Public sector pension schemes in Scotland

Prepared for the Auditor General for Scotland and the Accounts Commission

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AUDIT SCOTLAND

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Prepared by Audit Scotland on behalf of the Auditor General for Scotland and the Accounts Commission.

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Introduction

The level of interest surrounding pension schemes and the need to make financial provision for the later years of life has never been higher. We hope this paper will be a useful contribution to the current debate. It looks at the main public sector pension schemes in Scotland, how they are funded and what challenges lie ahead in their management. It will be of interest to those who are responsible for public sector pensions, to those who fund them, and to pension scheme members. It does not cover the state pension scheme, private pensions or wider matters concerning retirement income.

Key terms

For people unfamiliar with the specialist language, pensions can be difficult to understand. Here is an explanation of the main terms. A full glossary (pages 17-19) appears at the end of the document.

- Accrual rate
  In a defined benefit scheme, the rate at which members earn their pension scheme benefits. For every year of service a proportion of final salary is earned as pension. Most public sector pension schemes work on an annual proportion of one eightieth of salary for every year of service. For example, at the point of retirement after 40 years' service, the employee will retire with a pension that is half their final salary, which will be adjusted annually for inflation once in payment. Lump sums may be paid in addition to pension benefits.

- Beneficiaries
  The retired members that are receiving pensions from the pension scheme. Beneficiaries can also include dependants, such as spouses, civil partners and dependent children, if the scheme makes provision for them.

- Bonds
  Companies issue bonds to raise funds; usually for a fixed period of time and paying a set rate of interest. They are secured against company assets but the bond holders do not share in the profits of the company. Bonds are a lower-risk investment. The government also issues bonds, usually called gilts.

- Defined benefits
  This means the pension scheme makes set pension payments related to salary earned and the length of time a scheme member has made contributions. All main public sector pensions in Scotland are defined benefit pension arrangements.

- Discounting
  This is a process by which a value that is needed in the future is reduced by taking account of the length of time

it will be invested and the investment rate at which it is expected to grow. For example, if you know you will need £10,000 by 2030, and you also have an estimate of how much interest you can earn between now and that date, then you can work out the initial amount you need to invest for it to increase to £10,000. Pensions are valued using a discount rate to estimate their future worth.

- Equities
  Shares in the ownership of a company which may be traded on a stock exchange or privately. The holders of the equity share in the profits of the company and the value of the share varies with the fortune of the company.

- Financial Reporting Standard 17 (FRS 17)
  Rules for accounting for pensions agreed and regulated by the Accounting Standards Board of the UK.

- Funded and unfunded pension schemes
  In a funded scheme, employees and employers contribute money that is invested for future payment of benefits from the pension scheme. An unfunded scheme uses contributions from present employees and employers to pay current scheme beneficiaries. This means today's employees will be paid their pensions from future contributions and future taxes, not invested funds.

- Liability
  In pension terms, a liability is the obligation to pay current, deferred and retired members (including beneficiaries) of a pension scheme their defined benefits from the date of retirement until death, or benefits on death prior to retirement. A total liability at any given time is valued using the discount rate.

- Real terms
  Adjusting monetary values to take account of inflation. This gives a real comparison of the value of money over time. One pound was worth much more in 1900 than it is today. Similarly, today's one pound is likely to be worth less in the future. Actuaries make provision for real terms' growth when valuing schemes.

Main messages

- There are six main public sector pension schemes. The Local Government Pension Scheme (LGPS) pre-funds its future liabilities by investing contributions from employers and employees, while the schemes for NHS workers, teachers, civil servants, police and fire-fighters are unfunded and rely on in-year contributions and government grants to meet pension payments, if pension payments exceed contributions. The combined funding shortfall and unfunded liabilities of these six pension schemes in Scotland may be as high as £53 billion.

- Greater life expectancy is increasing the value of pension liabilities, as pensions will need to be paid for a longer time.

- The value of pension liabilities is also increasing because of accounting changes. To comply with FRS 17 accounting rules, the discount rate for valuing the liabilities of funded schemes was reduced from 3.5 per cent to 2.4 per cent (in real terms) on 31 March 2005. This reflects the lower investment return on quality bonds at that date, and has the effect of increasing the value of pension liabilities. For the LGPS, the change to the discount rate meant that the average level of funding for the scheme fell from 89 per cent at 31 March 2004 to about 76 per cent at March 31 2005. This is despite an average growth in investment assets of 14 per cent over the same period.

- The same discount rate is not applied to all the main public sector pension schemes in Scotland, so they cannot be compared directly. Liabilities shown in the accounts of the unfunded NHS Pension Scheme Scotland (NHSPSS), Scottish Teachers' Pension Scheme (STPS) and Principal Civil Service Pension Scheme (PCSPS) are valued at a higher net discount rate. They are therefore undervalued relative to the liabilities of the funded LGPS and the unfunded Police Pension Scheme (PPS) and Firefighters Pension Scheme (FPS).

- To keep employers' contribution rates affordable, funded public sector pension schemes invest mainly in stock-market equities to get a higher return compared to investment in bonds. However, equity investment is more risky and vulnerable to sharp drops in value compared with other forms of investment. Contribution rates are not set with reference to FRS 17 accounting valuations. They are recommended following funding valuations by actuaries that take account of an anticipated extra return from equities and are reassessed at each full valuation in response to actual fund performance.

- The liabilities of unfunded public sector pension schemes in Scotland are increasing. The contributions from employees and employers will increase, but there will be significant and increasing demands on future public spending to meet these costs.

- The reported funding position of pension schemes is only a snap-shot at a given date, and the position moves with financial markets. Market changes since 31 March 2005 have significantly increased the value of liabilities, while compensating rises in equities have more than offset some of this. Overall, it is likely that net liabilities reported as at 31 March 2006 on the funded schemes will have decreased. However, market falls since 31 March 2006 may reverse this.

The big six

There are six main public sector pension schemes in Scotland (Exhibit 1), together with a number of smaller schemes (Exhibit 2). They will provide retirement benefits for nearly 950,000[1] people, either as current pensioners or as contributing or former scheme members who will receive their pension in future. Nearly one-in-five people living in Scotland has some entitlement to a public sector pension.

