

Isle of Man public service pension schemes

Accounting figures as at 31 March 2015

Statement by the Actuary

Date: 20 July 2015

Author: Stephen Humphrey



Statement by the Actuary

Introduction

- 1. This statement has been prepared by the Government Actuary's Department at the request of the Finance Division of the Treasury.
- 2. We understand that the figures and disclosures in this statement may be published in either the Statutory or Management accounts of the Isle of Man public service pension schemes as at 31 March 2015.
- 3. The figures in this statement have been compiled in accordance with our understanding of the requirements of Financial Reporting Standard 17 ('FRS17'). This report has been prepared solely for the purposes of providing figures for your accounts and the results are not appropriate for other purposes, such as, for example, the setting of contribution rates or possible consideration of benefit changes.
- 4. As requested by Treasury, this statement is based on the results of a valuation of the Isle of Man pension schemes based on data as at 31 March 2014, with an approximate updating to 31 March 2015 to allow for general changes such as salary growth and pension increases over the period to 31 March 2015.
- 5. These results rely on updated membership data as at 31 March 2014, whereas last vear's results were based on membership data as at 31 March 2013.
- 6. The schemes included are listed in Table A7 of the Appendix.

Membership data

- 7. The individual membership data used to prepare this assessment was provided by the Public Sector Pensions Authority (PSPA). The majority of the data was delivered in January and February 2015, with the remainder in March 2015. The effective date of this data was 31 March 2014.
- 8. As agreed, we initially checked this membership data only to the point of being satisfied that it is reasonable and broadly consistent with that used for previous estimates of the Isle of Man pension scheme liabilities. Additionally we compared the membership data against a summary of the membership data as set out in Hyman Robertson's actuarial valuation of the schemes as at 31 March 2013 (valuation report). In this regard, the numbers of members and their total salaries and total pension amounts appeared higher than the corresponding numbers as at 31 March 2013.
- 9. In the data received there were 695 final salary members of the GUS scheme in sections 1 4 with no salary data and no reckonable service provided. To account for this missing member data, as agreed we have applied a 1% rate up factor to the active liabilities of these sections.



- 10. On reconciling the results from using the updated data with results determined using data as at 31 March 2014, the liabilities assessed using this data appeared higher than we expected. This is due to an increase in the number of members and an increase in total salaries and total pension amounts from the corresponding numbers as at 31 March 2013. This results in the liability for the schemes being around 7% higher than we would have expected based on the membership data provided for last year's accounting assessment as at 31 March 2013.
- 11. PSPA has confirmed that the data as at 31 March 2014 is the most accurate available and that they understand the changes will have had an impact on the results in this statement.
- 12. We have allowed for general changes such as average increases to salaries and pensions over the period from 31 March 2014 to 31 March 2015. We have assumed, as directed by Treasury, that average salaries have increased by 2% and that pensions have increased by 2.7% over the period from 31 March 2014 and 31 March 2015 (as confirmed by PSPA).
- 13. The data used in this assessment is summarised in Table A6, split by the Isle of Man pension schemes covered (a summary of the membership used in the previous assessment has been included in Appendix C for comparison purposes). A list of the schemes covered is set out in Table A7.

The Government Unified Scheme ("GUS")

- 14. The figures in this statement directly use GUS membership data. This is consistent with the figures in the statement as at 31 March 2014.
- 15. The GUS came into effect for service on or after 1 April 2012. The terms of the scheme apply to active members from most of the public service pension schemes that existed in the Isle of Man at 31 March 2012, as well as employees who would have been eligible to join those schemes in the future.
- 16. Service in the GUS is based on a "Standard" set of terms applicable to all members. However, members in service at 31 March 2012 had a one-off option to pay additional contributions to receive a higher level of "Protected" benefits for future accrual. This broadly enabled members to continue accruing benefits in line with the terms of the scheme that they were members of as at 31 March 2012.
- 17. Benefits accrued before 1 April 2012 have now been converted to GUS benefits on terms which were designed to be fair to members by preserving the value of those benefits.
- 18. Table A3 shows the Standard Contribution Rate for the GUS split between "Standard" and "Protected" sections. For active members of the GUS we are able to identify if a member is in the Standard or a Protected section so are able to show this split.



