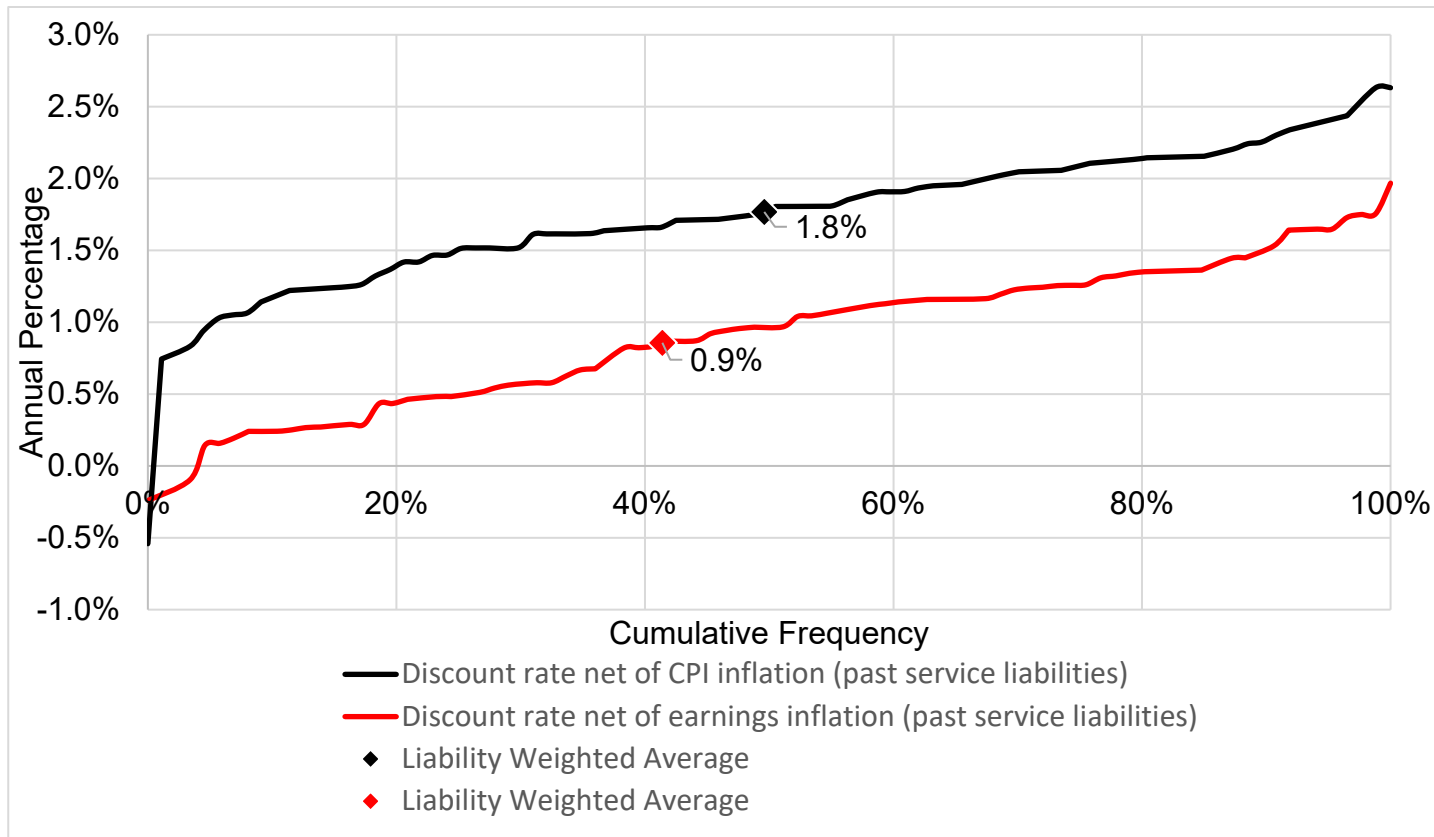
Many funds used the same financial assumptions when calculating past service liabilities and future contribution rates, although this was not the case for funds advised by Hymans Robertson and Mercer. Hymans Robertson use a stochastic approach for setting their contribution rates and the discount rate used for future service is not readily available. Mercer's approach allows for the fact that contributions made after the valuation date will receive a future investment return. This resulted in a higher discount rate assumption for setting future contribution rates than used to value past service liabilities.

The table opposite summarises the minimum, maximum and weighted averages of four key financial assumptions for the LGPS and includes comparison with the corresponding assumptions for the 2016 local valuations.

The key financial measures in valuing pension scheme liabilities are the excess of discount rates above inflation assumptions. This relationship reflects the amount by which the return on assets held by a fund is expected to exceed increases in benefits, which generally increase by earnings inflation pre-retirement or pre-deferment and CPI inflation afterwards. In general, a higher discount rate net of inflation will lead to lower actuarial liabilities.

Since 2016 discount rates used to value past service liabilities have decreased by 0.4% on average. In isolation this will increase the value of actuarial liabilities and, where the same discount rate is adopted for future service, the contributions required.

Chart 3: Cumulative frequency of funds assumptions of past service discount rate net of CPI inflation and earnings inflation for past service liabilities



The variance between funds, shown by the difference between the beginnings and ends of the lines seems to have increased compared to the 2016 assumptions. This variance could have a significant effect on total liabilities, for example the decrease of the discount rate net of CPI inflation of 1% per annum might increase a fund's liabilities around 20% in isolation.

4. Post Retirement Mortality

Table 3: Average life expectancy for current and future normal health pensioners split by gender, assumed by funds in local valuations in 2019 and 2016 and by GAD in the 2016 scheme valuation

	2019 average local assumption (years)*	Gad 2016 valuation assumption (years)	2016 average local assumption (years)*
Current normal health pensioners aged 65 (male)	21.7	22.6	22.4
Future normal health pensioners from age 65, currently aged 45 (male)	23.0	24.6	24.4
Current normal health pensioners aged 65 (female)	24.1	25.0	24.9
Future normal health pensioners from age 65, currently aged 45 (female)	25.7	26.9	27.1