All the schemes have defined benefits. A member's pension will depend on the salary they earned towards the end of their employment and the number of years they contributed to the scheme. However, there is an important difference in the way these pensions are funded. The LGPS, together with some smaller schemes outside of the big six, pre-funds its future liabilities by investing the contributions made by employers and employees. Pension benefits are paid out of those investments. The other schemes are unfunded and work on a pay-as-you-go (PAYG) basis. This means that there is no investment for the future; instead the pension payments are met from current contributions from employers and employees together with government grants to make up any shortfall.

Each pension scheme is governed by statutory legislation and regulations. Public sector pension policy follows a UK level framework, but regulation of the schemes, other than the PCSPS, is the responsibility of the Scottish Administration.

Who pays for pensions?

Both employees and employers contribute to pension schemes (Exhibit 3, page 6). Employee contributions are fixed by statute, while employer contributions can vary. The public sector is funded largely through national and local taxation, so we all contribute indirectly to public sector pensions via the employer contributions.

Contribution rates reflect, in part, the differing nature of the jobs that the schemes cover. In particular, the fire and police service have earlier retirement ages, making for a shorter pension contribution period and therefore higher contribution rates. And both are distinguished by an increase in the accrual rate with age and length of service. This makes annual pension costs significantly higher for older, longer-serving employees.

Only the LGPS and a number of smaller schemes are pre-funded. Contributions from employers and employees are invested to meet future pension liabilities, and pensions are met from the invested fund.[2] It is essential that the schemes are both adequately funded, and that the funds are invested wisely to cover pension liabilities as they mature and maintain the fund over the long term. This should be achieved through a regular actuarial review of assets and liabilities, to provide an assessment of the contribution rates. This will:

- adequately pre-fund the future liability accruing each year

- adjust for any shortfall in assets arising from poor investment performance

- make adjustments for any revised estimate of liabilities arising from deviations in actual experience from that assumed in advance.

For funded schemes, the fund actuaries advise a combined contribution rate that is sufficient to keep the invested fund solvent and meet the pension payments as they fall due. Currently, employers' contribution rates for the LGPS in Scotland for 2005/06 vary from 12.6 per cent to 18.9 per cent of employees' pensionable pay. The rate is influenced by a number of factors, including the profile of current members and past fund experience. The current rates were set following the last full actuarial valuation in March 2002. Following fund actuarial valuations as at 31 March 2005, actuaries have set

1 The figure is approximate because the PCSPS is managed at UK level and does not break down the numbers of pensioners between departments. Full membership details of smaller schemes have not been gathered.
2 However, employers still have to pay separately for enhancements to the pensions of those given early retirement where these are not a liability of the fund within the scheme rules.

Exhibit 1
Principal pension schemes in the Scottish public sector

Scheme	Active members	Deferred members	Pensioners
Local Government Pension Scheme (LGPS)	216,000	59,000	124,000
NHS Pension Scheme Scotland (NHSPSS)	131,200	28,900	66,700
Scottish Teachers' Pension Scheme (STPS)	71,800	14,000	48,300
Principal Civil Service Pension Scheme (PCSPS)*	57,900	26,200	51,200
Firefighters Pension Scheme (FPS)	4,500	200	3,800
Police Pension Scheme (PPS)	16,200	1,300	12,200
	497,600	**129,600**	**306,200**
Total		**933,400**	

Note: *This is an estimate based on reported civil service numbers in Scotland, covering devolved and non-devolved functions.

Source: FRS 17 returns and published figures from the Scottish Public Pensions Agency (SPPA) as at 31 March 2005

Exhibit 2
Smaller schemes

- Aberdeen, Dundee, Edinburgh and Glasgow councils operate pension funds similar to the LGPS for employees working for their current or former local bus services.
- Scottish Enterprise and Highlands & Islands Enterprise run their own separate funded schemes. They also participate in the LGPS on behalf of Careers Service employees who transferred to them.
- VisitScotland participates in the British Tourist Authority pension scheme.
- The Scottish Legal Aid Board has its own unfunded scheme which it operates on the same terms as the NHSPSS.
- The Scottish Executive Environment and Rural Affairs Department (SEERAD) has a scheme[3] for employees of the Scottish Agricultural Colleges (SACs) and the Scottish Agricultural and Biological Research Institutes (SABRIs).
- The Scottish Parliamentary Pensions Scheme is managed for MSPs and some senior office holders in the Scottish Administration.

Source: Audit Scotland, 2006

3 This liability will transfer to a wider UK agricultural research sector scheme under a transfer agreed with the Treasury. Liabilities agreed pre-transfer are c.£300 million.

Exhibit 3

Contribution rates and accrual rates for the principal pension schemes in the Scottish public sector

Pension scheme	Employer contribution by percentage of employee salary 2005-06	Employee contribution as a percentage of salary	Accrual rate[4]
Local Government Pension Scheme (LGPS)	Variable by fund, from 12.6 (Falkirk) to 18.9 (Lothian)	6 (5 for manual workers who joined the scheme before 1998)	80ths
NHS Pension Scheme Scotland (NHSPSS)	14.1	6 (5 for manual), average is 5.9	80ths
Scottish Teachers' Pension Scheme (STPS)	12.5	6	80ths
Principal Civil Service Pension Scheme (PCSPS)	Variable by pay band 2004/05: 12 to 18.5 2005/06: 16.5 to 24	Classic: 1.5[5] Classic+ and Premium: 3.5	80ths (Premium: 60ths)
Firefighters' Pension Scheme (FPS)	Employer contributions make up the difference between cost of pensions paid and employee contributions (currently up to 31 per cent)	11	60ths (30ths after 20 years)
Police Pension Scheme (PPS)	Employer contributions make up the difference between cost of pensions paid and employee contributions (currently up to 21 per cent)	11	60ths (30ths after 20 years)

Source: Scheme regulations and published accounts, 2006

4 Lump sums are paid in addition to the pension benefits on retirement in the LGPS, PCSPS and STPS. In the police and fire service schemes, members may swap part of their annual pension for a lump sum paid at retirement.
5 In the PCSPS, Classic scheme members contribute only to 'widows' and orphans' benefits, with no contribution from members for their own benefits. In the new Premium scheme of the PCSPS, members do contribute to their own benefits.

new employer common contribution rates ranging from 15.9 per cent to 19.0 per cent,[6] to be phased in over the three years from 1 April 2006. Increases for some employers may be more than five per cent.