19. Table A2 shows past service liabilities for the GUS as a whole. We have not been able to provide the same split as for the Standard Contribution Rate (i.e. split into Standard or Protected sections) as there is effectively no such distinction once members have left or retired; that is, for deferred or pensioner members in the GUS.

Methodology

- 20. The value of the liabilities has been determined using the projected accrued benefit method. This method values accrued and future benefits separately. Accrued benefits are shown as a Past Service liability. The cost of the benefits accruing in the following year is determined as a Standard Contribution Rate. The projected accrued benefit method allows for expected future pay increases in respect of active members.
- 21. The standard contribution rate for accruing costs in the year ended 31 March 2015 was determined using the same principles outlined above for accrued liabilities.
- 22. The figures allow for the range of benefits normally provided by the Isle of Man pension schemes, including normal retirement benefits, ill-health retirement benefits and benefits applicable following the death of the member.
- 23. For the assessment as at 31 March 2015, the actuarial liability as at 31 March 2014 was rolled forward by increasing the liability as follows:
 - > Active members: The liability as at 31 March 2014 was 'rolled forward' from 31 March 2014 to 31 March 2015 to allow for unwinding of the discount rate, with an allowance for known and anticipated increases in pay in the year 2014/15. To this was added an additional one year's accrual cost based on estimated pensionable payroll over the financial year 2014-15.
 - Deferred members: The liability as at 31 March 2014 was 'rolled forward' from March 2014 to 31 March 2015 to allow for unwinding of the discount rate. An allowance was made for known increases to benefits in April 2014.
 - > Pensioners: The liability as at 31 March 2014 was 'rolled forward' from 31 March 2014 to 31 March 2015 to allow for unwinding of the discount rate. An allowance was made for known increases to benefits in April 2014. The resultant liability was then reduced to account for an estimate of pensions paid out of the scheme over the period.

The resultant total liability was then reduced to take account of other net benefit outgo (principally retirement lump sums) over the period.



24. The above roll forward method is far less reliant on an assumption of stability than other methods that could be used. In my opinion this roll forward method is likely to produce a more reliable estimate of the liability as at 31 March 2015 than alternative methods which could be used. The proposed method has some weaknesses, though. Although the total liability should be reasonably reliable, the liabilities attributed to active members, deferred members and pensioners may not reflect the actual membership in each category at the roll forward date. Also in times of significant change in the membership, as with all roll forward methods, material experience gains and losses will not be recognised until further data becomes available.

Financial assumptions

- 25. The key financial assumptions are the assumed rates of return in excess of prices and in excess of salaries. These assumptions are used to discount benefits for the period they are linked to price and salary increases respectively.
- 26. The financial assumptions have been determined using a measurement date of 31 January, i.e. in advance of the effective date of the calculations. This approach is necessary to ensure the results are produced within timescales which would not be possible if the assumptions were determined using a measurement date of 31 March. This approach is consistent with that used for previous years' figures.
- 27. Based on financial conditions as at 31 January, the assumed rate of return in excess of prices, as measured by the change in the Consumer Price Index (CPI), is 1.2% a year, and the assumed long-term rate of return in excess of earnings is -0.80% a year.
- 28. The long-term assumption for general earnings growth is that earnings will increase by 3.65% a year. This represents a real rate of 2.00% a year in excess of CPI, consistent with historical data which shows a close and broadly stable link between earnings growth and inflation.
- 29. The real rate of 2.00% a year is consistent with the real rate of 2.00% a year in excess of CPI used for the figures as at 31 March 2014, but is a reduction from prior years, reflecting the effect of recent pay restraint on the observed historic long-term rates of earnings growth (relative to inflation) and the likelihood that earnings growth may continue to be subdued in the future.
- 30. The contribution rate used to determine the accruing cost in 2015-16 is based on the financial (and demographic) assumptions applicable at the start of the year i.e. as at 31 March 2015.
- 31. The table below lists the financial assumptions used as at 31 March 2015 (with corresponding assumptions as at 31 March 2014). A condensed version is shown in Table A1 of the Appendix.



