

THE ROLE OF THE GOVERNMENT ACTUARY
IN SOCIAL SECURITY IN THE UK

By C D Daykin

ABSTRACT

The Government Actuary's Department (GAD) came into being in 1917, originally arising from the perceived importance of applying actuarial skills to the financing of the UK social security system. Whilst GAD has changed considerably over the years, and now operates as a publicly owned consulting firm, social security and related policy and regulatory advice remain at the core of the Government Actuary's role. This paper explores the nature of the role of the GAD in this area, and provides examples of the scope of GAD reports on the long-term finances of the National Insurance Fund

KEYWORDS

Actuary; Government Actuary; Social Security; Population Projections

CONTACT ADDRESS

C D Daykin CB Hon DSc MA FIA Hon FFA ASA
Government Actuary's Department, New King's Beam House,
22 Upper Ground, London SE1 9RJ, UK.
Tel: + 44 (0) 20-7211-2620; Fax: + 44(0) 20 – 7211-2650;
E-mail: chris.daykin@gad.gov.uk;
Web-site: <http://www.gad.gov.uk>

1. Introduction

- 1.1 The Government Actuary's Department (GAD) was established in 1919 as a separate department within the United Kingdom civil service. A position of Government Actuary had been established two years' earlier, in 1917, so that an actuarial service could be provided to all departments. The first postholder was Sir Alfred Watson, (nephew of Reuben Watson, the founder of the actuarial firm R Watson & Sons), who in 1912 had been appointed to the new post of Chief Actuary to the National Health Insurance Joint Committee, in consequence of the growth in the priority given to actuarial assessment of the financial consequences of the National Health Insurance Act of 1911.
- 1.2 Further details of the early history of the department were given in Maddex (1954) and Daykin (1992, 1999) and additional insights into the pioneers of the department may be gained from the memoirs published in the Journal of the Institute of Actuaries, relating to the first few Government Actuaries (Coutts (1937), Maddex (1947, 1951), Cox (1982) and Daykin (1992a).
- 1.3 There have been 7 Government Actuaries to date:

14.5.1917 - 7.5.1936	Sir Alfred W Watson KCB
19.5.1936 - 30.11.1944	Sir George S W Epps KBE
1.12.1944 - 30.8.1946	Sir Percy N Harvey KBE, CB
31.8.1946 - 31.3.1958	Sir George H Maddex KBE
1.4.1958 - 30.4.1973	Sir Herbert Tetley KBE, CB
1.5.1973 - 14.4.1989	Sir Edward A Johnston KBE, CB
15.4.1989 -	Christopher D Daykin CB

2. The GAD today

2.1 GAD is one of the Chancellor of the Exchequer's departments, which also include the Treasury, the Inland Revenue, Customs and Excise, the Royal Mint, the Department for National Savings and the UK Debt Management Office. In practice, the Minister responsible for GAD on a day-to-day basis has in recent years usually been the Economic Secretary to the Treasury.

2.2 Since April 1989, GAD has operated on a full repayment basis, which means that the department is financially self-supporting on the basis of fees charged to clients. The only exceptions to this are the demographic work carried out by GAD and the Occupational Pension Schemes Survey, for which money is voted to GAD by Parliament. In effect this means that in general the department can spend more (e.g. on increasing staff numbers), so long as it can earn more fee income to pay for it.

2.3 Professionally, GAD enjoys complete autonomy and is not subject to any Ministerial control. This enables GAD to give actuarial advice to any government department, as well as being free to advise other clients, such as public sector bodies and governments of other countries. All clients are required to pay fees, based on GAD's current standard hourly charge-out rates, except where a contract provides otherwise, e.g. for a fixed fee.

3. GAD's principal areas of work

3.1 GAD has three separate operating directorates, each under a Directing Actuary, who carries the title Deputy Government Actuary in his area of operation. Broadly speaking, the three areas of work are a) public sector pensions, b) social security, pensions policy, demography and pension surveys, and c) supervision of financial institutions.

3.2 Public Sector Pensions Directorate

3.2.1 The public sector pensions work consists of providing advice to a wide range of government departments, bodies in the wider public sector, some private sector organisations and a few foreign governments on matters connected to occupational pension provision. Clients include the large unfunded public service pension schemes, such as the Principal Civil Service Pension Schemes (PCSPS), the Armed Forces Pension Scheme and the pension schemes for policemen and firemen. Two other large public service schemes

- those for teachers and for the National Health Service (NHS) respectively - are notionally funded schemes, for which the Government Actuary is required by statute to carry out a five-yearly valuation of liabilities and (notionally allocated) assets.

- 3.2.2 Some pension schemes for employees in the wider public sector operate similarly to private sector schemes. Some are subject to the minimum funding requirement and some require the appointment of a Scheme Actuary under the Pensions Act 1995. A few schemes advised by GAD are now in the private sector, although generally these are organisations that were formerly in the public sector.
- 3.2.3 GAD's work as actuarial adviser to pension schemes includes most of the work which would be carried out by actuarial consultants to pension schemes in the private sector. The exception is for unfunded schemes, where there is no actuarial valuation of assets and liabilities, although this is often replaced by projections of emerging costs or calculations similar to the notional fund approach, in order to determine contribution rates to be paid by employers which achieve a similar discipline, and comparable pension costs, to those which private sector employers have to meet.
- 3.2.4 GAD's work in this area includes general pension consulting activity and actuarial work in respect of individual and bulk transfers, added years, additional voluntary contributions, benefit options, early retirement exercises, special pension arrangements for senior appointments, etc. There is also a strong demand for advice on pension policy, both in relation to the Treasury and Cabinet Office roles in co-ordinating pensions in the public sector and with regard to these departments' representation of the interests of public sector employers in the development of national social security and pensions policy by the Department of Social Security.
- 3.2.5 The public sector equivalent of merger and acquisition activity also entails significant work for GAD. This includes handling the pensions aspects of privatisations, mergers of public sector bodies and spin-offs, market testing and other forms of contracting out of services from the public to the private sector. GAD's main role is usually to advise the government departments concerned, to assist them in ensuring that pensions aspects are properly addressed and in achieving best value for money for the public purse. In some related work, GAD's clients are the private sector organisations who want to bid for these contracts, since, if they are able to satisfy GAD that the pension arrangements which they plan to offer are broadly comparable to the PCSPS (or the NHS scheme or the local government scheme, as the case may be), GAD can issue them with a so-called "passport" which will facilitate the bidding process and their discussions with the public sector body responsible for the contracting out. GAD staff have also played an important role in helping to conduct communications exercises for staff affected by such changes, to help ensure that the pensions implications and choices are properly understood.