For police and fire service schemes the individual administering authorities are responsible for managing the scheme, and their contributions are determined by the difference between the cost of pensions going out and the contributions coming in from active members. The current cost to the service is up to around 42 per cent of total payroll costs (11 per cent for employees and 31 per cent for employers).

For the central PAYG schemes (NHSPSS, PCSPS and STPS), actuaries undertake a periodic review of the schemes to determine a composite contribution rate (employees' plus employers'); in essence, it determines the employers' contribution rates, as the employees' rates are fixed by statutory regulation. The employers' contributions now range from 12 per cent to 24 per cent.

What is a pension fund's liability?

A pension fund's liability is the total value of its obligation to make payments to beneficiaries, both today and in the future. The liability is made up of a number of factors, some of which can be valued precisely and some of which must be estimated. For example, the number of current pensioners is known, but their life expectancies can only be estimated on the basis of experience (Exhibit 4, overleaf).

The value of the pension liabilities will also depend on the discount rate used, which is sometimes taken as a proxy for anticipated future investment returns. Earlier assumptions about the average age to which people may live have underestimated how long people are now living. It is good news that we are living longer, but this means that future pension liabilities have been underestimated. This is one of the reasons why pension liabilities have grown significantly over the last few years. Recent valuations take account of these changes, but it is not clear whether future improvements in life expectancy will continue at the same rate.

What are pension assets and how are they valued?

Funded pension schemes are underpinned by assets that are used to make pension payments as they fall due. PAYG schemes do not have assets; instead they pay pensions out of current contributions and government grants.

A pension scheme may hold its assets in cash, stock-market equities, bonds (long-term investments that generally have a lower return than equities) and property. Each exhibits different patterns of growth and performance over time, and each has different risks.

Funded public sector pension schemes, particularly the LGPS, have invested most of their assets in equities. These have the potential to achieve high returns when the stock market is buoyant (and so reduce the burden of contributions by employers), but they are more volatile in performance.

The reliance on equities in public sector pension schemes contrasts with recent moves by some private sector pension fund managers to move more of their assets into bonds. This was a response to the introduction of a new accounting standard, FRS 17, which requires the value of pension liabilities to be recognised in financial statements on a basis that matches the liability with assets of similar duration and risk; and to the downturn in stock-market values from 1999 to 2003.

Pension fund assets were previously valued by actuaries using a smoothing technique that eliminated the peaks and troughs of the stock market, and resulted in a steady contribution rate for employers. FRS 17 reporting requires that fund assets are valued at their actual current market value. The move to real market-based valuations has coincided with a sustained fall in the performance of the stock market that began in 2000 and lasted until March 2003. Since then, there has been a recovery, but current market levels are still some way short of their peak in December 1999.

Much of the reasoning behind FRS 17 was to match the liabilities of pension funds with investment assets that had similar duration and risk as the liabilities. Economists have proposed that, since pension liabilities are like bonds in terms of duration and risk, they should be matched by good-quality bonds. However, the recent bear market also led to reductions in interest rates and therefore to reductions in the real return on new long-dated bonds. So, alongside the fall in the value of equities, the return on bonds is also lower than previous experience. The drop in bond yields was compounded by increased demand for the available bonds, driving bond prices up and yields lower. Overall, this means that the reported liabilities of pension funds have continued to grow significantly, while the value of the funds invested to meet them, had declined.

6 This is a common rate for the funds, but individual employers may pay different rates according to the profile of their members.

Exhibit 4
The main elements that make up the liabilities of a pension fund

Type of beneficiary	Factors that influence the liability of the whole pension scheme
Current pensioners	• Pension payment (based on final salary at date of retirement) to estimated date of death, taking into account inflation. • Payments to beneficiaries.
Active members currently making contributions and who will become future pensioners	• The accrual rate of the scheme. • Length of employment. • Projected earnings at retirement age, taking into account possible promotions and movement up salary scales. • Life expectancy (both before and after retirement). • Inflation. • Estimates of whether the employee will leave employment before retirement, or retire on an ill-health pension.
Deferred members (past employees who have made contributions to the pension fund and will receive some benefits in the future)	• The accrual rate of the scheme. • Length of employment during which pension contributions were made. • Earnings at date of leaving. • Life expectancy (both before and after retirement). • Inflation.
Dependants (if the scheme has provision)	• Presence of death-in-service benefits. • Pension contributions of employed member. • Life expectancy of spouse. • Years until dependent children reach the age of 18. • Inflation.

Source: Audit Scotland, 2006

Managing the pension fund

Each funded pension scheme is required to have a funding plan. The advisors to the pension scheme project how the assets are likely to perform, and how this compares to the liabilities. This modelling work is necessary to test the solvency of the fund in relation to the maturing liabilities, and to give an indication of the future contribution rates that may be needed.

In March 2004, new regulations in England and Wales required pension schemes to prepare and publish funding plans. Guidance was issued by the Chartered Institute of Public Finance and Accountancy (CIPFA). Similar amending regulations were not issued in Scotland until 31 May 2005, and Scottish funds had until 31 March 2006 to prepare and publish their statements.

Trustees of the pension scheme appoint fund managers to manage the investments and agree the investment strategy with them. For some, the strategy may be to manage passively, relying on index tracking and comparisons against the performance of other pension schemes. Other managers are set active performance targets and are expected to get the funds allocated to them to outperform set benchmarks. Active fund management carries higher charges, but the active managers are expected to produce higher returns than passive management.

The performance of fund managers inevitably varies across the sector. We have not examined the performance of fund managers in this report, but it is an area that requires continuous monitoring and evaluation by those responsible for the pension fund.

Meeting pension liabilities

The LGPS

The LGPS in Scotland is managed through 11 separate funds. Responsibility for the funds rests with the administering authority, as does the investment plan it adopts to meet the future liabilities.

The principal decision-making body for each LGPS fund is the pension fund committee, made up of elected members of the administering authority. The committee is advised by authority officials and by external professional advisors. In the main, this will be the appointed actuary, but advice is also taken from investment consultants, fund managers and specialist legal advisors. Pension committee members are not trustees, and there is no right of employee/pensioner representation on the committees, as is now required in private sector schemes. However, some committees do have employee and other employer representatives with no voting rights; and there are pension forums through which committees receive the views of members, pensioners and other employers and stakeholders.