	31 March 2015	31 March 2014
Gross discount rate	2.85% pa	4.30% pa
Inflation (CPI) Real return (over CPI pension increases)	1.65% pa 1.20% pa	2.20% pa 2.10% pa
General earnings inflation Real return (over earnings inflation)	3.65% pa -0.80% pa	4.20% pa 0.10% pa

Demographic assumptions

- 32. The demographic assumptions determine the incidence of the benefit outflow and include factors such as mortality (in service and in retirement), withdrawal from service, promotional salary scales, proportions married and ages of dependants. The Hymans Robertson valuation report (produced on 3 September 2014) included demographic assumptions that represent Hymans Robertson's 'best estimate' of future experience. These assumptions were considered in our proposal for the accounting disclosures as at 31 March 2015 as set out in the proposed demographic assumptions report dated 9 March 2015.
- 33. The post retirement mortality assumptions are consistent with those used to produce the figures as at 31 March 2014.
- 34. The other demographic assumptions were updated from those adopted are for the accounting disclosures as at 31 March 2014 to align with the assumptions adopted by Hymans in their valuation report. This represents a change in approach from the derivation of previous year's assumptions, which were derived from our experience of pension schemes with similar membership profiles. The assumptions adopted are outlined in the Appendix B.

Liabilities

35. Table 1 summarises the capital value as at 31 March 2015 of benefits accrued in the Isle of Man pension schemes prior to 31 March 2015 based on the data, methodology and assumptions described in paragraphs 7 to 34.



Table 1

Past service liabilities as at 31 March 2015

Value of liability in respect of	£ million
Pensions in payment	1,115
Deferred pensions	247
Active members (past service)	1,647
Total	3,009

 Table A2 in the Appendix contains details of the total past service liability split by scheme.

Assets

- 37. FRS17 requires that any assets backing the pension promises are shown at fair market value.
- 38. You have indicated that there are no such assets to be taken into account for these results. In particular, you and your auditors have previously concluded that the Public Service Employees Pension Reserve (PSEPR) is not ring-fenced to provide pension benefits and should not therefore be shown as an asset. We have assumed that this position is unchanged.

Accruing costs

39. The cost of benefits accruing in the year (the 'Current Service Cost') is determined at the start of the year and is shown in Table 2. The cost of benefits accruing for each year of service is met by the employer and the employees. The Isle of Man schemes have varying level of employer contributions.

The standard contribution rates which will be used to determine the Current Service Cost in the 2015 accounts are shown below:

Table 2
Current Service Cost 2015-16

Current Service Cost	Percentage of pensionable pay
Total Standard Contribution Rate	37.1%
Member contribution rate (average)	7.1%
Employer share of standard rate	30.0%

- 40. Table A3 in the Appendix contains details of the current service cost for 2015-16 split by scheme.
- 41. The employers' share of the standard contribution rate determined for the purposes of the accounts may differ to that actually charged to employers.



Sensitivity

42. The figures in this statement are heavily dependent upon the underlying assumptions used. Table 3 below illustrates the approximate effects on the results of using different values for some of the main assumptions:

Table 3
Sensitivities

Assumption	Effect on Past Service Liabilities	Effect on Total Standard Contribution Rate
	£3,009m	37.1%
Discount rate decreasing by ½% pa	c. + £315m	+ 5.5%
Price inflation increasing by ½% pa*	c. + £270m	+ 4.0%
Mortality assumption altered so that members exhibit the mortality currently assumed for someone one year younger	c. + £80m	+ 0.8%
Long-term earnings growth decreasing by ½% pa	c £50m	- 1.5%

^{*}effecting CARE revaluation, deferred revaluation and pension increases but not salary growth

- 43. Table 3 shows that the approximate effects of reducing the discount rate by ½% pa would be to increase the past service liability by around £310m to around £3,319m and the total standard contribution rate by around 5.5% to around 42.6%.
- 44. The discount rate (in excess of CPI) adopted as at 31 March 2011 was 2.8% pa as opposed to 1.2% pa as at 31 March 2015. Therefore the net discount rate has reduced by 1.6% pa over the 4 year period. This reduction has resulted in the past service liabilities being around a third higher than they would have been if the net discount rate had not changed over the 4 year period.