- 3.2.6 The public sector pensions directorate of GAD is also responsible for advice to the Pension Schemes Office of the Inland Revenue on actuarial aspects of Inland Revenue approval of occupational pension schemes, including administering the regulations relating to maximum tax-free funding levels for defined benefit schemes and assisting the Pension Schemes Office on their programme of auditing compliance by pension schemes and their advisers.
- 3.3 Social Security, Pensions Policy, Demography and Surveys Directorate
- 3.3.1 This Directorate is concerned with social security and pensions policy, including the regulation of occupational pension schemes. The social security work is today's equivalent of the actuarial work which led to the appointment of the first Government Actuary and still remains a key reason for the continued existence of GAD. Advice is provided formally to the National Insurance Fund (see section 5) but also to the Department of Social Security, HM Treasury and the Inland Revenue (which is now responsible for the collection of National Insurance contributions).
- 3.3.2 To underpin advice on the long-term financial impact of social security legislation, GAD has, from its earliest days, prepared population projections. Following certain disagreements between government departments, and between the constituent parts of the United Kingdom, on the projected population to be taken into account for planning purposes (and, in particular, for allocation of financial resources), the Treasury decided in 1954 that the official national population projections should be prepared by the Government Actuary, who would be seen by all as having professional and territorial independence. GAD is required to consult with the Registrar-Generals of England and Wales, Scotland and Northern Ireland and, especially now, following the establishment of a Scottish Parliament and Welsh and Northern Ireland Assemblies, with the statistical offices of the four countries, and also with other government departments which have a particular interest in the projections. The official GAD projections, complete with variant projections, are published every two years and are required to be used as the basis for the preparation of projections by region and local authority or health authority districts, projections of the labour force, of the school population, etc. GAD publishes details of the assumptions used, since 1999 on the web site (<http://www.gad.gov.uk>), but from 1970 in a published booklet for each projection round (Office for National Statistics, 1998, 2000). Projections of the population by marital condition (and by de facto status) are also prepared from time to time.
- 3.3.3 GAD prepares life tables for the UK and its constituent countries each year, based on the estimated deaths and population exposed to risk in the year. GAD also prepares the official English Life Tables and Scottish Life Tables at ten year intervals, using the population estimated at the decennial census and deaths in the three calendar years around the Census. This continues a series which was prepared throughout the 19th century by a succession of famous actuaries and demographers, many of them in the capacity of Registrar General. ELT15, based on deaths in 1990-92, is the latest in the

series (Office for National Statistics, 1997).

- 3.3.4 Actuarial advice on the financial aspects of social security schemes is much in demand from all around the world. GAD has had a long tradition of advising a number of other social security schemes, such as those in the Channel Islands and the Isle of Man, but has also carried out reviews recently in countries as diverse as Mauritius, Saudi Arabia, Jordan, Greece, Bermuda, Barbados and the Falkland Islands. Advice may be specifically on the financial implications of existing schemes, on amendment to or reform of the social security and pension system, or on the development of regulation and supervision for private pension schemes.
- 3.3.5 GAD provides advice to the Department of Social Security (and HM Treasury) on all aspects of the development of social security and pensions policy, including new legislation and regulations. GAD provides actuarial advice to the Occupational Pensions Regulatory Authority (Opra), which has responsibility for the regulation of occupational pension schemes, and which will assume in due course responsibility for certain aspects of the regulation of stakeholder pension schemes and personal pension schemes.
- 3.3.6 Since the early 1950s GAD has also been responsible for carrying out a regular series of surveys of occupational pension schemes in the UK. In view of the fact that there are some 150,000 schemes in existence but no comprehensive collection of data from schemes, information is collected, usually every 4 years, by means of a sample survey carried out by the GAD.
- 3.3.7 This Directorate also advises in other areas of social policy, such as on the financing of provision for long-term care and on actuarial aspects of compensation through the Courts for loss of earnings or dependency, cost of care, etc in cases of personal injury and fatal accident.

3.4 Financial Institutions Directorate

- 3.4.1 This Directorate advises the Insurance and Friendly Societies and the Complex Groups Directorates of the Financial Services Authority (FSA) on the supervision of UK insurance companies, friendly societies and Lloyd's, along with related policy matters. This is a continuation of the work previously undertaken on behalf of H M Treasury and the Friendly Societies Commission (FSC) (and prior to that for the Department of Trade and Industry (DTI) and the Registry of Friendly Societies (RFS)).
- 3.4.2 GAD currently operates under a continuation of the service agreements previously agreed with H M Treasury and FSC in scrutinising all the returns submitted by UK insurance companies and friendly societies which carry on long-term business. Detailed reports on each company (or society) are submitted to FSA each year. GAD also accompanies FSA on visits to life companies and is involved to a substantial extent in advice on general policy matters and on specific company issues such as reorganisations, demutualisations, identification of shareholders' interest in the long-term

business fund, etc.

3.4.3 On general insurance, GAD has a less comprehensive role but advises on individual companies, as requested by the insurance supervisors. Advice is given on the adequacy of technical provisions, the suitability and reliability of reinsurance arrangements and on the overall financial strength of companies.

3.4.4 GAD also advises a number of insurance supervisory authorities in other countries, some on a continuing basis and others in respect of one-off projects.

4. Advantages of structure

4.1 In many countries actuarial advice for different areas of government is segmented, with actuaries in several departments. Sometimes there are only actuaries in the insurance regulation area, although in certain cases the regulatory authorities may also take assignments for other departments on a one-off basis. In some countries there is a severe shortage of actuaries willing to work for government or in government agencies, often because of unattractive remuneration packages. As a result, actuarial advice may not be available when it is needed, or external actuarial consultants may need to be hired.

4.2 The GAD model helps to overcome some of these difficulties. A central actuarial consultancy service within government ensures that actuarial advice is readily available to any government department or public sector body which needs it. GAD is in a good position to ensure consistency of advice across different parts of government and continuity over time. It also has benefits in terms of confidentiality when it comes to politically sensitive areas of government work.

4.3 Another important factor is to limit the scope for conflicts of interest. This is particularly valuable in the area of supervision of insurance companies or pension funds, where other actuarial firms may have extensive commercial activity advising regulated companies or funds. Whilst it would be possible to allocate different supervisory work to different actuarial consultants, so as to avoid a direct conflict of interest on a particular company or pension scheme, this does not get around the problem that any adviser to the regulator is likely to have access to privileged information, both about the work of the regulator in general and about competitors of commercial clients.

4.4 Another obvious advantage is that GAD is a non profit organisation and so should be able to offer good value for money. This is helped by the fact that GAD salaries at senior levels do not attain the highest levels of remuneration of private sector consultants. However, GAD salaries cannot be allowed to become too much out of line with the market, or it would become difficult to recruit and retain good quality staff – and GAD has always sought to maintain very high standards in this respect.