LGPS funds must publish a statement of investment principles setting out the class of assets in which the fund will invest and the assumptions made about returns on assets. The statement forms the basis for the management of the fund.

To date, most LGPS administering authorities have not adopted a significant shift in funding plans from equities to bonds, although some have altered their exposure. This largely reflects a desire to maintain a lower level of employers' contributions to the scheme. Calculating contribution rates on a bond basis would significantly increase the contributions required by employers. The funding plans used in the Scottish LGPS actuarial valuations at 31 March 2005, show that most fund assets continue to be invested in equities (Exhibit 5, page 11), with one authority, Dumfries & Galloway, now showing a more significant position in bonds.

The investment plan is a matter for the individual pension committee managing the fund, and a degree of variability is to be expected in the investment profiles. All funds will set their investment strategy based on an analysis of their membership profile, commissioning an asset liability study and discussion with their external advisers. However, it is notable that the Lothian fund has a much lower level of investment in bonds than any other fund, and that Orkney and Shetland are recorded as having no investments in property.

In the public sector, a wholesale shift from equities to bonds would demand significantly higher contribution rates from employers. For local authorities, this would certainly mean an increase in the amount of money which would need to be paid to pension funds.

Three yearly valuations of funds at 31 March 2005, by actuaries, were finalised in February and March 2006. They measure fund liabilities against the assets and check the solvency of funds. These valuations recognise the funding strategies adopted by each fund and use them to value liabilities, on a different basis from FRS 17, and to set future contribution rates. The valuations show funding levels (Exhibit 6, page 11) higher than the reported FRS 17 valuations, and they also show a decline in funding levels from the valuations at 31 March 2002.

At 31 March 2005, the 32 local authorities in Scotland reported assets in the pension funds of £11.4 billion, set against FRS 17 liabilities of £15 billion to be met from the funds, and there was an additional £0.9 billion of unfunded liabilities to be met directly by authorities out of income. The level of scheme funding by authority averaged 76 per cent, ranging from 69 per cent to 83 per cent (Exhibit 7, page 12). The estimated FRS 17 unfunded liability, to be met for all fund participants, was some £5.9 billion.

Funding plans and uncertainty

There is an inherent uncertainty in the outcome of funding strategies because of the nature of investments, and the degree of uncertainty varies with the type of investment. For that reason, funding positions are reviewed by actuaries at least every three years to establish how well a fund remains on course to meet its liabilities.

Actuaries use mathematical models to assess how the assets and liabilities of a fund may move over the future, and from these they can show the degree of uncertainty involved in the funding strategy chosen (see Exhibit 8, page 13, for an example of how funding levels could vary over a three-year period). They can also assess the future range of contributions levels that might be required to maintain fund solvency at the end of the three-year period. (See Exhibit 9, page 13, for an example of how contribution rates vary.)

Contributions holidays

Employee contribution rates are fixed by statute, and employers pay the balance of pension benefit costs. When the LGPS was set up, it was expected that the ratio of contributions would be in the region of 60:40 employers to employees. However, the nature of final salary schemes inevitably means that employer contribution rates will vary over time.

Employers' contribution rates reflect the funding position in the scheme. When a fund is in deficit, employers are expected to pay more to recover the deficit. When it is in surplus, employers may pay a little less to 'use up' the surplus.

During the 1990s, the valuation of fund assets showed some LGPS funds in surplus compared with their liabilities, and some funds reduced employers' contribution levels. In some cases, employers made no contributions for a short period of time. Had authorities continued to increase the pension fund surplus rather than expand services or reduce the community charge/council tax, then they may have been criticised. Private sector pension funds also took contribution holidays during this period, and generally for longer periods.

Pension funds receive tax advantages, and Inland Revenue rules required funds to reduce surpluses of greater than five per cent within five years. With employees' contribution rates fixed, the adjustment took place only in employers' contributions.

Some pension funds had to take contribution holidays to ensure that they did not breach Inland Revenue rules.

No analysis is available to show the extent to which contribution holidays have contributed to the current level of underfunding. Nor have we compared the funding position of funds that took a pension holiday with those that did not reduce contribution rates. But the causes of the current shortfall are many, and include:

- abolition of the Advance Corporation Tax credit in 1997
- increased longevity
- a sharp increase in the valuation of the liabilities as a result of a shrinking discount rate based on historically very low bond yields
- investment underperformance.

As from 6 April 2006, the limit on pension fund surpluses has been removed and, in future, surpluses built up during market surges can be retained to offset subsequent market falls.

PAYG schemes

The PAYG schemes – the NHSPSS, the PCSPS, the STPS and the PPS and FPS – use current employers' and employees' contributions to meet existing pension payments. Any shortfall in a PAYG scheme is made up by government or by the administering authority. Projections indicate that the liability for all unfunded public sector pensions will continue to rise over the next 50 years, from a current cost of 1.5 per cent of

Exhibit 5
Profile of LGPS funding plans by Scottish LGPS funds

Fund	Equities (%)	Bonds (%)	Property (%)
Aberdeen City Council Pension Fund	75	15	10
Dumfries & Galloway Council Pension Fund	65	30	5
Falkirk Council Pension Fund	75	15	10
Fife Council Pension Fund	75	20	5
Highland Council Pension Fund	70	20	10
Lothian Pension Fund	80	10	10
Orkney Council Pension Fund	80	20	0
Scottish Borders Council Pension Fund	75	18	7
Shetland Council Pension Fund	80	20	0
Strathclyde Pension Fund	75	15	10
Tayside Superannuation Fund	70	21	9
Max	**80**	**30**	**13**
Median	**75**	**20**	**10**
Min	**65**	**10**	**0**

Source: Audit Scotland analysis of fund actuaral valuations or strategy statements, 2006

Exhibit 6
Funding levels reported by actuaries in 2005 valuations

Fund	Funding level assets as a proportion of liabilities	
	2002 valuation (%)	2005 valuation (%)
Aberdeen City Council Pension Fund	99	84
Dumfries & Galloway Council Pension Fund	106	89
Falkirk Council Pension Fund	100	86
Fife Council Pension Fund	97	86
Highland Council Pension Fund	105	92
Lothian Pension Fund	96	85
Orkney Council Pension Fund	101	87
Scottish Borders Council Pension Fund	101	93
Shetland Council Pension Fund	101	99
Strathclyde Pension Fund	108	97
Tayside Superannuation Fund	97	91
Max	**108**	**99**
Median	**101**	**89**
Min	**96**	**84**