Disclosures (see Appendix)

- 45. Table A4 shows the Balance Sheet as at 31 March 2015.
- 46. Table A5 shows the form of the Profit and Loss disclosure. This reconciles the Balance Sheet item as at 31 March 2015 with that at 31 March 2014.
- 47. There is an experience loss of £203m. This broadly reflects a gain of around £22m due to the changes in salary increases and pension increases over the year from 31 March 2014 to 31 March 2015, and a loss of around £210m resulting from using the new data as at 31 March 2014.



48. The data issue discussed in Paragraphs 9 and 10 would broadly appear to explain most of this £210m experience loss from the new data. However there will be other factors which have either contributed to this gain or indeed may have produced an off-setting loss. For example, some experience gains or losses (for example, due to mortality experience) between 31 March 2013 (the date of the previous data) and 31 March 2014 would come through into these results. It would be difficult, without significant additional data and resources, to analyse this experience gain in more detail.

S Humphrey FIA Government Actuary's Department 20 July 2015



Appendix A

Table A1 – Financial assumptions

Assumption	31 March 2015	31 March 2014
Rate of return (discount rate)	2.85%	4.30%
Rate of return in excess of:		
General earnings inflation	-0.80%	0.10%
Pension increases*	1.20%	2.10%
Inflation		
General earnings inflation	3.65%	4.20%
Price inflation (CPI)	1.65%	2.20%

Table A2 – Total Past Service Liability as at 31 March 2015

Value of liability in respect of scheme	£million
Government Unified Scheme	2,241
Teachers	527
Judicial Pension Schemes	12
Tynwald Pension Schemes	24
Police Pension Scheme	197
Manual Workers No1 Scheme	8
Total	3,009



Table A3 - Current Service Cost 2015-16

Scheme	Current Service Cost as a percentage of pensionable pay		
	Total standard contribution rate	Members contribution rate (average)	Employer share of standard rate
Government Unified Scheme:	35.0%	6.5%	28.5%
Standard Section	25.9%	5.0%	20.9%
Protected Sections	39.2%	7.2%	32.0%
Teachers	43.1%	9.7%	33.4%
Judicial Pension Schemes	74.2%	3.0%	71.2%
Tynwald Pension Schemes	50.0%	5.0%	45.0%
Police Pension Scheme	57.9%	13.4%	44.6%
Manual Workers No1 Scheme	35.0%	5.0%	30.0%
Total	37.1%	7.1%	30.0%

Table A4 – Balance sheet disclosures

	31 March 2015 £ million
Total market value of assets	0
Value of liabilities	3,009
Surplus (deficit)	(3,009)
of which recoverable by employers	n/a



Table A5 - Profit & loss disclosures

	Year ending 31 March 2015 £ million
Analysis of amount showed to popular and	£ IIIIIIOII
Analysis of amount charged to pension cost	(00)
Current service cost (net of employees' contributions)	(68)
Past service cost	(20)
Total operating charge	(68)
Analysis of the amount debited from other finance income	
Expected return on scheme assets	
Interest on pension liabilities (@ 4.30%)	(100)
Net return	(100)
Analysis of amount recognised in other comprehensive net expenditure	
Actual return less expected return on scheme assets	-
Experience gains and losses arising on pension liabilities	(194)
Changes in mortality assumptions	-
Changes in demographic assumptions (other than mortality)	90
Changes to financial assumptions from 31 March 2014	(477)
Actuarial gain (loss) recognised in other comprehensive net Expenditure	(581)
Movement in surplus during the year	
Surplus at 31 March 2014	(2,318)
Current service cost (net of employees' contributions)	(68)
Employees' contributions towards current service cost	(34)
Benefits paid during the year	92
Past service costs	-
Other finance income	(100)
Actuarial gain (loss)	(581)
Surplus at 31 March 2015	(3,009)



Table A6 - Summary of data as at 31 March 2014 used in this assessment at 31 March 2015

Active member summary

Scheme	Active members	Average age at 31 March 2014	Total Salaries at 31 March 2014 (£m)
Teachers*	1,164	43.6	43.2
Judicial Pension Schemes	8	56.5	1.2
Tynwald Pension Schemes	33	57.2	1.3
Police Pension Schemes	216	39.9	8.0
Manual Workers No1 Scheme	3	63.2	0.1
GUS**	7,398	46.0	239.7
Total	8,822	45.6	293.5

^{*}We received data for 37 teachers for whom we had either no salary information or no reckonable service information. These have been excluded from the figures above.