- 4.5 Since GAD has been operating on a quasi-commercial basis (from April 1989), there has been greater freedom to set salaries at market levels and to pay what is necessary to recruit new staff, both graduate trainees and qualified actuaries especially at recently qualified and middle levels. Annual pay awards, however, are inevitably somewhat constrained by government pay policy, so it is not easy to maintain the system in equilibrium. There are clear compensations because of the interesting nature of the work, both in terms of its variety and public interest content and the extent to which it interacts with policy-making at the highest levels.
- 4.6 Slightly lower salaries and the absence of the profit motive do not guarantee that GAD will always offer better value for money. Other important factors include control of non-salary expenditure, levels of chargeable time and general efficiency, to which GAD pays great attention, as well as focussing on the quality of the work product. To ensure that GAD is kept on its toes in providing good value for money, government departments are encouraged by Treasury to market-test actuarial services, rather than automatically assuming that GAD should do the work. Other public sector clients and foreign governments are, of course, completely free to select whichever actuarial adviser they want and GAD is in competition with many alternative sources of actuarial advice.
- 4.7 An alternative structure which might appear to offer good value for money for a major public sector client would be to establish an in-house actuarial function. Indeed this is what happens in many countries. A problem with this is that it may be difficult to set an appropriate level of remuneration for actuaries within the general structure of a government department or regulatory organisation and this may make it hard to recruit and retain good quality actuaries, particularly at more senior levels. It may also be difficult to provide a satisfactory career structure for “in-house” actuaries, especially if more senior non-actuarial positions to which an actuary might aspire, for promotion and career development, do not have sufficiently competitive salary levels.
- 4.8 GAD offers wider possibilities for career development, as well as the flexibility to set appropriate actuarial salary scales. It also offers the attraction of a work environment similar to that of a private firm of consulting actuaries, but with frequent opportunities to work on issues at the national level, close to the political interface. Concentrating actuarial expertise within government in a single organisation gives more chance of achieving critical mass, maintaining high professional standards and quality and enabling actuaries to be influential within government over a broad range of issues, rather than being seen just as technicians to whom relatively narrow issues can be referred.
- 4.9 As far as the regulatory work is concerned, there are advantages for the regulator in being able to call upon support from the Government Actuary in discussions with the industry, or with individual companies. The industry will often respect such heavyweight actuarial input more than advice from

actuarial advisers within the regulatory structure itself. It is also easier for the Government Actuary's Department to keep in tune with the latest developments in actuarial research and to play an active role in the evolution of the views of the profession at large.

5. The role of GAD in social security

5.1 As indicated in paragraph 1.1, the role of actuaries in U.K. social security arrangements can be traced back to 1912, before the establishment of the Government Actuary's Department, when Alfred Watson was appointed Chief Actuary to the National Health Insurance Joint Committee, heading up a small sub-department to advise the Committee on actuarial and financial matters in connection with the National Health Insurance Act 1911.

5.2 The current statutory position is that the Social Security Administration Act 1992 requires there to be a report by the Government Actuary whenever the Secretary of State lays an Order before Parliament concerning the annual uprating of benefits, which the Act requires to be at least in line with the increase in the Retail Price Index. Section 150(8) of the Act states:

“The Secretary of State shall lay with any draft order under this section a copy of a report by the Government Actuary or the Deputy Government Actuary giving that Actuary's opinion on the likely effect on the National Insurance Fund of such parts of the order as relate to sums payable out of that Fund.”

5.3 Proposals for the annual uprating of benefits are now made at the same time as the annual review of contribution rates and the earnings bands to which they are applied, but separate provision is made under the Social Security Administration Act 1992 for the Secretary of State to lay an Order before Parliament on proposed changes to contributions (or proposals to leave them the same). Here again provision is made for the Government Actuary to make a report. Section 142(1) of the 1992 Act is as follows:

“Where the Secretary of State lays before Parliament a draft of an order under Section 141 above, he shall lay with it a copy of a report by the Government Actuary or the Deputy Government Actuary on the effect which, in that Actuary's opinion, the making of such an order may be expected to have on the National Insurance Fund; and, where he determines not to lay a draft order, he shall with the report laid before Parliament under Section 141(6) lay a copy of a report by the Government Actuary or the Deputy Government Actuary on the consequences for the Fund which may, in that Actuary's opinion, follow from that determination.”

5.4 In addition to these responsibilities to produce annual reports in connection with the uprating of benefits and amendments to contributions (which are in practice usually combined into a single report, e.g. Government Actuary's Department, 1999, 2000), Section 166 of the Social Security Administration

Act 1992 lays down a requirement for a review of the operation of the Act to be carried out by the Government Actuary at intervals of no more than 5 years. The relevant section is shown at Appendix 1. This gives a remit to the Government Actuary to look at the long term, as well as in some sense reviewing the past, and focuses on the future costs of benefits, the yield from contributions and the level at which the National Insurance Fund itself stands. These reviews are known as Quinquennial Reviews (Government Actuary's Department, 1995, 1999a). A summary of the conclusions of the most recent Quinquennial Review is given as Appendix 4 of this paper.

- 5.5 When new social security legislation is introduced into Parliament by the Government, involving any significant long-term consequences, the Bill is accompanied by a report from the Government Actuary on the long-term financial implications (Government Actuary's Department, 1994, 2000). A summary of the Government Actuary's report on the most recent proposal for social security legislation - the Child Support, Pensions and Social Security Bill 1999 - is included as Appendix 5 of this paper.
- 5.6 When the additional earnings-related pension was introduced by the Social Security Pensions Act 1975, provision was made for occupational pension schemes providing benefits of a requisite standard to contract out of the State earnings-related pension, in return for a reduction in the rate of contribution payable by the employer and employees to the National Insurance Fund. Following changes to the system of contracting out introduced by the 1995 Pensions Act, Section 42 of the Pension Schemes Act 1993 (as amended) requires the Government Actuary to produce a report on the reductions in contribution rates, or rebates, which are appropriate to take into account the cost to occupational pension schemes of providing benefits of an equivalent value to those in the State earnings-related pension scheme which are forgone by members who are contracted out (Government Actuary's Department 1996, 1998). Section 42 is reproduced at Appendix 2.
- 5.7 Sections 42B and 45A similarly provide for the Government Actuary to report on the age-related rebates appropriate for those who choose to be contracted out of the State earnings-related pension scheme by means of membership respectively of contracted-out money purchase schemes (COMPs) or an appropriate personal pension (APP).
- 5.8 Provision was originally made in the legislation for certain premiums to be payable by occupational pension schemes to the State scheme in respect of individuals or schemes ceasing to be contracted out and returning liabilities to the State scheme, or limiting certain liabilities which are being preserved in respect of early leavers. Section 46 of the Social Security Pensions Act 1975 (see Appendix 3) provided for actuarial tables to be incorporated in regulations only after consultation with the Government Actuary and for a report by the Government Actuary to be laid before Parliament with any proposals in this respect. This requirement has now largely disappeared, with the abolition of these types of State scheme premiums from April 1997.