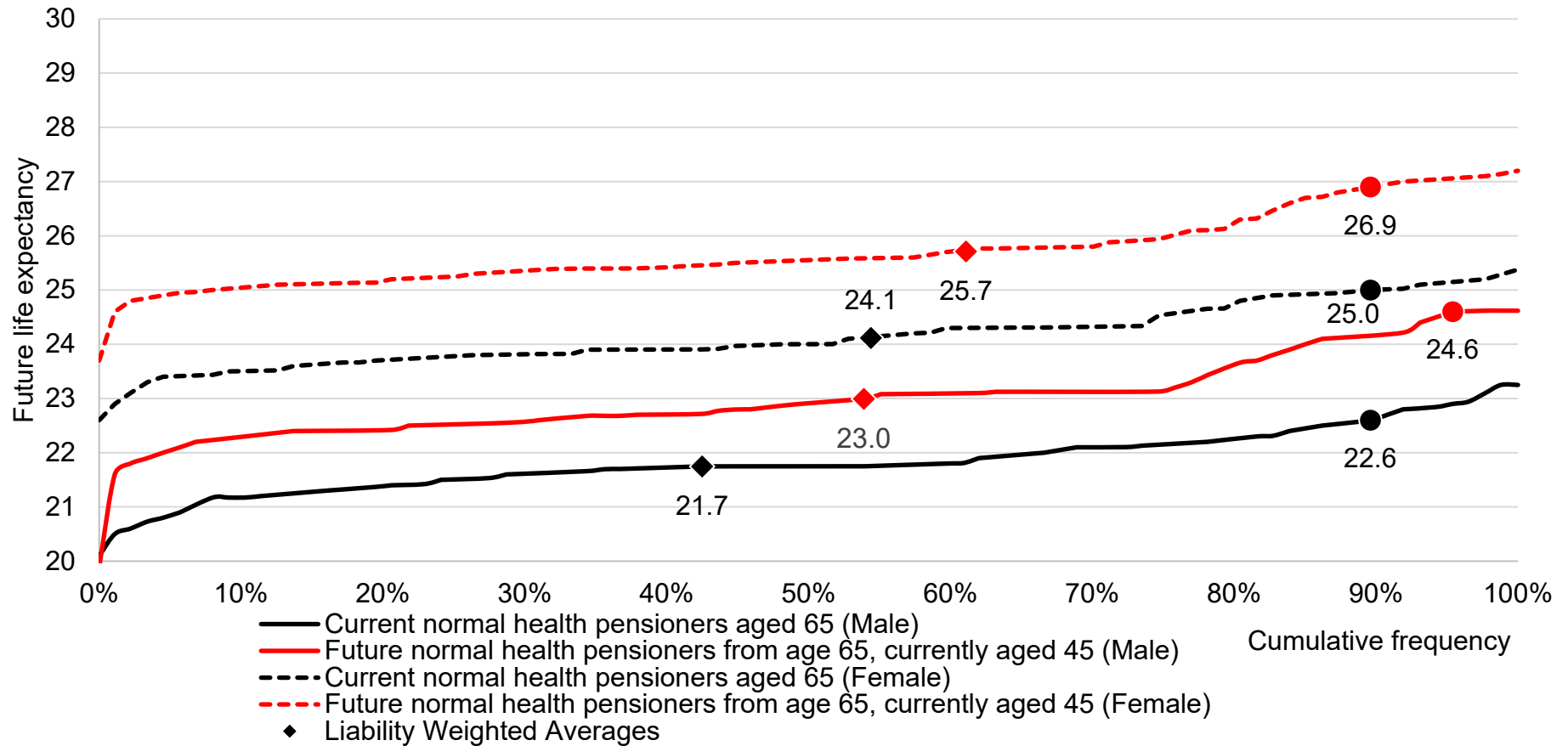
*weighted by valuation liabilities

The table summarises the average life expectancy assumptions provided by individual funds and the life expectancy assumptions used as part of GAD's whole scheme actuarial valuation as at 31 March 2016. The life expectancy assumptions used in the local 2019 valuations are noticeably shorter than those used in 2016 both for the GAD scheme valuation and local valuations. This reflects the general trend of reducing future life expectancy that has been widely observed within pension funds and population data.

Life expectancies are derived from post retirement mortality rates, so the assumed post retirement mortality rates in the 2019 actuarial valuations have a direct impact on each funds' liabilities. A high mortality assumption (i.e. a low life expectancy) will result in a lower value being placed on the liabilities as benefits are expected to be paid for shorter lifetimes. Life expectancies for the younger active or deferred members are higher as they allow for future mortality improvements between the ages of 45 and 65.

To note the assumptions were set prior to the COVID-19 pandemic and therefore there is no allowance for any impact of COVID-19. We would expect this to be considered as part of the 2022 valuations.

Chart 4: Cumulative frequency of life expectancy for current and future normal health pensioners split by gender