There are a further 695 GUS members with no salary data and no reckonable service. These have been excluded from the figures above and from the table of GUS sections below and an adjustment to the liability has been made to allow for these members (see paragraph 9).

GUS section	Active members	Average age at 31 March 2014	Total Salaries at 31 March 2014 (£m)
1	2,682	41.7	72.7
2	3,634	49.5	128.3
3	724	45.6	25.0
4	232	41.9	6.7
5	46	49.7	3.9
6	2	42.1	0.1
7	78	43.6	3.1
Total	7,398	46.0	239.8

Deferred member summary

Scheme	Deferred members	Total Deferred Pensions at 31 March 2014 (£m)*
Teachers**	368	1.4
Judicial Pension Schemes	0	0.0
Tynwald Pension Schemes	3	0.0
Police Pension Schemes	42	0.2
Manual Workers No1 Scheme	10	0.0
GUS***	2,599	7.7
Total	3,022	9.3

^{*} These figures show the deferred pensions, revalued from each member's date of leaving up to March 2014.
** There was one deferred teacher with no data on member's pension provided. This member is not included in the figures

^{**} There are 37 GUS members who had £0 salary in the data provided. We have assumed that these earn the average salary for their section. These are included in the figures above and in the table of GUS sections below.

^{**} There was one deferred teacher with no data on member's pension provided. This member is not included in the figure: above.

^{***} There are 92 deferred GUS members with no data on member's pension provided. These members have not been included in the figures above.



Pensioner and dependant member summary

Scheme	Pensioners members	Total current pensions at 31 March 2014 (£m)
Teachers	932	10.9
Judicial Pension Schemes	8	0.4
Tynwald Pension Schemes	46	0.7
Police Pension Schemes	232	4.5
Manual Workers No1 Scheme	66	0.3
GUS*	4,380	33.2
Total	5,664	50.0

^{*}In the data provided there were 12 members who incorrectly appeared more than once, with identical records. These have only been included once in this data.

Table A7 - Isle of Man Pension Schemes included in this assessment at 31 March 2015

Public Sector Pension Schemes

Government Unified Scheme

Teachers Superannuation Scheme

Police Pension Regulations 1991 and 2010

Judicial Pension Schemes 1992 and 2004

Tynwald Pension Schemes 1985 and 1995

Superannuation (Manual Workers) (No 1) Pension Scheme

Last year there were an additional 5 small, closed, public sector schemes that we understand have now been incorporated into the GUS.



Appendix B

Demographic assumptions

B1 Age retirements

Baseline mortality is assessed using the tables issued by the Institute and Faculty of Actuaries known as the S1 series adjusted by 1 year downwards, i.e. beneficiaries are assumed to be 1 year younger than their actual age. Mortality improvement are assessed using a combination of historic improvements to population mortality over the period since 2002 (the date at which the S1 series tables are based) and assumed future population improvement as assumed by the Office for National Statistics (ONS) in the most recently issued central (U.K.) population projections.

Pensioners who retired on grounds of ill health are assumed to exhibit the mortality of an individual 4 years older than their actual age (as opposed to 1 year younger for other pensioner as outlined above).