- 5.9 In addition to these statutory responsibilities, where the Government Actuary is named specifically in the law, the Government Actuary's Department provides a regular stream of advice to Ministers and officials on a wide variety of questions concerning the cost of National Insurance benefits and the financing of the National Insurance Fund. The Department is responsible for producing the projections for about 40% of social security expenditure in the annual White Paper detailing the Government's public expenditure plans. Estimates are provided on the flow and split of contribution income for the purposes of the national accounts and for economic forecasts. Costings are made whenever any proposals are put forward for changes in the structure of contributions or in any of the benefits payable from the National Insurance Fund. There are considerable advantages of efficiency from GAD carrying out such non-statutory roles, given the investment in expertise, data analysis and modelling capability which is necessary to fulfil the statutory roles.
- 5.10 In addition to advising on the strictly financial consequences for the National Insurance Fund of existing or proposed legislation, the knowledge and expertise of GAD's actuarial staff in the fields of private pensions and insurance enable them to play an important role in advising on developments in the whole structure of social security and pensions policy, legislation relating to pensions and insurance, contracting out arrangements and the on-going regulation and supervision of private pension schemes.
- 5.11 In practice this means that GAD actuaries have played an important part in the development of most major social security and pension reforms in the UK. In addition, GAD has a strong input on technical questions such as the pension implications of divorce, equal treatment for men and women in pensions, pensions for part-timers and pension aspects of TUPE (Transfer of Undertakings Protection of Employment). GAD has assisted in many working groups of experts and officials within the European Union on pensions and social security issues. The Government Actuary was the UK representative on the EU Commission's Pensions Observatory (Network of Experts on Supplementary Pension Provision) for as long as it existed, and the GAD continues to provide the UK input to the EU Commission on reviews of supplementary pension provision.
- 5.12 GAD has also been the actuarial adviser to Opra (the Occupational Pensions Regulatory Authority) since its establishment in 1996. In addition to fulfilling a clearly actuarial role in relation to the Minimum Funding Requirement and other professional issues, the industry background and experience of GAD actuaries has enabled them to advise on a wide range of pensions regulatory issues.
- 5.13 Occupational pension provision in the UK depends very largely on the initiative of individual employers and, as a result, there are about 150,000 separate occupational pension schemes, of which some 37,000 are defined benefit schemes, covering about 9 million active members. Every four years GAD carries out a sample survey of occupational pension schemes, using statistical techniques to estimate the total level of coverage and information

about scheme characteristics at the UK level. These have been published as GAD reports since 1956, with the report relating to pension provision in 1995 being the latest (Government Actuary's Department 2000b).

- 5.14 Although somewhat peripheral to the main thrust of social security and pensions policy, GAD is also responsible for advising on the operation of the draw-down option for holders of personal pensions. This provides an alternative to the purchase of an annuity, at least up to age 75. Legislation sets limits on the amount which an individual can draw down from the pension fund. With the Department of Social Security concerned that the level of draw-down should not lead to future dependency on means-tested income support, and the Inland Revenue concerned that at least a certain level of income should be taken from the fund (tax being payable only on the income drawdown), the GAD has the responsibility of establishing the parameters for determining the upper and lower bounds for draw-down income.

6. Conclusion

- 6.1 This paper has concentrated on the role of the Government Actuary's Department in relation to UK social security, whilst providing an outline of the other areas of GAD's work. More details of the wider aspects of the work of the department can be found in Daykin (1992) and in successive Annual Reports of the GAD.
- 6.2 It is reasonable to argue that the high degree of financial stability of the UK contributory social security scheme owes much to the financial discipline which has been imposed on governments and on Parliament by the regular reports of a professionally independent Government Actuary. Of course, critics of the UK social security system might argue that this has resulted in the UK having a relatively low level of social security benefits compared to some other countries. This may be the case, although the decisions regarding the level of benefits have always been taken at the political level. What can be affirmed is that political decisions have been taken in full knowledge of the longer term financial consequences, which has not always been the case in some other countries!
- 6.3 Those outside the UK may wonder how possible it is for the Government Actuary, as a civil servant on a permanent contract (to retirement age) to be professionally independent. Professional independence is safeguarded by the formality of the appointment, by the necessity of affiliation as a fully qualified member of the UK actuarial profession and by the separate status of the department, effectively operating as a publicly-owned consulting firm, rather than the employment of actuaries within the various government departments and regulatory bodies, which could dilute professional independence.
- 6.4 The tradition of professional independence has also underpinned GAD's long-standing responsibility for the production of national demographic

projections and life tables, tasks which in most other countries would be assigned to the national statistical office.

- 6.5 The independent position of the Government Actuary and the self-standing nature of the Government Actuary's Department have been important factors in the maintenance of an exceptionally high quality of actuarial staffing in the department. There has never been any question of GAD employing second-rate actuaries because it is a government organisation. The calibre of GAD actuaries has always been of the highest order and GAD actuaries have often played active roles within the profession. This record would be much more difficult to maintain if actuaries were employed separately by individual departments and regulators.
- 6.6 One shortcoming of the present UK system is the absence of a strong GAD input to the National Health Service, the financing of which has paid relatively little regard to long term consequences, although GAD population projections are used as a basis for planning in the short to medium term.
- 6.7 Apart from the vital role of the GAD in the social security area, there is a strong rationale for such a role in relation to pensions for civil servants and other public sector workers. These arrangements are also subject to much greater analysis and financial discipline in the UK than is often the case elsewhere. The UK has probably undergone more privatisation of public functions and contracting out of services from the public to the private sector, than most countries. However, there is no doubt that the role of the GAD in relation to the pension aspects of these machinery of government changes has saved the public purse considerable amounts of money.
- 6.8 This short survey has highlighted some of the benefits of the Government Actuary's Department structure, which has now been maintained and developed in the UK over 80 years. I believe that the structure has much to commend it compared to the alternatives.

REFERENCES

Coutts C R V (1937) Memoir of Sir Alfred Watson KCB. *Journal of the Institute of Actuaries* 68, 1-7.

Cox P R (1982). Memoir of Sir George Henry Maddex KBE. *Journal of the Institute of Actuaries* 109, 317-318.

Daykin C D (1992). The developing role of the Government Actuary's Department in the supervision of insurance. *Journal of the Institute of Actuaries* 119, 313-343.

Daykin C D (1992a). Memoir of Sir Edward Johnston KBE, CB. *Journal of the Institute of Actuaries* 119, 169-170.

Daykin C D (1999). The regulatory role of the actuary. *British Actuarial Journal* 5, 529-574.

Government Actuary's Department (1994). National Insurance Fund Long Term Financial Estimates. Report by the Government Actuary on the Financial Effects on the National Insurance Fund of the Pensions Bill 1994.

Government Actuary's Department (1995). National Insurance Fund Long Term Financial Estimates. HC160.

Government Actuary's Department (1996). Occupational and Personal Pension Schemes. Review of Certain Contracting-out Terms. March 1996. Cm3221.

Government Actuary's Department (1998). Occupational and Personal Pension Schemes. Review of Certain Contracting-out Terms. March 1998. Cm 3888.

Government Actuary's Department (1999). Report by the Government Actuary on the drafts of the Social Security Benefits Up-rating Order 1999 and the Social Security (Contributions) (Re-rating and National Insurance Fund Payments) Order 1999. Cm 4199

Government Actuary's Department (1999a). National Insurance Fund Long Term Financial Estimates. Cm 4406.

Government Actuary's Department (2000). National Insurance Fund Long Term Financial Estimates. Report by the Government Actuary on the Financial Effects on the National Insurance Fund of the Child Support, Pensions and Social Security Bill 1999. Cm 4573.

Government Actuary's Department (2000a). Report by the Government Actuary on the drafts of the Social Security Benefits Up-rating Order 2000 and the Social Security (Contributions) (Re-rating and National Insurance Fund Payments) Order 2000. Cm 4587.

Government Actuary's Department (2000b). Occupational Pension Schemes Survey 1995.

Maddex G H (1947). Memoir of Sir Percy Harvey KBE, CB. Journal of the Institute of Actuaries 73, 161-162.

Maddex G H (1951). Memoir of Sir George Epps KBE. Journal of the Institute of Actuaries 77, 479-481.