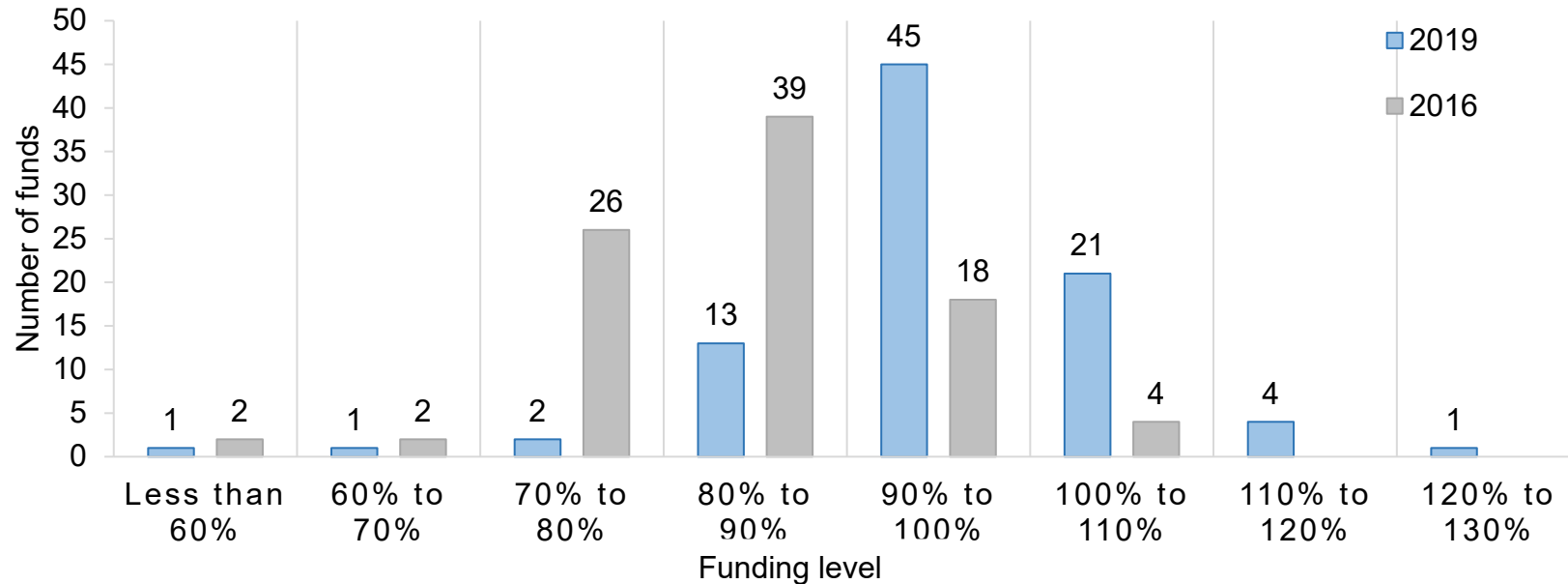


Some of the differences will also be due to the projection methodology used when working out future mortality and the assumed long term future trend. However, we note all funds have based their future assumptions on an actuarial standard model produced by the 2018 CMI model, but with different variables.

The extent of this variation is captured in the cumulative frequency chart showing the different life expectancies assumed by the individual funds. Diamonds represent liability weighted averages and circles represent the assumptions used by GAD for the 2016 whole scheme valuation, as detailed in the previous table.

5. Funding levels on local valuation bases

Chart 5: Graph to show number of funds by funding level in 2019 and 2016

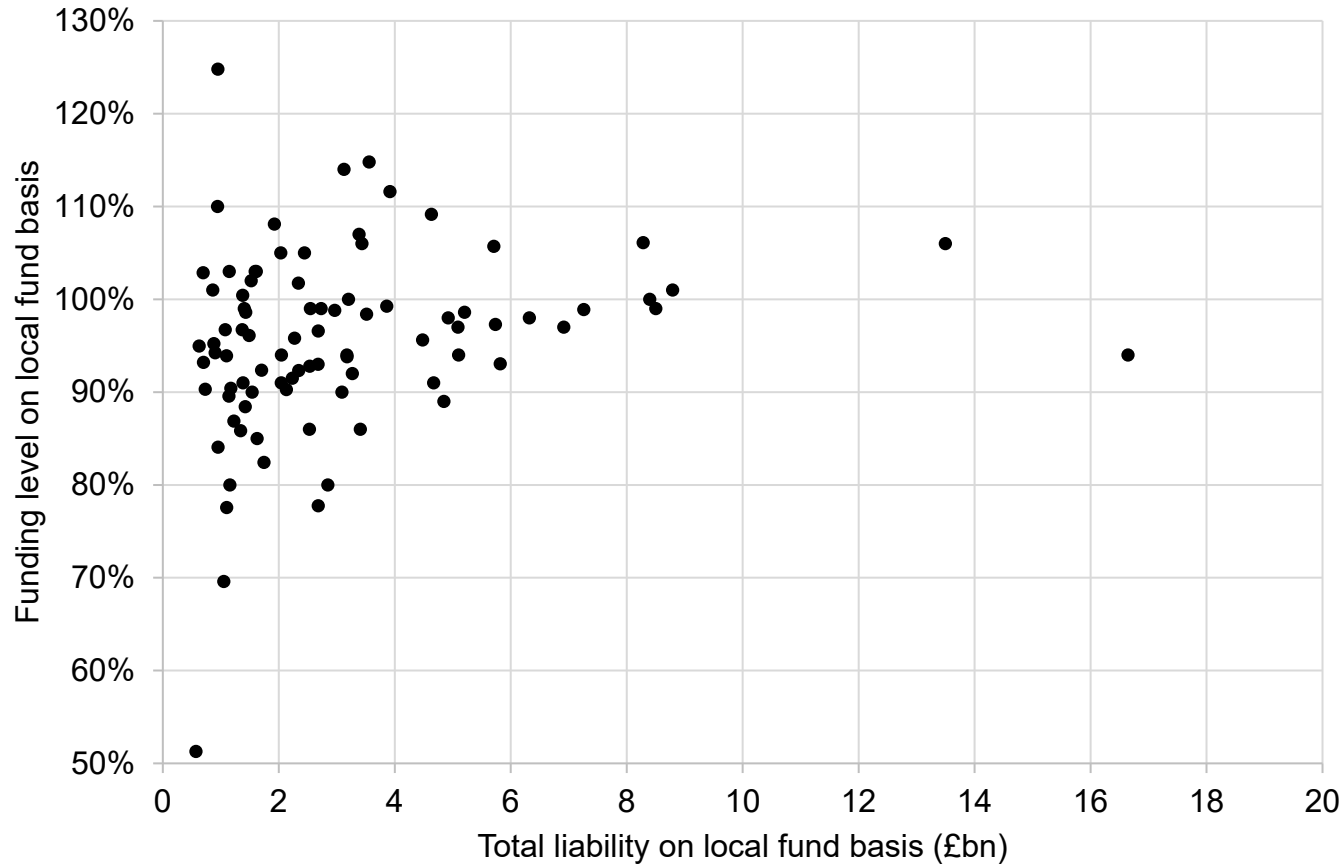


The distribution of funding levels has shifted towards the right over the inter-valuation period (fewer in the 80-90% region, more in the 90-100% and 100-110% region) reflecting the increase generally in funding levels.

The distribution of the funding level by the total fund liability value as at 31 March 2019 is shown in the chart below. The weighted average funding level is 98% at 31 March 2019 as opposed to 85% at 31 March 2016. However there does not appear to be a trend that the size of a fund is related to how well funded it is on the local funding basis.

Whilst the overall funding level on the local funding basis in 2019 was higher than that in 2016, there remains considerable variation in funding levels between funds. For example, the highest funding level as at 31 March 2019 was **125%** and the lowest funding level amongst open funds was **70%**. This is a higher range than as at 31 March 2016. The chart above shows the distribution of funding levels as at 31 March 2016 and 31 March 2019.

Chart 6: Correlation between size of fund (based on liability) and funding level on local basis



The chart to the left shows that there is no clear trend that funds with more liabilities (i.e. larger funds) are better funded or vice versa.