Source: Audit Scotland analysis of fund actuaral valuations, 2006

Exhibit 7

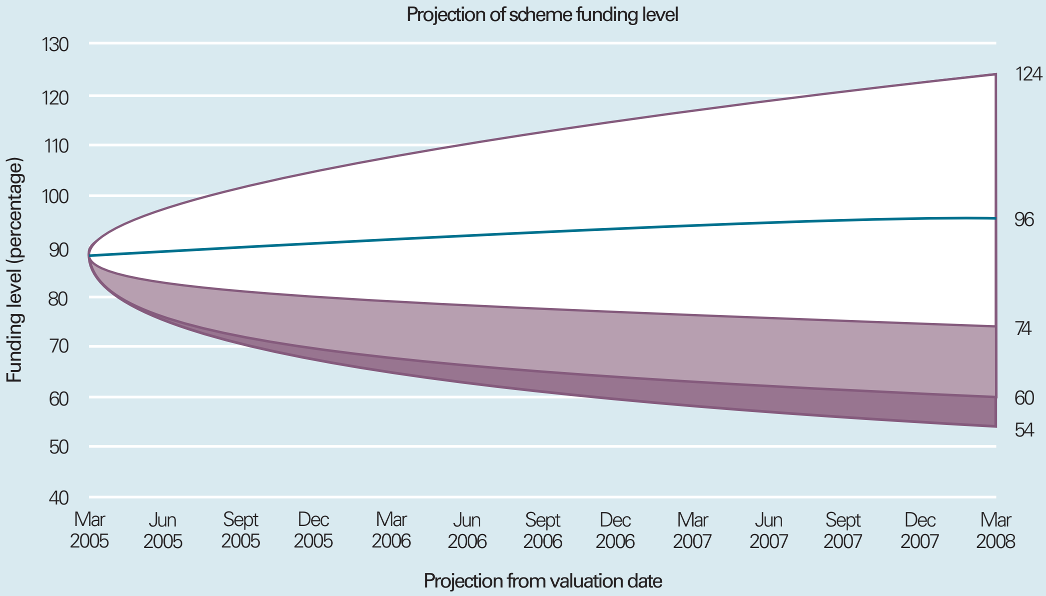
Asset liability movements in LGPS funds – local authorities only

Local authority	2003/04 Assets (£m)	2003/04 Liabilities (£m)	2003/04 Funding (%)	2004/05 Assets (£m)	2004/05 Liabilities (£m)	2004/05 Funding (%)
Aberdeen City	363.4	406.7	89	415.3	540.7	77
Aberdeenshire	311.6	348.6	89	356.7	462.0	77
Angus	186.7	211.9	88	215.6	291.3	74
Argyll & Bute	138.3	147.7	94	241.7	302.8	80
Clackmannanshire	87.2	100.7	87	97.5	134.1	73
Dumfries & Galloway	270.4	295.4	92	304.0	389.9	78
Dundee City	400.5	456.5	88	459.8	628.8	73
East Ayrshire	258.5	274.0	94	289.0	387.2	75
East Dunbartonshire	186.5	197.3	95	208.7	261.9	80
East Lothian	157.8	183.8	86	176.9	239.1	74
East Renfrewshire	144.8	162.6	89	162.4	215.6	75
Edinburgh, City of	820.3	953.1	86	919.0	1,242.0	74
Eilean Siar	70.2	73.0	96	81.9	99.1	83
Falkirk	233.8	266.6	88	261.2	352.6	74
Fife	622.9	829.4	75	712.0	1,039.4	69
Glasgow City	1,617.2	1,718.1	94	1,802.6	2,292.7	79
Highland	353.3	414.6	85	405.0	545.0	74
Inverclyde	195.4	225.3	87	217.8	296.2	74
Midlothian	135.9	158.5	86	152.8	206.9	74
Moray	123.3	138.4	89	141.3	184.8	76
North Ayrshire	266.2	282.8	94	297.2	372.7	80
North Lanarkshire	620.3	697.2	89	694.7	927.8	75
Orkney Islands	59.3	64.2	92	68.5	86.6	79
Perth & Kinross	205.8	229.3	90	238.6	313.8	76
Renfrewshire	391.8	416.6	94	437.0	536.1	82
Scottish Borders	180.3	203.7	89	206.9	285.7	72
Shetland Islands	111.7	118.6	94	126.6	161.2	79
South Ayrshire	247.0	276.6	89	275.8	364.0	76
South Lanarkshire	607.2	644.2	94	681.3	861.3	79
Stirling	154.7	175.4	88	173.3	234.5	74
West Dunbartonshire	163.5	171.9	95	255.8	322.3	79
West Lothian	248.6	290.5	86	282.8	386.5	73
Totals	**9,934.3**	**11,133.4**		**11,359.8**	**14,964.6**	
Average movement (%)			**89**			**76**
				14	**34**	

Source: Audit Scotland analysis of local authority account FRS 17 disclosures, 2006

Exhibit 8
Future funding level

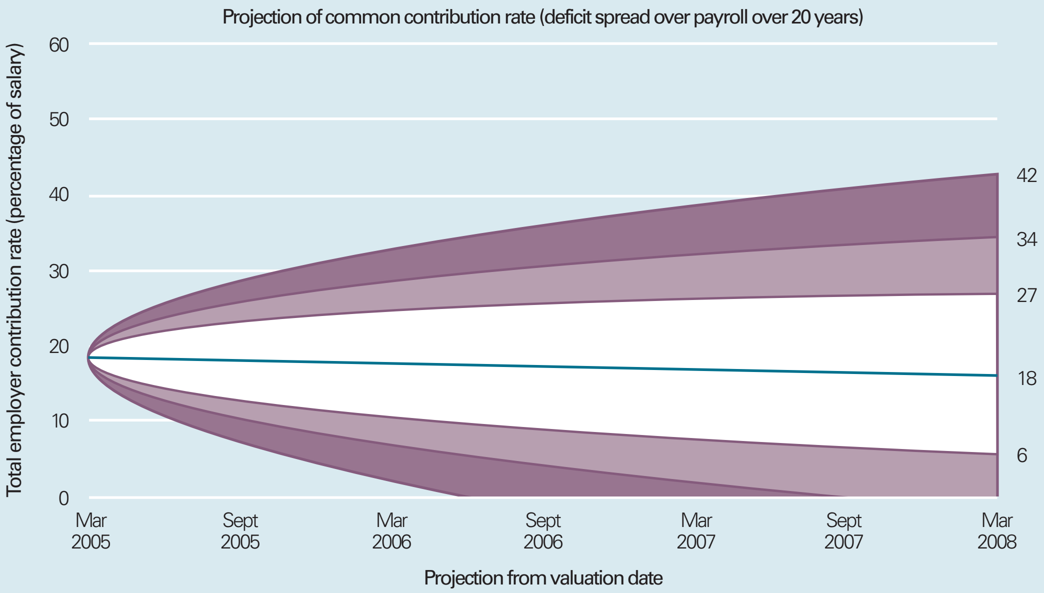
In this example, the median position on scheme funding is that, in three years' time, the funding level will have moved from the current level of 90 per cent to around 96 per cent. However, there is a two-in-three chance of the funding level being between 74 per cent and 124 per cent (within the white zones), with around a one-in-six chance of it being below 74 per cent (the darker zones).