Maddex G H (1954). The Government Actuary's Department. Journal of the Institute of Actuaries 80, 107-111.

Office for National Statistics (1997) English Life Tables No.15. Series DS no.14.

Office for National Statistics (1998) National population projections 1996 based. Prepared by the Government Actuary. Series PP2 no 21.

Office for National Statistics (2000) National population projections 1998 based. Prepared by the Government Actuary. Series PP2 no 22.

SECTION 166 OF THE SOCIAL SECURITY ADMINISTRATION ACT 1992

(as amended)

166 Financial review and report

- (1) As from the end of the period of 5 years beginning 6th April 1990, or such shorter period as the Secretary of State may direct, the Government Actuary or the Deputy Government Actuary shall review the operation during that period of
 - (a) the 1975 Act;
 - (b) Parts I to IV of the Contributions and Benefits Act (except Part I of Schedule 8);
 - (c) the provisions of the Jobseekers Act 1995 relating to a contribution-based jobseeker's allowance; and
 - (d) this Act so far as it relates, Chapter II of Part I of the Social Security Act 1998 and Part II of the Social Security Contributions (Transfer of Functions, etc.) Act 1999 so far as they relate to the provisions specified in paragraphs (b) and (c) above.

- (2) As from the end of each review period, the Government Actuary or the Deputy Government Actuary shall review the operation during that period and of
 - (a) Parts I to VI of the Contributions and Benefits Act (except Part I of Schedule 8);
 - (b) The provisions of the Jobseekers Act 1995 relating to a contribution-based jobseeker's allowance; and
 - (c) This Act so far as it relates, Chapter II of Part I of the Social Security Act 1998 and Part II of the Social Security Contributions (Transfer of Functions, etc.) Act 1999 so far as they relate to the provisions specified in paragraphs (a) and (b) above.

- (3) For the purpose of subsection (2) above, a review period is –
 - (a) the period of five tax years, or
 - (b) such shorter period as the Treasury may direct in respect of any review,from the end of the last period to be subject to a review under this section.

- (4) It shall be the object of a review under this section to determine the extent to which the level at which the National Insurance Fund stands from year to year may be expected in the longer term to bear a proper relation to demands in respect of payments of benefit; and for this purpose the Actuary shall take into account,
 - (a) current rates of contributions;
 - (b) the yield to be expected from contributions in the longer term; and
 - (c) such other matters as he considers to be relevant as affecting the present and future level of the Fund.

(5) After completing his review, the Government Actuary or Deputy Government Actuary shall report to the Secretary of State and the Treasury his opinion on the question referred to in subsection (4) above; and the Treasury shall lay a copy of the report before Parliament.

SECTION 42 OF THE PENSION SCHEMES ACT 1993

(1) The Secretary of State may from time to time, and shall when required by subsection (2) below, lay before each House of Parliament –

- (a) a report by the Government Actuary or the Deputy Government Actuary on
 - (i) the percentages for the time being applying under section 41 (1A) (a) and (b), and any changes since the preparation of the last report under this paragraph in the factors in his opinion affecting the cost of providing benefits of an actuarial value equivalent to that of the benefits which, under section 48A, are forgone by or in respect of members of salary related contracted-out schemes.
 - (ii) any changes since the preparation of the last report under this paragraph in the factors in his opinion affecting the cost of providing benefits of an actuarial value equivalent to that of the benefits which, under section 48A, are forgone by or in respect of members of salary related contracted-out schemes.
- (b) a report by the Secretary of State stating whether he considers that, in view of the report of the Government Actuary or the Deputy Government Actuary, there should be an alteration in either or both of those percentages and, if so, what alteration is in his opinion required.

(2) The Secretary of State shall lay such reports at intervals of not more than five years.

(3) If in a report under subsection (1) (b), the Secretary of State states that he considers that there should be an alteration in either or both of the percentages mentioned in section 41(1A)(a) and (b), he shall prepare and lay before each House of Parliament with the report the draft of an order making that alteration; and if the draft is approved by resolution of each House the Secretary of State shall make the order in the form of the draft.

(4) An order under subsection (3) above shall have effect from the beginning of such tax year as may be specified in the order, but not a tax year earlier than the second after that in which the order is made.

(5) No alteration of those percentages shall introduce any distinction on grounds of age or sex.

(6) A draft of an order making alternations in either or both of those percentages may contain consequential provisions altering any percentage for the time being specified in paragraph 2(3) of Schedule 4 as that percentage applies in relation to earnings paid or payable on or after the day as from which the order is to have effect.

Appendix 3

SECTION 46 OF THE SOCIAL SECURITY PENSIONS ACT 1975

- (1) Regulations prescribing actuarial tables for the purposes of sections 44(7) and 45 (4) above –
 - (a) shall be made only after consultation with the Government Actuary; and
 - (b) shall not be made unless a draft of them has been laid before Parliament and approved by a resolution of each House.
- (2) The prescribed actuarial tables shall comprise a standard table –
 - (a) embodying whatever appears to the Secretary of State to be the best practicable estimate of the average cost, expressed in actuarial terms and relative to a given period, of making such provisions for the pensions as mentioned in section 44(5) (a) or (b), or section 45 (2), as the case may be; but
 - (b) assuming an average yield on investments which is not less than the average increase in the general level of earnings obtaining in Great Britain,and also alternative tables to be applied, as directed by the regulations, according to whatever is from time to time the yield on such investments or classes of investments as the Secretary of State thinks fit to prescribe.
- (3) With any reports laid before Parliament under section 28 of this Act, the Secretary of State shall lay –
 - (a) a report by the Government Actuary on any changes in the factors affecting the actuarial tables prescribed for the purpose of section 44(7) and 45 (4); and
 - (b) a report by the Secretary of State stating whether he considers that, in view of the Government Actuary's report, there should be any alterations in the tables and if so, what alterations are in his opinion required.
- (4) The changes referred to in subsection (3) (a) above are, in the case of the first report under that paragraph, changes since the passing of this Act and, in the case of a subsequent report, changes since the preparation of the last report.
- (5) If in a report under subsection (3) (b) above the Secretary of State states that he considers that there should be alterations in the actuarial tables, he shall prepare and lay before each House of Parliament with the report the draft of regulations prescribing tables to be in force with those alterations from the beginning of such tax years as may be specified in the regulations not earlier than the second tax year after that in which the regulations are made.
- (6) If the draft regulations are approved by resolution of each House the Secretary of State shall make the regulations in the form of the draft.