6. Funding levels on the SAB standard bases

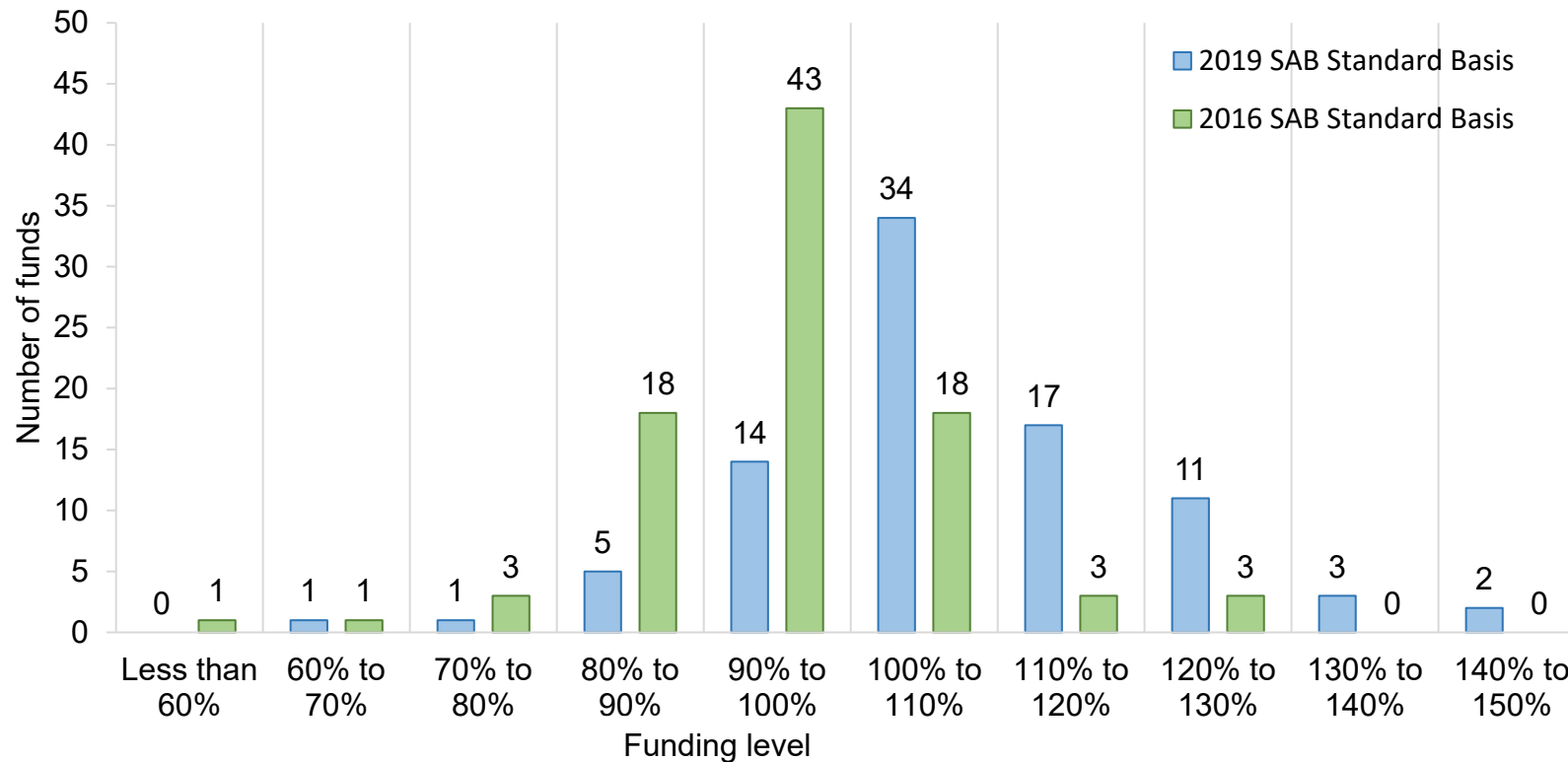
SAB basis for standardised funding calculations are as follows

ASSUMPTION	DETAILS
METHODOLOGY	Projected Unit Methodology with 1 year control period
RATE OF PENSION INCREASES	2% per annum
PUBLIC SECTOR EARNINGS GROWTH	3.5% per annum
DISCOUNT RATE	4.45% per annum
CHANGES TO STATE PENSION AGE	As legislated
PENSIONER BASELINE MORTALITY	Set locally based on Fund experience
MORTALITY IMPROVEMENTS	Core CMI_2018 with long term reduction in mortality rates of 1.5% per annum
AGE, ILL HEALTH RETIREMENT RATES	Set locally based on Fund experience
WITHDRAWAL RATES	Set locally based on Fund experience
DEATH BEFORE RETIREMENT RATES	Set locally based on Fund experience
PROMOTIONAL SALARY SCALES	None
COMMUTATION	We have used the SAB future service cost assumption of 65% of the maximum allowable amount. This is equivalent to 23.2% of post 2008 pension and 12.8% of pre 2008 pension
FAMILY STATISTICS	Set locally based on Fund experience

To make meaningful comparisons of valuation results we have restated these onto the SAB standardised basis.

This is helpful for comparisons however it should be noted that this is not proposed as a suitable funding basis.

Chart 7: Funding level on SAB standard basis in 2016 and 2019



Results on the SAB standard basis show overall scheme liabilities of approximately £263 billion, which equates to an overall scheme funding level of 110%. This is an increase of 12% from the overall scheme funding level on the local valuation bases of 98% (including the Environment Agency Closed Fund). The difference is broadly similar to that observed in 2016.

It is important to note that different funds have seen different levels of change in funding level in 2019. For example, the biggest increase in funding level when moving from the local funding to the SAB standard basis was 36% however one fund had a decrease in funding level when switched to the SAB standard basis of 1%.