Source: Audit Scotland, 2006

Exhibit 9
Future contribution levels

In this example, there is a two-in-three chance that the employers' contribution rate will be in the range 6 per cent to 27 per cent of payroll (the white area); but there is a slightly more than one-in-six chance that the rate might need to be higher than 27 per cent.



Source: Audit Scotland, 2006

Gross Domestic Product (GDP) to around 2.2 per cent of GDP by 2053/54;[7] this assumes that GDP will increase at a rate of two per cent above inflation.

Management of the PCSPS, the NHSPSS and the STPS schemes is centralised, and pension liabilities are not reflected in the employers' accounts. In the NHS scheme, contributions currently exceed the pensions in payment, while in the STPS, the cost of pensions exceeds contributions and the difference is met by government grant.

In the case of the PPS and FPS, employers manage the schemes and the liabilities, and the pension costs appear in their accounts. In both cases, pension payments now account for a significant proportion of net service expenditure: generally ranging from 9 per cent to 14 per cent.[8]

PAYG scheme liabilities

Until March 2004, PAYG scheme liabilities were estimated on a basis similar to the funded schemes for accounting purposes. For 2004, the real discount rate of 3.5 per cent set by the Treasury was applied across all of the PAYG schemes.

In 2005, a lower real rate of 2.4 per cent was applied to the FPS and PPS (as for the LGPS), but the rate was unchanged for the STPS, PCSPS and NHS schemes to provide consistency over the three-yearly spending round for central government. The real rate of 2.4 per cent is in line with that used in private sector pension schemes and is set with reference to the yield on AA-rated corporate bonds.

For the new government spending round commencing 2005-06, the Financial Reporting Advisory Board (FRAB) has set a real discount rate of 2.8 per cent to apply for the next three years, producing a mismatch in the basis on which pension liabilities are valued across the public sector. This makes any comparison of the respective liabilities difficult, and raises questions about consistency within government accounts. For the PCSPS, STPS and NHS schemes, the liabilities are undervalued relative to the LGPS, FPS and PPS. There is a wider debate about the basis on which the government's unfunded pension liabilities should be valued but that is not considered here.

Fire-fighters' scheme

For uniformed staff, the FRS 17 assessment at 31 March 2005 shows a total liability of £1.6 billion, an increase of 31 per cent over the 31 March 2004 position. This is due, principally, to the use of the lower discount rate. Non-uniformed staff in the fire service are members of the LGPS.

Police scheme

For uniformed staff, the FRS 17 assessment of the liability at 31 March 2005 is £6.2 billion, up some 32 per cent from the 31 March 2004 estimate. Again, the principal reason is the lower discount rate. Non-uniformed staff are members of the LGPS.

NHS scheme

The NHSPSS is administered by the SPPA, but the unfunded liability on this scheme lies at UK level. The Auditor General for Scotland made a report on the accounts for 2003/04 because the scheme actuary (the Government Actuary's Department, or GAD) had not completed a statutory actuarial revaluation due at 31 March 2004 due to incomplete data. The valuation was completed in July 2005, and the scheme liability as at 31 March 2005 was assessed at £12.7 billion. This represents an increase of £4.6 billion on the liability appearing in the 2003/04 accounts.

PCSPS

PCSPS is managed at UK level, and the liabilities for future pension payments are not presently broken down on a departmental or geographical basis. The unfunded liability lies at UK level. At UK level, the reported liabilities of the PCSPS were £84.1 billion at 31 March 2005. Translating this to Scotland on the basis of civil service numbers equates to around £9.1 billion (but note that this would include employees in UK-wide departments, mainly Department of Work and Pensions (DWP), and HM Revenue & Customs (HMRC)). If the LGPS discount rate was used, this figure would rise above £10 billion.

STPS

STPS is administered by the SPPA and the scheme actuary is GAD. As with the NHS scheme, there were problems with the supply of data, and the most recent full valuation took place in 1996. GAD was not able to complete the statutory five-yearly revaluation at 31 March 2001, although an interim report was produced. The next actuarial valuation will be as at 31 March 2006.

The liability of the scheme was valued at £12.4 billion at 31 March 2005, based on the 3.5 per cent discount rate. If the discount rate applied to the LGPS was used, the liabilities of the STPS would be expected to be of the order of £14.2 billion, some £1.8 billion higher. The unfunded liability on this scheme lies, ultimately, at UK level.

7 *Long-term public finance report; an analysis of fiscal sustainability,* HM Treasury, 2004. Note that this includes Armed Forces pension costs.
8 Highlands & Islands Fire Board is an exception, with low pension costs because of the high proportion of retained fire-fighters providing the service.

Exhibit 10

Estimated liabilities in excess of assets held (on an FRS 17 basis) on the principal public sector pension schemes administered in Scotland at 31 March 2005

Scheme	'Unfunded' liabilities from FRS 17 actuarial valuation (£ billion)	'Unfunded' liabilities at common discount rate of 2.4% (£ billion)
Local Government Pension Scheme (LGPS)*	5.9	5.9
NHS Pension Scheme Scotland (NHSPSS)	12.7	15.5
Scottish Teachers' Pension Scheme (STPS)	12.4	14.2
Firefighters Pension Scheme (FPS)	1.6	1.6
Police Pension Scheme (PPS)	6.2	6.2
Total	**38.8**	**43.4**

Note: *This is the total shortfall of funds from liabilities related to the LGPS and includes the non-uniformed staff of fire and police authorities as well as all admitted employers to the scheme. It is not a precise figure since it is based on scaling-up figures from local authorities to all employers participating in the LGPS. The FRS 17 deficit will fluctuate with market performance and the discount rate.