The Quinquennial Review

- 1 The main purpose of the quinquennial reviews is to estimate the contribution rates required to be paid to the Great Britain National Insurance Fund in future years to meet the expenditure on a pay-as-you-go basis under the current benefit and contribution structure.
- 2 The most recent review (Government Actuary's Department, 1999a) was based on the legislation in force in March 1999 and therefore reflected the equalisation of pension ages at 65 by 2020, the changes to the State Earnings-Related Pension Scheme (SERPS) and contracting out of SERPS enacted in the Pensions Act 1995 and the contribution rules changes contained in the Social Security Act 1998.
- 3 Results of projections over a period of 60 years or so are subject to considerable uncertainty and the effects of different values for some of the key assumptions are shown in the report.
- 4 The main factors affecting the future contribution rates needed for the National Insurance Fund are:
 - The relative number of contributors and pensioners, as pension benefits account for 80% of benefit expenditure;
 - The rate by which the increase in the general level of earnings exceeds the increase in benefit rates and earnings limits in each future year
- 5 The number of contributors per pensioner is projected to stay fairly constant, at about 1.8, until the year 2020. Thereafter it will decline rapidly to about 1.4 by 2030 before stabilising again. These changes reflect the demographic development of the population, particularly an increase of about 50% in the number of pensioners to some 16.4 million in the year 2040, allowing for the change in female pension age and, to a lesser degree, changing economic activity rates. Other things being equal, the reduction in the number of contributors relative to pensioners would lead to contribution rates increasing by approximately a third by around the year 2030.
- 6 Whether increases in contribution rates will be necessary in practice depends on the policy for increasing flat-rate benefit rates. Increasing benefit rates by less than the rate of earnings increases will result in benefit expenditure rising more slowly than contribution income, which is related to earnings increases.
- 7 The Social Security Administration Act 1992 requires that benefit rates be increased each year at least in line with price inflation. Recent policy has been to increase benefit rates in line with price inflation and all comments by governments in recent years have supported this level of uprating. Historically, earnings have grown faster than prices by approximately 1.5%

to 2.0% a year on average and it is expected that there will be a continuing differential of this order.

- 8 If upratings continue to be based on price increases, the growth in contribution income relative to benefit expenditure, arising from earnings increasing faster than flat-rate benefit rates by 1.5% to 2.0% a year, will offset the decline in the relative number of contributors to pensioners. Contribution rates will fall.
- 9 If benefit rates were increased in line with earnings, contribution rates would have to be increased significantly up to the year 2040 before levelling off.
- 10 Table 1 sets out the contribution rates estimated to be required in future to meet benefit outgo on a pay-as-you-go basis, based on the principal assumptions.
11. From April 1999, the employees' National Insurance contribution rate is 10%, as in 1998. The employers' National Insurance contribution rate is 12.2% from April 1999 to March 2001, compared to the main rate of 10% in 1998, but this rate is only payable on earnings above a threshold. After allowing for the proportion of the contribution allocated to the National Health Service (NHS), the combined employee and employer rate from April 1999 is 20.25%, compared to 18.05% in 1998, although the new employers' rate is paid on a smaller proportion of earnings.

Table 1 Estimated rates of contribution to the National Insurance Fund in respect of employed earners to balance income and expenditure on a year by year pay-as-you-go basis.

Year	JOINT EMPLOYEE AND EMPLOYER CONTRIBUTION RATE* %	
	Earnings upratings of benefit rates	Price upratings of benefit rates
1999-00	20.0	20.0
2000-01	20.2	19.9
2010-11	21.6	18.9
2020-21	23.2	18.1
2030-31	26.7	18.6
2040-41	27.6	17.1
2050-51	27.3	15.2
2060-61	27.6	14.0

* These rates exclude that part of the rates allocated to the NHS. They are based on the revised Class 1 contribution regime introduced by the 1998 Social Security Act. These changes took effect from April 1999.

12. The rates in the table below assume that the future rates of contribution by the employee and the employer will be kept proportional to each other and that the revised structure of the National Insurance contribution system applicable from April 1999 will be maintained thereafter. Contribution rates for other contribution classes are assumed to alter proportionately.
13. The contribution rates in Table 1 are not easy to interpret, especially where employees' contribution limits are indexed to prices rather than earnings, resulting in them paying contributions on an ever decreasing proportion of their earnings. A more representative view of the changes in the cost of future National Insurance Fund expenditure (excluding contracted-out rebates) can be obtained by relating the expenditure to the projected gross domestic product (GDP). This is illustrated in Table 2 below.

Table 2 National Insurance Fund expenditure for all benefits as a percentage of projected GDP

	TOTAL EXPENDITURE AS A PERCENTAGE OF PROJECTED GDP (%)	
Year	Earnings upratings of benefit rates	Price upratings of benefit rates
1999-00	5.5	5.5
2000-01	5.5	5.4
2010-11	6.4	5.6
2020-21	7.0	5.5
2030-31	7.9	5.5
2040-41	8.1	4.9
2050-51	7.8	4.2
2060-61	7.7	3.7

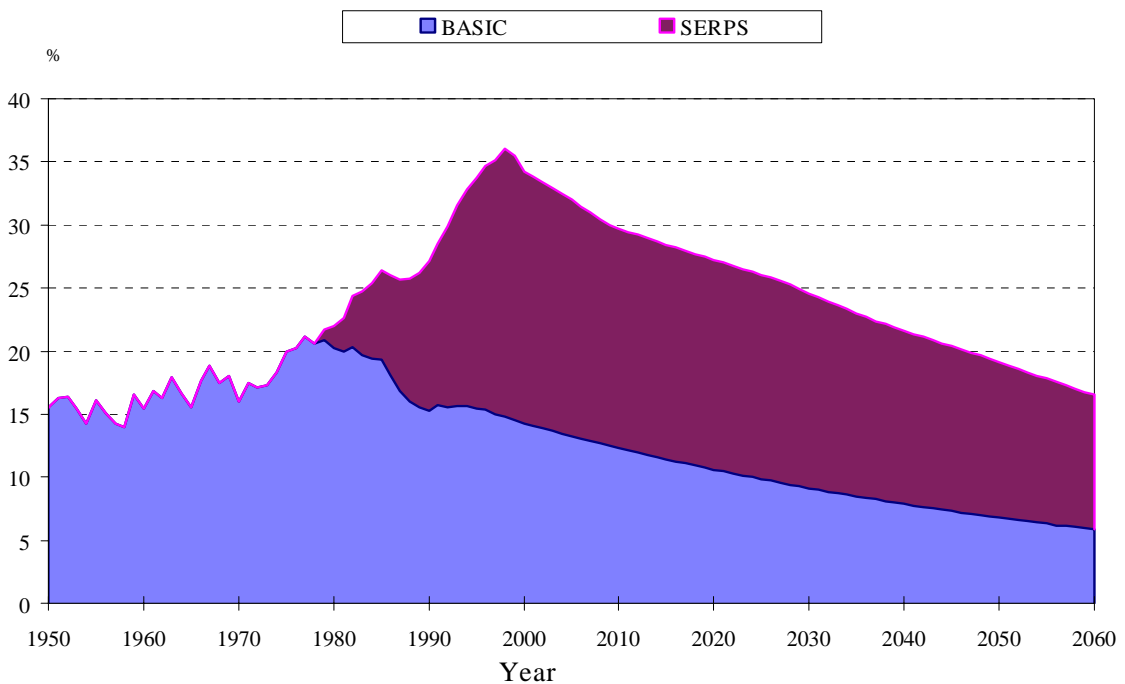
14. Tables 1 and 2 show that, with price uprating of flat-rate benefit rates, the burden of benefit expenditure falls, slowly at first but more quickly in later years. This is shown by both the pattern of contribution rates required and the costs of National Insurance Fund expenditure relative to GDP. If GDP rises broadly in line with real earnings, the figures indicate that, in the longer term, National Insurance Fund expenditure as a share of GDP will fall significantly, even though there will be nearly 50% more pensioners.
15. With earnings upratings of flat-rate benefit rates, the contribution rates required rise considerably, reflecting the change in the ratio of contributors to pensioners, with no counterbalancing effects. The retirement pension share of GDP will increase significantly, broadly in line with the increasing number of pensioners.
16. Employees only pay National Insurance contributions up to the upper earnings limit (UEL), which has fallen steadily relative to earnings, so that it

is now only 110% of male full time average earnings compared to a maximum of 136% in 1982 and approximately 115% at the beginning of the 1990s. Continuation of the current policy of uprating earnings limits in line with price inflation would mean that, for employees with earnings above the UEL, a constant National Insurance contribution rate will result in their contributions falling significantly over time as a percentage of their total earnings. A much greater share of National Insurance contributions will be paid by the employer than by the employee, since the employer pays contributions on all earnings above the threshold, i.e. not restricted to earnings below the UEL.