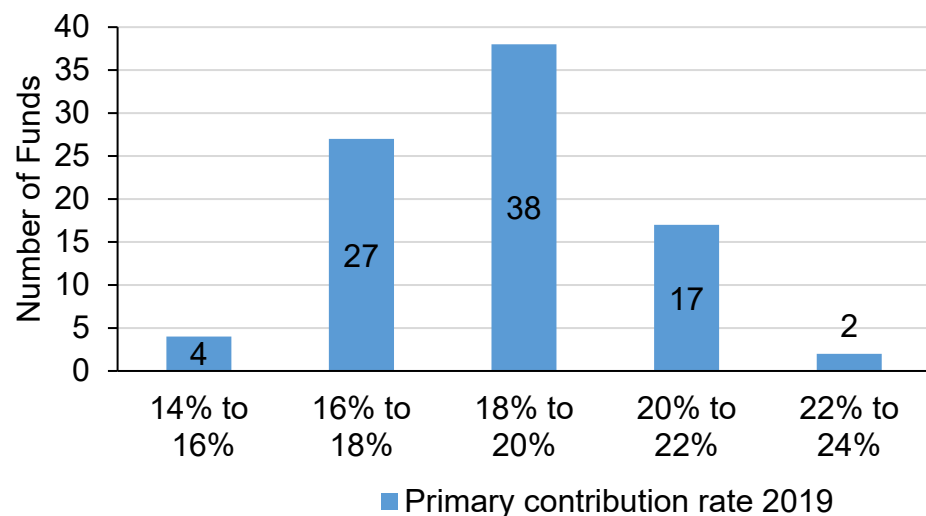
Using the SAB standard basis, the open fund with the highest funding level is **148%** compared to the lowest open funding level of **77%**. The funding level for the Environment Agency Closed Fund on the SAB standard basis is **65%**. The range of funding levels on the SAB standard basis is shown above both in 2016 and 2019. As observed for the local funding basis there has been a shift in the funding distribution to the right to reflect the improved funding position.

7. Contribution rates

Table 4: Average primary and secondary contribution rates in 2013, 2016 and 2019

	2013	2016	2019
Primary contribution rate	15.8%	16.8%	18.6%
Secondary contribution rate in respect of surplus or deficit	8.4%	6.3%	3.7%

Chart 8: Number of funds split by primary contribution rate in 2019



The average primary contribution rates (weighted by salary) paid by a fund have increased, whereas the average secondary contribution rates (again weighted by salary) have decreased over the valuation cycles from 31 March 2013 to 31 March 2019. Details are shown in the table opposite.

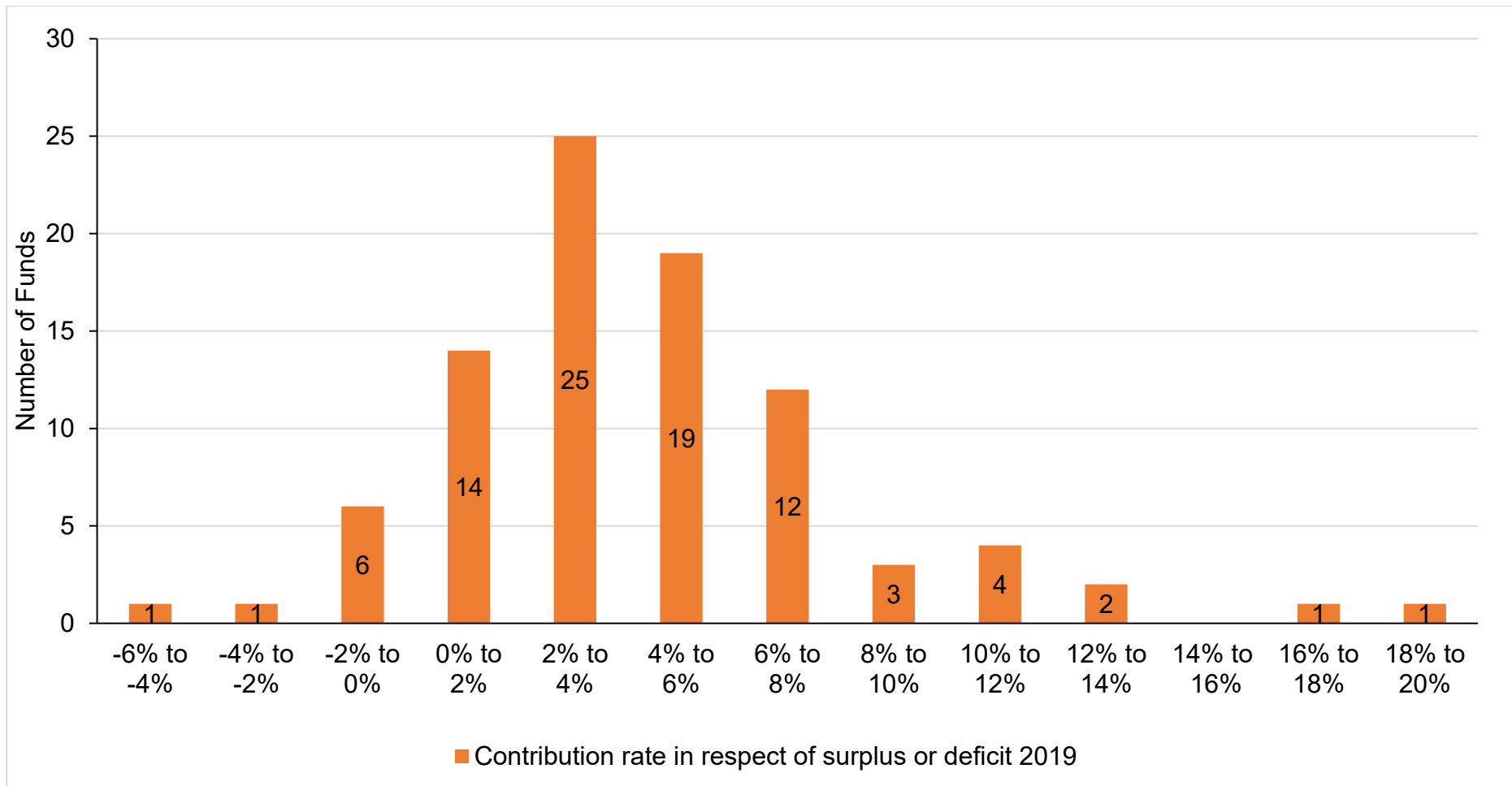
Secondary contribution rates are negative where a fund has decided to reduce its' surplus by paying less contributions. The total contributions paid by such a fund; the primary rate plus the negative secondary rate will be lower than the primary rate (or the expected cost of the future benefits).

There was some variation in primary contribution rates of the funds as shown in the chart to the left.

All funds (excluding the EA closed fund) set primary contribution rates between 14% and 24% with 92% of funds setting contribution rates between 16% and 22%.