Source: Audit Scotland analysis of actuaries' FRS 17 valuations for local authorities (2005), police and fire authorities (2005), NHSPSS (2005) and STPS (2005)

Total liabilities in the principal pension schemes (in excess of any assets held in funded schemes)

The level of unfunded liabilities on the principal Scottish-administered schemes may be as high as £43 billion (Exhibit 10). This excludes the PCSPS, which is administered at a UK level. If the PCSPS is included then the unfunded liability for Scotland may be of the order of £53 billion.

Changes and choices ahead

The UK government[9] proposed changes in all public schemes before the 2005 election as it sought to address these challenges. Proposals for change were presented for consultation for each of the principal schemes, and proposals for the Scottish schemes were issued separately by the Scottish Executive. Initial reactions to proposed changes, from employees and unions, were not favourable, and, after the general election was announced, proposals were put on hold. The most important aspects of the proposed changes are summarised in Appendix 2 (page 22).

In essence, the proposals alter accrual rates for benefits, alter employee contribution rates (upwards for most schemes but downwards for fire-fighters and police, due to a later scheme retirement age), and increase normal scheme retirement age to 65 for most schemes. The objectives of the changes were to reduce the liability risk of employers and reduce future pension costs.

PCSPS, NHSPSS and STPS

In negotiations, the government and unions agreed that existing civil servants, NHS and education staff will keep their right to retire at 60, but from April 2006, new recruits have to work to age 65 to earn full pension rights.

PCSPS accrual rates already vary due to the introduction of the Premium schemes in 2002, but government now proposes that new entrants to the scheme should move to a pension accrual based on average salary. Using this basis, employees who are not promoted through grades would see little difference, but 'high-flyers' would see a significant reduction in final pension benefits.

LGPS

Separate discussions on the proposals for the LGPS are continuing, led by The Office of the Deputy Prime Minister (ODPM) and the Local Government Pensions Committee (LGPC), made up of the Local Government Association (LGA) in England and Wales and the Convention of Scottish Local Authorities (COSLA). The aim is to introduce a new scheme by 2008. However, particularly contentious issues remain, with proposed changes in the present scheme over

9 The Scottish Executive is responsible for the public sector schemes administered in Scotland, but Scotland will face pressure to follow changes in England.

the continuation of normal retirement age at 65 in contrast to the other public sector schemes and the removal of the Rule of 85.[10]

The LGPC's main function is to represent the employer interests of the 99 local authority pension funds in the UK, and, in particular, to liaise on behalf of local government with the Local Government Pensions Division of ODPM and with the SPPA.

Separate discussions are taking place in Scotland between COSLA, the SPPA and trade unions, on the proposed changes where an alternative to the Rule of 85 is being sought to replace it when legislation takes effect.

Fire-fighters and police schemes

The unfunded nature of the fire-fighters' and police pension schemes places a considerable and increasing financial burden on joint boards (which manage most of the services), and presents particular problems for Fife and Dumfries & Galloway councils, where the fire and police services are managed and accounted for within the council. The accounts of both councils now show liabilities in excess of their assets because of the unfunded pension liabilities.

In the fire service in particular, the increasing cost of maturing pension liabilities is in danger of outstripping the operational cost of the services, and this will worsen as increasing numbers of active members retire in the near future. As part of the reform of the fire service, ODPM proposes to address the issue in England and Wales by taking central responsibility for pension payment, thereby removing the charge from the authority accounts. A similar approach is proposed for Scotland.

Changes proposed for the new fire service and police service schemes were agreed earlier in 2006, to apply to new members joining from 6 April 2006. Members in the present schemes may stay with this but they will have the opportunity to switch to the new scheme.

10 Under this Rule a person who has reached 60, and has at least 25 years' qualifying service, can retire on unreduced pension: and any person aged between 50 and 60, whose age and qualifying service sum to 85, can retire, with the employer's agreement.

Glossary*

Active investment management — This is a system of investment that could be used for a pension fund. It involves buying and selling particular investments to try and get better growth.

Active member — This is a member of an occupational pension scheme who is building up pension benefits from their present job.

Actuarial assumptions — These are the figures and estimates that an actuary uses when they make an actuarial valuation. This can include how long people are expected to live, price rises, how much people are expected to earn, and the income from the pension scheme investments.

Actuarial deficiency — This is where the actuarial value of a scheme's assets is less than the actuarial liability. The actuarial deficiency is the difference between the two.

Actuarial increase — This is the extra pension benefit a member gets when retiring after the normal retirement age.

Actuarial liability — This is the money a pension scheme will have to pay out for pensions after the date of the actuarial valuation.

Actuarial reduction — This is a drop in a member's pension because they have taken their pension early.

Actuarial report — This is a report on an actuarial valuation. This name is also used for when an actuary says how changes to a scheme might affect it financially.

* Many of the items in this glossary have been drawn from the *Plain English Campaign Guide, the A-Z of pension terms.* The reader can access the full Plain English Guide at: www.plainenglish.co.uk/PensionsA-Z.html