17 Real earnings growth will result in working people being relatively better off in future even if National Insurance contribution rates were to be increased to meet the cost of increasing flat-rate benefits in line with earnings. Based on gross pay and real earnings growth of 1.5% a year, real earnings relative to prices will, in the year 2060, be approximately 2.5 times the corresponding level in 1999-00. Allowing for higher National Insurance contribution rates and earnings limits, someone on average male earnings would still have real net earnings, after National Insurance contributions, of approximately 2.4 times current levels.

18 Figure 1 shows the total of basic pension and SERPS at award in various years for men on average earnings and with a full contribution record. With earnings limits and flat-rate benefits increased in line with prices, the awards reduce significantly as a percentage of earnings.

Figure 1 Awards of basic and SERPS pension to men on average earnings as a percentage of average earnings, with flat-rate benefit rates and earnings limits increased in line with prices



Report on Child Support, Pensions and Social Security Bill 1999

- 1 The Child Support, Pensions and Social Security Bill 1999 (“the Bill”) gives effect to the proposals for a State Second Pension contained in the Green Paper “A new contract for welfare: Partnership in Pensions”, Cm 4179, published in December 1998. The Government Actuary’s report (Government Actuary’s Department, 2000) provided estimates of the financial effects of the measures in the Bill on the income and expenditure of the National Insurance Fund to inform the consideration by Parliament of the Bill.
- 2 The most recent Quinquennial Review (QR – see Appendix 4) was based on the legislation in force at March 1999. It included estimates of the effects of the changes to the National Insurance contribution structure announced in the March 1999 budget, as far as they were known at that stage.
- 3 The QR did not include the effects of the Welfare Reform and Pensions Act 1999 or the Tax Credits Act 1999, but did include an allowance for home responsibilities protection to be extended to SERPS. However, the necessary secondary legislation to implement the latter has not been introduced. The Welfare Reform and Pensions Act 1999 increases expenditure in the short term in respect of benefits for widows and widowers but reduces it in the longer term. It also reduces expenditure on incapacity benefit. The Tax Credits Act 1999 increases expenditure on the State Earnings-related Pension Scheme (SERPS). The exclusion of the allowance for home responsibilities protection for SERPS reduces expenditure. Details of the effects of these changes on the figures in the QR were shown in the report on the financial effects of the Bill, in order to establish base-line financial estimates from which the changes resulting from the Bill could be measured.
- 4 The Welfare Reform and Pensions Act 1999 included provision for 100% inheritance of SERPS to continue after April 2000 and for the Secretary of State to make regulations to amend this. Since it was not clear, at the time of preparing the report on the financial effects of the Bill, what regulations would be laid, it was assumed that the 50% inheritance factor for SERPS and State Second Pension would apply from April 2000 as originally intended (in the Social Security Act 1986).
- 5 The Welfare Reform and Pensions Act 1999 also introduced the framework for stakeholder pension schemes. It was assumed that these would first be available in the year 2001-02. The effects of the Bill should be assessed against the current SERPS regime incorporating the effect of stakeholder pension schemes. However, in isolation the only effect that stakeholder pension schemes might have on the National Insurance Fund is on the numbers contracting-out. It is unnecessary to speculate on the level of additional contracting-out that might have arisen under SERPS when SERPS will be radically altered in the year after the introduction of stakeholder pension schemes (see paragraph 7 below). Additionally, stakeholder pension schemes and State Second Pension can be seen as a package of measures which should be considered together. Therefore, in this report, the possible effects of stakeholder pension schemes on the National Insurance Fund were calculated allowing for the effects of State Second Pension.

- 6 The estimates were based on the same demographic, economic and other assumptions as those underlying the latest QR and used the same methodology, which is described in the QR. Estimates of the impact of the Bill were shown assuming price uprating of flat-rate benefit rates and earnings limits only, with 1.5% a year real earnings growth. Estimates of future benefit expenditure were shown in 1999-00 price terms. Section 3 of the report gave some indication of the sensitivity of the estimates to changes in the numbers contracted out.
- 7 The Bill includes a number of changes to SERPS, which will become known as the State Second Pension. The main changes, which, for the purpose of the report, were assumed to take effect from the year 2002-03, are:
- the introduction of 3 different accrual rates on different bands of earnings;
 - treating earners at or above the annual lower earnings limit up to the low earnings threshold (£9,500 a year in 1999-00 terms) as though they earned the low earnings threshold;
 - treating qualifying carers and the long-term disabled who have no earnings or earnings below the annual lower earnings limit, as if they had earnings at the level of the low earnings threshold in a qualifying year. Future expenditure that would have arisen if the anticipated home responsibilities protection had been introduced in respect of SERPS, for which allowance was made in the QR, will not now be incurred. It will be replaced by the expenditure in respect of carers and the long-term disabled who qualify for State Second Pension.
- 8 On 29 November 1999, the Government issued a consultation paper “The Structure of Rebates for the State Second Pension”, seeking views on two approaches for the future contracting-out regime. The Government Actuary’s report on the financial effects of the Bill provided financial estimates for both approaches, referred to as the “first approach” and the “second approach”. Some time after the publication of the Government Actuary’s report on the Bill, the Government announced that it would be legislating on the basis of the second approach.
- 9 Under the first approach, rebates would reflect the State Second Pension accrual rate structure and COSRS (contracted-out salary related schemes) would be required to provide correspondingly higher benefits. Rebates would be based on actual earnings. People earning less than the low earnings threshold in a year would receive a State Second Pension top-up from the State based on the difference between their actual earnings in a year and the low earnings threshold.
- 10 Under the second approach, COSRS and COMPS (contracted-out money purchase schemes) rebates would reflect the current SERPS accrual rates. Rebates would be based on actual earnings. Members of COSRS and COMPS earning below £21,600 (in 1999-00 terms) would receive a State Second Pension top-up from the State. This would be based on the difference between what their State Second Pension (based on the low earnings threshold if they earned

less than that) and what their SERPS entitlement would have been if they had not been contracted-out. APPs (appropriate personal pension schemes) rebates would reflect the State Second Pension accrual rates structure. Rebates would be based on actual earnings. Those with an APP who earn less than the low earnings threshold in a year would receive a Second State Pension top-up from the State based on the difference between the low earnings threshold and their actual earnings in a year.