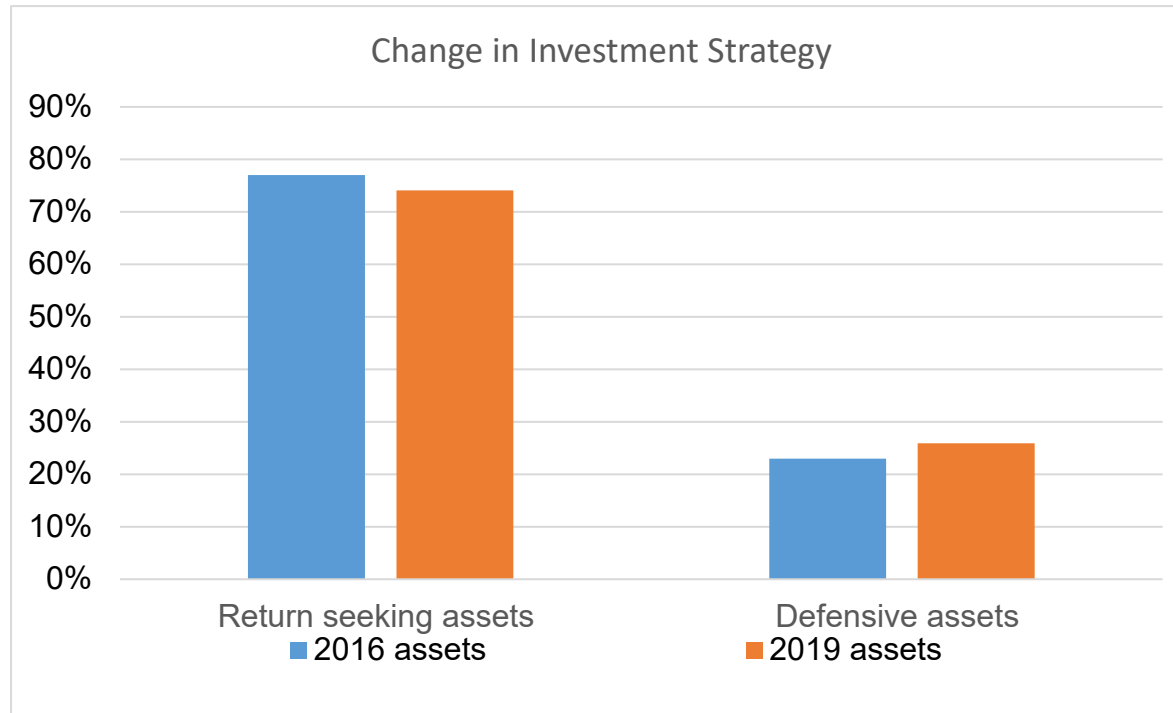
As the average funding level of funds has improved there are more funds allowing for a surplus when setting the secondary distribution rates. The number of funds with both negative secondary contribution rates and those with lower secondary contribution rates relative to 2016 has increased. See chart setting out distribution of secondary contribution rates in 2019 below:

Chart 9: Number of funds split by secondary contribution rate in 2019



8. Investments

Chart 10: The proportion of investments in return seeking and defensive asset classes in 2016 and 2019



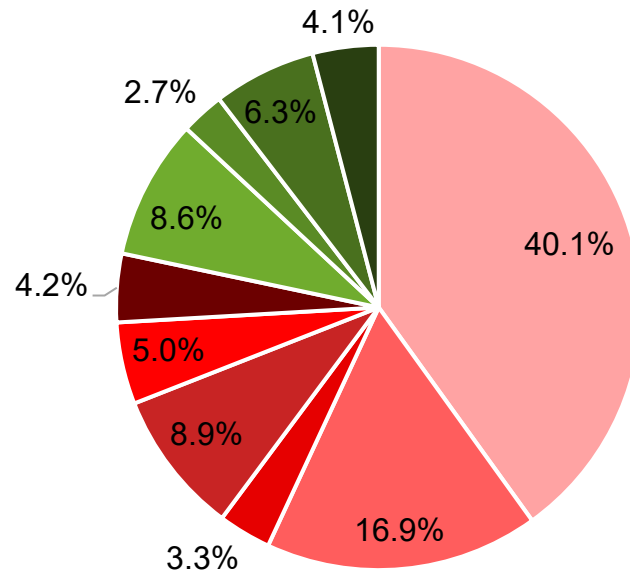
The investment strategy for the LGPS scheme as a whole appears to have remained broadly unchanged since the position as at 31 March 2016. The chart to the left shows the change in asset investment strategies (weighted by assets), split by return seeking and defensive assets as at 31 March 2016 and 31 March 2019.

There has been a small shift from return seeking to defensive assets.

Taking Overseas Equities, UK Equities, Other Investments and Property to be return seeking assets and Corporate Bonds, Gilts and Cash to be defensive assets, the total proportion invested in return seeking assets has decreased slightly from 77% as at 31 March 2016 to 74% as at 31 March 2019, with a corresponding increase in the proportion invested in defensive assets.