B2 Age retirements

- Sections 1 6 and all existing deferred members age 60
- Section 7 age 55
- Non GUS schemes the normal retirement age as defined in the scheme rules

B3 Withdrawals – sample rates

Age	Males	Females
20	0.1224	0.1161
25	0.0809	0.0781
30	0.0574	0.0655
35	0.0448	0.0565
40	0.0361	0.0470
45	0.0295	0.0387
50	0.0229	0.0295
55	0.0198	0.0227
60	0.0120	0.0106

B4 III Health Retirements – Tier 1 sample rates

Age	Male	Female
20	0.0000	0.0000
25	0.0000	0.0004
30	0.0005	0.0006
35	0.0006	0.0012
40	0.0011	0.0016
45	0.0024	0.0025
50	0.0066	0.0049
55	0.0135	0.0130
60	0.0270	0.0000



B5 III Health Retirements – Tier 2 sample rates

Age	Male	Female
20	0.0000	0.0000
25	0.0000	0.0002
30	0.0002	0.0003
35	0.0003	0.0006
40	0.0006	0.0008
45	0.0013	0.0013
50	0.0035	0.0026
55	0.0072	0.0069
60	0.0144	0.0000

B6 Death in Service – sample rates

Age	Male	Female
20	0.0003	0.0002
25	0.0003	0.0002
30	0.0004	0.0002
35	0.0004	0.0004
40	0.0007	0.0006
45	0.0012	0.0010
50	0.0019	0.0015
55	0.0030	0.0020
60	0.0054	0.0026

B7 Promotional Pay Scales – sample rates

Age	Male	Female
20	100	100
25	100	100
30	123	123
35	138	138
40	148	148
45	158	158
50	168	168
55	168	168
60	168	168

B8 Family details

80% of males and 75% of females are assumed to be married (or have an adult dependant) at retirement or on earlier death. Husbands are assumed to be 3 years older than wives.

B9 Commutation

The amount of pension exchanged for a tax free lump sum is assumed to be 50% of the maximum amount permitted by the scheme.



Appendix C

Summary of data as at 31 March 2013 to be used in this assessment at 31 March 2014

Active member summary

Scheme	Active members	Average age at 31 March 2013	Total Salaries at 31 March 2013 (£m)	Total adjusted Salaries at 31 March 2013 (£m)
Teachers	1,098*	43	40.0	40.6**
Judicial Pension Schemes	7	55	1.0	1.0
Tynwald Pension Schemes	33	57	1.3	1.3
Police Pension Schemes	220	39	8.0	8.0
Manual Workers No1 Scheme	6	62	0.1	0.1
GUS	6,961	46	224.4	226.3**
Total	8,325	45	274.8	277.3**

^{*}We have been notified that there were a further 17 teachers who were members of the Teacher's schemes' during 2012/13 but who have not as yet accrued any benefits, but may do in future. For the avoidance of doubt these members are not included in the figures above.

included in the figures above.

** This data included several members for whom no salary data was provided. We have assumed that these members are earning in line with the average salary for their pension scheme section.

GUS section	Description	Active members	Average age at 31 March 2013	Total Salaries at 31 March 2013 (£m)
1	Standard	2,116	41	57.8**
2	Former PCSPS classic, LGPS and NHS 2007 final salary	3,743	49	129.5**
3	Former PCSPS classic plus, premium, nuvos	732	45	24.8**
4	Former NHS 2008 final salary	244	41	6.8**
5	Former NHS 2007 CARE	49	49	4.3
6	Former NHS 2008 CARE	2	41	0.1
7	Firefighters	75	43	2.9
Total		6,961	46	226.2**

^{**} This data included several members for whom no salary data was provided. We have assumed that these members are earning in line with the average salary for their pension scheme section.

Deferred member summary

Scheme	Deferred members	Total Deferred Pensions at 31 March 2013 (£m)***
Teachers	378	1.3
Judicial Pension Schemes	-	-
Tynwald Pension Schemes	3	0.0
Police Pension Schemes	36	0.2
Manual Workers No1 Scheme	11	0.0
GUS	2,568	7.1
Total	2,996	8.7

^{***} These figures show the deferred pensions, revalued from each member's date of leaving up to March 2013.



Pensioner member summary

Scheme	Pensioners members	Total current pensions at 31 March 2013 (£m)
Teachers	818	9.8
Judicial Pension Schemes	6	0.3
Tynwald Pension Schemes	39	0.6
Police Pension Schemes	208	4.1
Manual Workers No1 Scheme	59	0.3
Other non-GUS****	47	0.3
GUS	3,773	29.6
Total	4,950	45.0

^{****} This section is made up of a number of small, closed, local government schemes consisting only of pensioner members. PSPA have confirmed that these schemes are not part of the GUS.