Actuarial surplus	This is where the actuarial value of a scheme's assets is more than the actuarial liability. The actuarial surplus is the difference between the two.
Actuarial valuation	This is an assessment done by an actuary, usually every three years. The actuary will work out how much money needs to be put into a scheme to make sure pensions can be paid in the future.
Actuarial value	This is the value an actuary puts on something.
Actuary	An actuary is an expert on pension scheme assets and liabilities, life expectancy and probabilities (the likelihood of things happening) for insurance purposes. An actuary works out whether enough money is being paid into a pension scheme to pay the pensions when they are due.
Average earnings scheme	This is another name for a career average scheme.
Beneficiary	This is a person who is getting pension benefits, or will do so when a particular event happens.
Career average scheme	This is the name for a scheme where the pension benefits earned for a year depend on how much the member's pensionable earnings were for that year.
Commutation	This is giving up part or all of a pension in return for getting a one-off payment straightaway. It is also called a cash option.
Contribution holiday	This is the period when the usual contributions to a pension scheme are stopped for a time. This is usually done when the scheme has more funds than it needs.
Contributions	This is the money paid into a pension fund for a member. It can be paid by a member or an employer. Contributions are sometimes called pension premiums.
Defined benefit scheme	This is where the rules of the scheme decide how much pension the member will get. There are different ways of working out the size of the pension, but the member will know which system the scheme uses. The most common type of defined benefit scheme is a final salary scheme.
Early retirement	This is when a member retires before their normal retirement date and gets their pension immediately.
Fund manager	This is a person or firm who is responsible for managing the day-to-day running of a fund to the best advantage of the fund's investors.
Funding	This is setting assets aside (saving up) so that money is available to pay future liabilities.
Funding level	This is a comparison of a scheme's assets and liabilities.
Funding plan	This is a plan to make sure that money is available at the right time to pay out pension benefits. It usually involves setting the contributions at a certain level, such as the standard contribution rate.

Investment	This is when the money paid into a pension scheme is used to buy things like stocks and shares, bonds and properties. These are called investments.
Level of funding	This is the how much the actuarial valuation says a scheme's assets are worth compared to its liabilities. It is usually a percentage figure, meaning that a scheme with a 100 per cent level of funding would have assets and liabilities worth the same amount.
Liabilities	These are amounts which the pension scheme will have to pay now or at some time in the future. The most common liability is paying members' pensions.
Market value	This is the price an asset should achieve if it is sold on the open market.
Normal pension age (NPA)	This is the earliest age that a member can usually take their full pension benefits. Somebody retiring before this age will usually get a lower pension, but this may not apply with ill-health early retirement.
Normal retirement age (NRA)	This is when employees doing a particular job generally retire. It is usually the same as the normal pension age.
Pay-as-you-go (PAYG)	This is where pension benefits are paid out of present day income. There is nothing set aside to pay future pension benefits. This is a type of unfunded scheme. The basic state pension and the State Second Pension are both PAYG schemes, with the benefits paid from taxes.

Appendix 1. Scottish pension scheme characteristics

Scheme	Type	Contribution rates (% of pensionable salary 2005/06)		Pension accrual
		Members	Employers	
Local Government Pension Scheme (LGPS)	Funded	6	Variable by fund 12.6 to 18.9	80ths
NHS Pension Scheme Scotland (NHSPSS)	PAYG	6 For manual workers: 5	14.1	80ths
Scottish Teachers Pension Scheme (STPS)	PAYG	6	12.5	80ths
Principal Civil Service Pension Scheme (PCSPS). (There are three versions of the Scheme: Classic, Classic Plus and Premium)	PAYG	Classic: 1.5 Premium: 3.5	Variable 12.0 to 18.5	Classic: 80ths Premium: 60ths
Firefighters Pension Scheme (FPS)	PAYG	11	Variable	60ths (30ths after 20 years)
Police Pension Scheme (PPS)	PAYG	11	Variable	60ths (30ths after 20 years)

Additional lump sum	Death in service	Death in retirement (dependants)	Minimum normal retirement age	Latest full actuarial valuation date
Yes 3 x pension	50% of pension for dependant plus 2 x pensionable salary	50% of pension	65 (Rule of 85 – but going)	2005
Yes 3 x pension	50% of pension for dependant plus 2 x pensionable salary	50% of pension	65	1999
Yes 3 x pension	50% of pension for dependant plus 1 x pensionable salary	50% of pension	60	2001
Classic: 3 x pension Premium: allows commutation of a proportion of annual pension	Classic: 50% of pension plus 2 x pensionable salary Premium: 37.5% of pension plus 3 x pensionable salary	Classic: 50% of pension Premium: 37.5% of pension plus balance of unpaid pension to max of 5 years	60	2003
No But can commute part of annual pension	50 % of ill-health pension	50% of pension	55	2004
No But can commute part of annual pension	50% plus 2 x pensionable salary	50% of pension	55	2004

Appendix 2. Principal proposed changes to Scottish public sector pension schemes

Scheme	Type	Contribution rates (% of pensionable salary)		Pension accrual
		Members	Employers	
Local Government Pension Scheme (LGPS)	Funded	6→7%[11] (but still under discussion)	Variable by fund 12.6 to 18.9 (but will increase following completion of 2005 valuations)	80ths
NHS Pension Scheme Scotland (NHSPSS)	PAYG	6 (5 for manual workers)→6	14.1 May vary following actuarial reviews	80ths
Scottish Teachers Pension Scheme (STPS)	PAYG	6	12.5 May vary following actuarial reviews	80ths→60ths
Principal Civil Service Pension Scheme (PCSPS)	Existing conditions under the Classic and Premium schemes are ring-fenced. Changes proposed for the future are under discussion with unions. Significant features proposed were: pension based on a career average earnings; retirement age increased to 65, with flexibility to draw reduced pension from 55 and to accrue pension to 75; flexibility on the level of pension for dependants.			
Firefighters Pension Scheme (FPS)	PAYG	11→ 6.5 -8.0%	See footnote[12]	60ths (30ths after 20 years)→ 60ths or 80ths (single accrual)
Police Pension Scheme (PPS)	PAYG	11→ 9-9.5%	See footnote[12]	60ths (30ths after 20 years)→70ths

11 Later employer proposals in September 2005 for successive one per cent increases from 1 April 2005 and 1 April 2006.
12 The FPS and PPS are unfunded and administered by the employing board or authority. Employers' contributions are the difference between the costs of the pensions in payment and the contribution from active members.

Additional lump sum	Death in service	Death in retirement (dependants)	Minimum normal retirement age
Yes 3 x pension	No change	No change	65 (Rule of 85 abolished)
Yes 3 x pension	No change	No change	65
Yes 3 x pension	No change	No change	60→65
Existing conditions under the Classic and Premium schemes are ring-fenced. Changes proposed for the future are under discussion with unions. Significant features proposed were: pension based on a career average earnings; retirement age increased to 65, with flexibility to draw reduced pension from 55 and to accrue pension to 75; flexibility on the level of pension for dependants.			
No→ 3 or 4 x pension (depending on accrual)	Minor change	No change	55 (60)→ 60 or 65
4 x annual pension	Minor change	No change	55

Public sector pension schemes in Scotland

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