Chart 11: Shows the proportion of funds invested in different asset classes

Average Investment Strategy in 2019

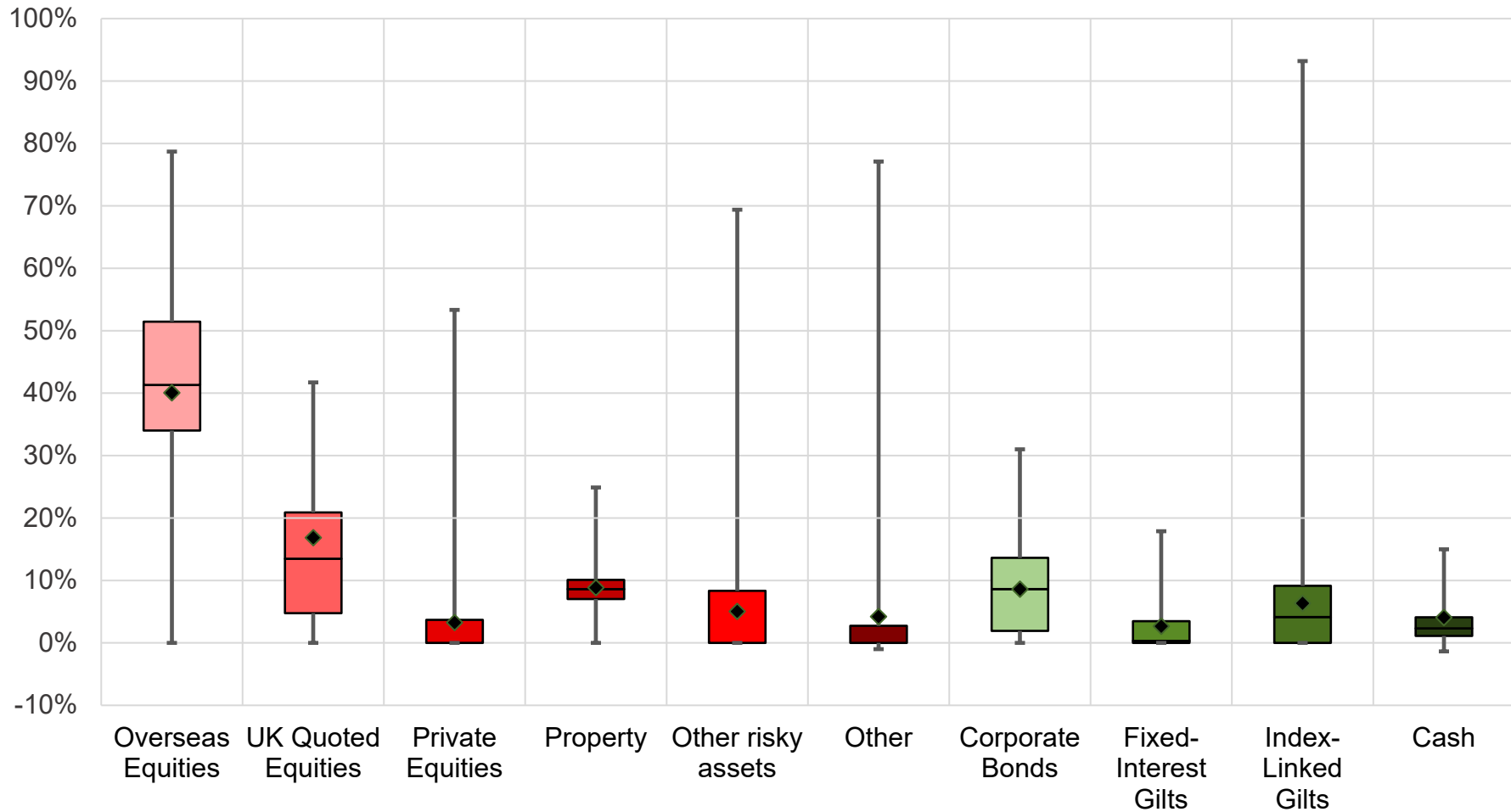


The majority of the LGPS investment is in equities, with the bulk of this investment in overseas. Of the defensive assets the majority remains in corporate bonds.

- Overseas Equities ■ UK Quoted Equities ■ Private Equities ■ Property
- Other risky assets ■ Other ■ Corporate Bonds ■ Fixed-Interest Gilts
- Index-Linked Gilts ■ Cash

However, there is some variance between the investment strategies of different funds. The following chart demonstrates this variance by asset category. The coloured box in the middle represents the range of proportions within which the middle 50% of funds have invested assets, within a particular category. The lower and upper lines represent the spread of proportions for the lower and upper 25% of funds, so that the end points represent the minimum and maximum proportions respectively. The black diamonds represent the asset weighted averages from the chart above.

Chart 12: Variation in investment strategy split by asset class

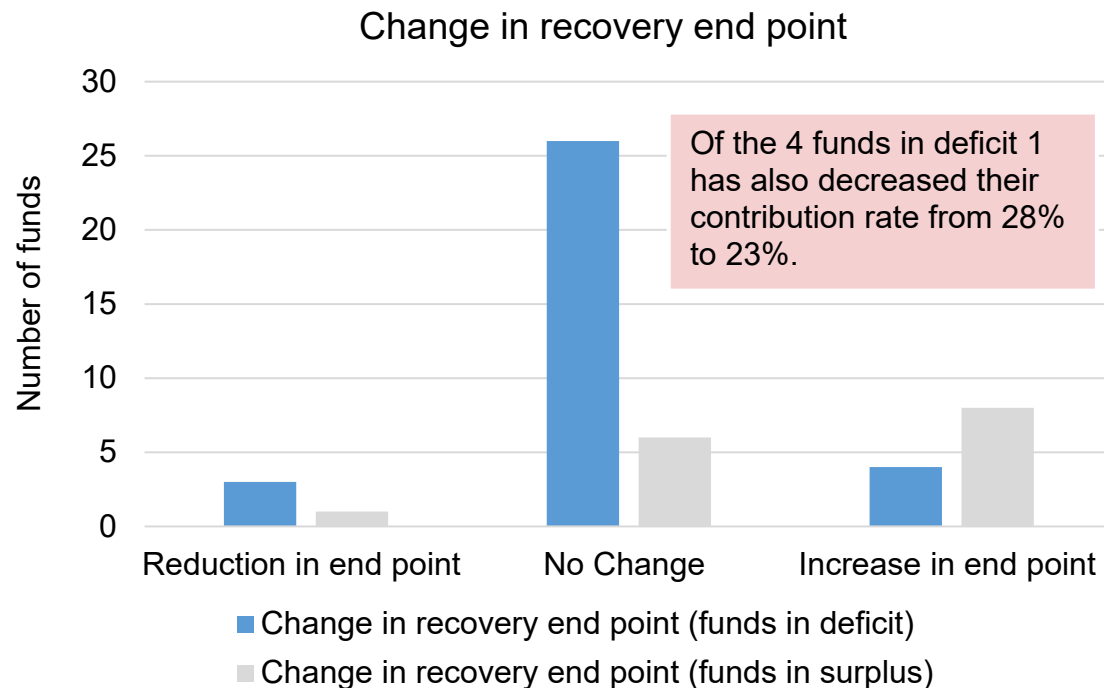


9. Deficit recovery period

A deficit recovery period is the amount of time after which additional contributions paid in respect of a deficit are expected to return a fund to 100% funded. This is a longer term plan and we would be expected that a fund's deficit recovery period would fall by three years over the 2016 to 2019 inter-valuation period, assuming no additional deficit or surplus was generated over the same period.

Hymans Robertson do not use a formal deficit recovery period in their valuations and so are excluded from this analysis.

Chart 13: Change in recovery end point between 2016 and 2019, split by funds in surplus/deficit.



The chart to the left shows how the deficit recovery end point has changed for the 48 non Hymans Robertson funds within the LGPS. Notably of the 48 funds only 33 are in deficit which represents an improvement in the funding position compared to 2016.

Of the 33 funds in deficit as at 31 March 2019 the majority, 26, have left their deficit recovery period end point unchanged. Of the remaining 7 funds 4 have increased their deficit recovery end point whilst 3 have reduced their end point.