- 11 For the purposes of estimating the financial effects of State Second Pension it was assumed that the level of contracting-out would be the same as was assumed in the QR. The possible financial effects of further contracting-out via stakeholder pension schemes were also considered.
- 12 Table 3 sets out the financial effects of the proposals for State Second Pension in the Bill on expenditure in respect of SERPS for those over state pension age, with estimates for both the first and second approach to contracting-out described in paragraphs 9 and 10 above, although the government subsequently announced that they would be proceeding along the lines of the second approach.

Table 3 Estimated effect of the State Second Pension on the expenditure in respect of earnings-related pension over state pension age - flat-rate benefit rates and earnings limits increase in line with prices (£bn in 1999-00 price terms)

Benefit structure	Year							
	1999-00	2000-01	2010-11	2020-21	2030-31	2040-41	2050-51	2060-61
Current SERPS	4.5	4.9	8.9	10.9	12.4	12.3	13.3	15.5
State Second Pension – the first approach	4.5	4.9	9.4	12.6	17.1	21.0	27.5	36.9
Extra cost of State Second Pension The first approach	0.0	0.0	0.5	1.7	4.7	8.6	14.2	21.4
State Second Pension The second approach	4.5	4.9	9.5	12.8	17.8	22.5	30.2	41.4
Extra cost of State Second Pension The second approach	0.0	0.0	0.6	2.0	5.4	10.2	16.9	25.9

- 13 Table 4 shows the estimated total National Insurance Fund expenditure for all benefits as a percentage of estimated gross domestic product in future years before and after the changes in expenditure arising from State Second Pension, assuming price uprating of flat-rate benefit rates and contribution limits. The estimates “before the Bill” include the effects of the changes referred to in paragraph 3 and hence differ slightly from the estimates in the price upratings column of Table 2 (in Appendix 4).

Table 4 Total National Insurance Fund expenditure for all benefits as a percentage of projected GDP before and after the effects of the State Second Pension.

	TOTAL EXPENDITURE AS A PERCENTAGE OF PROJECTED GDP(%)
--	--

Year	Before the Bill	After the Bill: the first approach	After the Bill: the second approach
1999-00	5.5%	5.5%	5.5%
2000-01	5.4%	5.4%	5.4%
2010-11	5.4%	5.5%	5.5%
2020-21	5.3%	5.4%	5.4%
2030-31	5.2%	5.5%	5.6%
2040-41	4.7%	5.2%	5.3%
2050-51	4.0%	4.8%	4.9%
2060-61	3.6%	4.5%	4.7%

- 14 Table 4 shows that, in the longer-term, total National Insurance Fund expenditure will constitute a higher percentage of GDP as a result of the changes introduced by the Bill (some 1% of GDP higher by the middle of the 21st century). However, the higher expenditure from the National Insurance Fund will be partially offset by lower expenditure on income-related social security benefits (e.g. income support), the costs of which are not covered by these estimates.
- 15 Table 5 shows the estimated Class 1 contribution rates required to balance income and expenditure following the Bill, on a year by year pay-as-you-go basis. compared to the rates required prior to the Bill, assuming price uprating of flat-rate benefit rates and earnings limits.
- 16 The Welfare Reform and Pensions Act 1999 contained the primary legislation for the introduction of stakeholder pension schemes. For the purpose of the report on the Child Support, Pensions and Social Security Bill 1999 it was assumed that these would first be available in the year 2001-02. Stakeholder pension schemes are private pension arrangements that can be structured as occupational pension schemes or personal pension schemes. Stakeholder pension schemes can be used to contract out of SERPS/State Second Pension and will therefore have an effect on the rebates payable for contracting-out and the amount of SERPS/State Second Pension payable.

Table 5 Estimated Class 1 contribution rates to balance income and expenditure on a year by year pay-as-you-go basis before and after the State Second Pension – price uprating of flat-rate benefits and earnings limits.

Year	JOINT EMPLOYEE AND EMPLOYER CONTRIBUTION RATE* %		
	Before the Bill	After the Bill: the first approach	After the Bill: the second approach
1999-00	20.0	20.0	20.0
2000-01	20.2	20.2	20.2
2010-11	18.6	19.2	19.0
2020-21	17.5	18.4	18.2

2030-31	17.8	19.4	19.2
2040-41	16.4	18.7	18.5
2050-51	14.6	17.8	17.7
2060-61	13.5	17.7	17.6

*These rates exclude that part of the rates allocated to the NHS. They are based on the revised Class 1 contribution regime announced in the March 1999 budget.

17 The alternative assumptions made for the additional future level of contracting-out via stakeholder pension schemes under both the first and second approach were as follows:

1. The additional number contracted-out was assumed to be 0.5 million in the year 2001-02 and thereafter. They are aged below 50 in 2001-02, 51 in 2002-03 etc.
2. The additional number contracted-out was assumed to be 0.5 million in the year 2001-02, increasing by 0.25 million each year until there are 2 million additional contracted-out. Thereafter the increase is 0.1 million a year until there are 3.0 million additional contracted-out. Numbers remain at this level thereafter. Everyone who is contracted-out is assumed to be under age 50 in the year 2001-02, 51 in the year 2002-03 etc.
3. The additional number contracted-out was assumed to be 0.5 million in the year 2001-02, increasing by 0.25 million each year until there are 1.5 million additional contracted-out in the year 2005-06. In the year 2006-07, everyone who is under age 40 in the year is assumed to be contracted-out, in the year 2007-08, everyone who is under age 41 in the year is assumed to be contracted-out etc. In the year 2030-31, everyone earning over the low earnings threshold in a year is assumed to be contracted-out.

18 Table 6 shows the contribution rates required to balance income and expenditure for the second approach on each of the assumptions on the level of contracting-out via stakeholder pension schemes. For comparison, the first two columns of Table 6 also shows the contribution rate required before the State Second Pension is introduced, and the rate required for State Second Pension before the effects of stakeholder pension schemes.

Table 6 Estimated Class 1 contribution rates to balance income and expenditure on a year by year pay-as-you-go basis allowing for the effects of stakeholder pension schemes on the State Second Pension, assuming the second approach to contracting-out – price uprating of flat-rate benefits and earnings limits.

Year	JOINT EMPLOYEE AND EMPLOYER CONTRIBUTION RATE*%				
	Before State Second Pension	After State Second Pension, before stakeholder pension schemes	After State Second Pension, after stakeholder pension schemes		
			Assumption 1	Assumption 2	Assumption 3
1999-00	20.0	20.0	20.0	20.0	20.0
2000-01	20.2	20.2	20.2	20.2	20.2
2010-11	18.6	19.0	19.1	19.6	20.1
2020-21	17.5	18.2	18.3	18.9	19.5
2030-31	17.8	19.2	19.3	19.9	20.7
2040-41	16.4	18.5	18.6	19.1	19.8
2050-51	14.6	17.7	17.7	17.9	18.3
2060-61	13.5	17.6	17.6	17.5	17.4

*These rates exclude that part of the rates allocated to the NHS.