10. Net cashflow position

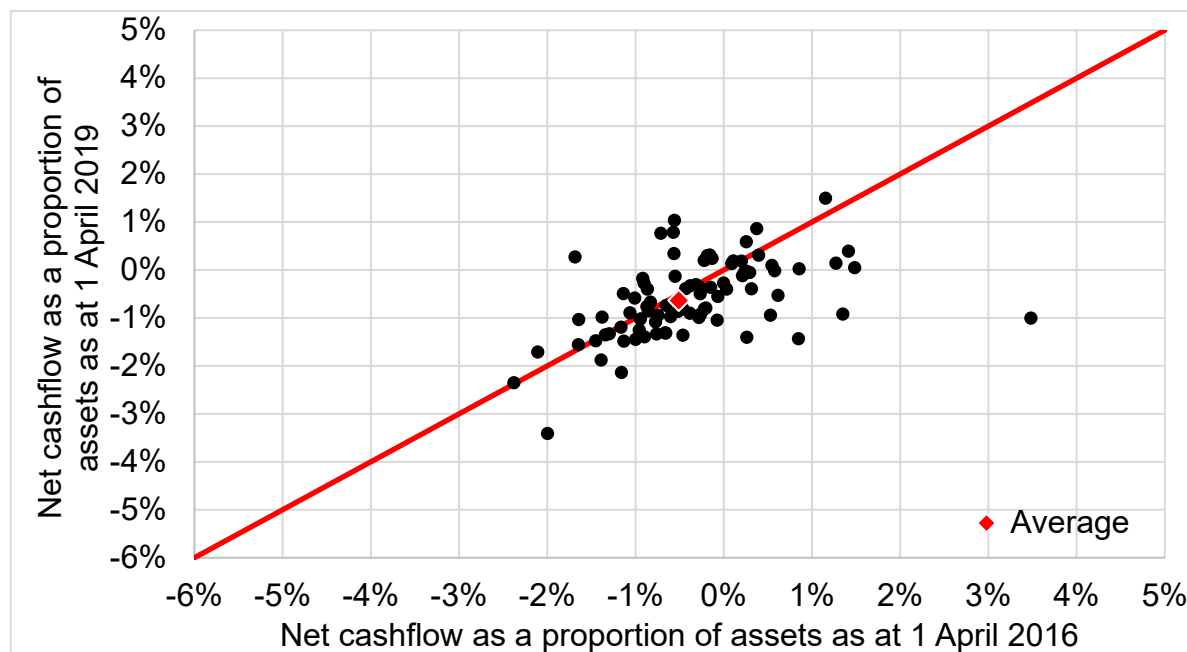
The Scheme Advisory Board have requested KPIs to investigate the net cashflow position of the individual funds, where net cashflow position is defined as:

$$\frac{\text{Total income over the year (excluding investment returns)} - \text{Total expenditure over the year}}{\text{Market value of assets held at the beginning of the year}}$$

The higher a fund's net cashflow position the better position it is to meet the cost of its liabilities, both current and future. A cashflow position of less than -3% could lead to other consequences such as impacting investment strategy etc.

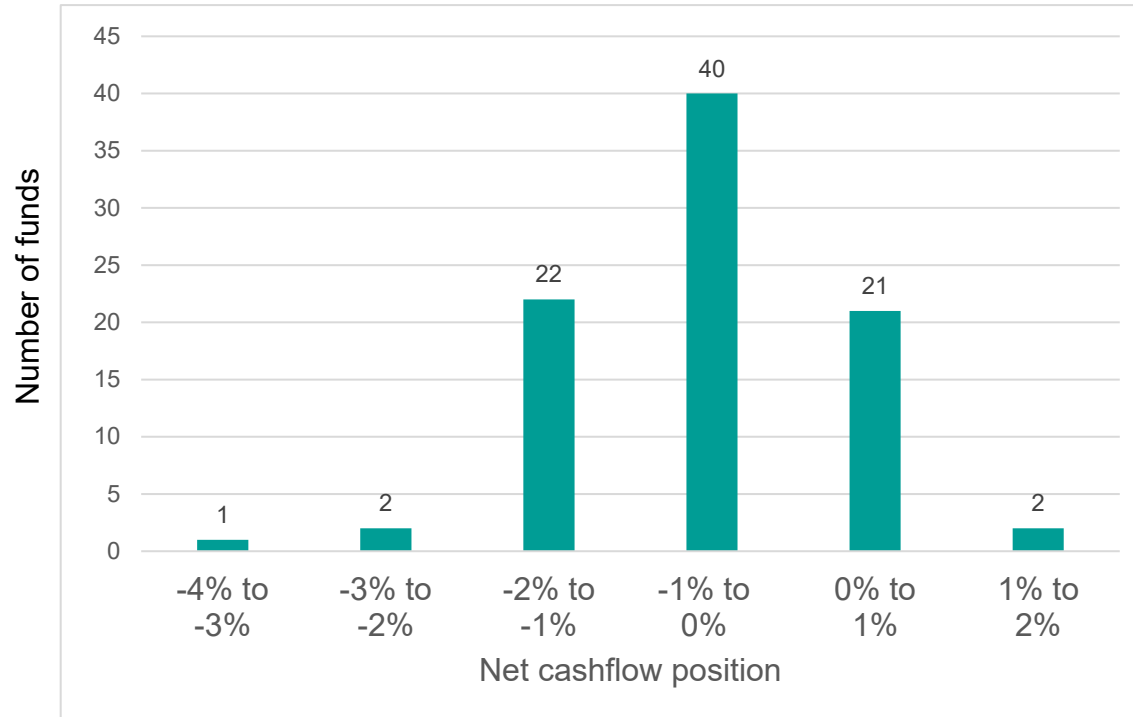
The data shows that the net cashflow position for the whole LGPS was -0.6% for the financial year starting 31 March 2019. This is a small deterioration of 0.1% on the position for the financial year commencing March 2016 of -0.5%

Chart 14: Change in net cashflow as proportion of assets between 2016 and 2019



The chart has been derived from SF3 data publicly available; and is a measure of available cash to meet future pensions. This excludes the Environmental agency funds.

Chart 15: Number of funds by net cashflow position in 2019 (excluding investment income)



The chart to the left shows the distribution of funds with different net cashflow positions in 2019. It highlights that there is considerable variance within this measure. There are a few funds with a net cashflow of less than -2% which could be cause for consideration.