Pension Reform in the UK: Evaluating retirement income policy

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Abstract

This thesis analyses the effects of current and proposed pension policies for the UK, and critically assesses the arguments for different forms of intervention. It aims to contribute to the pension reform debate in four main ways. First, it presents an original typology of four 'ideal type' pension systems – targeting, basic income, social insurance and compulsory saving - which allows the plethora of different reform proposals to be grouped into manageable bundles, and brings out the key choices facing pension reformers. Second, it aims to make the debate better informed by providing estimates of future pensioner incomes and fiscal sustainability using the relatively new techniques of dynamic microsimulation and generational accounting. In particular, an extended version of the dynamic model PENSIM is used to project pensioner incomes in 2066. Third, it provides an assessment of one particular pension reform - the replacement of the State Earnings-Related Pension Scheme by a new State Second Pension - through describing the rationale for and effects of the new scheme. Finally, it adds to broader theoretical debates about the rationale for, and effectiveness of, different forms of retirement income provision, supplementing the economics and social policy literatures on the role (if any) for compulsory earnings-related pensions and the trade-off between incentives and redistribution.

The analysis shows that the UK is an exceptional case. In contrast to most developed countries distributional concerns rather than cost dominate. The government's reforms will do relatively little to improve these distributional outcomes. This reflects the fact that, although the government (correctly) reject compulsorily linking benefits to earnings, connections between entitlements and contributions have not been severed entirely. This thesis argues that it is this linkage which undermines current policy, and that future reforms should move away from the idea of pensions as insurance towards a more rights-based approach.

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The analysis in Chapter 4 draws on work with Nick Barr (published as 'The public/private mix in UK pension policy', *World Economics*, 1(1): 69-80) and on work with Roberto Cardarelli and James Sefton (published as 'The Pensions Green Paper: a generational accounting perspective', *Economic Journal*, forthcoming November 2000 issue). Chapter 8 uses parts of *Stumbling towards basic income,* published by the Citizen's Income Study Centre in April 2000 and co-authored with Bill Jordan, Duncan Burbidge and Stuart Duffin.

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To my grandmothers, Mrs Hilda Agulnik (1904-1994) and Mrs Margaret Warner (1913-).

GLOSSARY

DB	Defined-benefit
DC	Defined-contribution
DSS	Department of Social Security
EMTR	Effective Marginal Tax Rate
GAD	Government Actuary's Department
HMT	Her Majesty's Treasury
HRP	Home Responsibilities Protection
LEL	Lower Earnings Limit (for NICs)
NICs	National Insurance Contributions
ONS	Office for National Statistics
PAYG	Pay-As-You-Go
SERPS	State Earnings-Related Pension Scheme
S2P	State Second Pension
UEL	Upper Earnings Limit (for NICs)

CSK	Cardarelli, Sefton and Kotlikoff (2000)

"I have thought many times lately that a thin widespread happiness, commencing now, and of a piece with the days of your life, is preferable to an anticipated heap far away in the future, and none now."

From *A Pair of Blue Eyes* by Thomas Hardy.

1. Introduction: retirement and income risk in later life

Over the last 100 years or so retirement has become the norm in developed countries and, whether consequentially or causally, pensions are now a major concern of public policy. Indeed, in many countries pensions are the single largest item of public spending, and even where public provision is less to the fore state interference in pension arrangements is pervasive. The rise of pensioning and of retirement is therefore emblematic of the growth of the welfare state over the twentieth century, and more generally of the expansion of government involvement in individuals' social and economic lives. But by the same token, pensions are currently at the centre of debate about how (or whether) to reform the welfare state. Apart from its intrinsic importance to governments and individuals, pension reform may thus act as a weather-vane for wider changes in the role of the state and, as such, is of particular interest to social scientists.

Pension reform also appears to be increasingly fashionable, and many countries are currently in the process of changing their pension systems[1]. In South America, for example, a number of governments have recently followed the example of Chile and 'privatised' pension provision, introducing compulsory individual accounts and winding-down their state schemes (James, 1997, pp. 363-364). Many European countries similarly embarked on pension reform in the 1990s, and though the radical South American model has been rejected, reforms in Italy and Sweden (for example) have resulted in major changes to the structure of state provision. The UK has not been immune from this trend, introducing one major set of changes in 1988 under the then Conservative government, and preparing for further reform under the current Labour government (see Part B). With so many countries reforming their pension systems the need to understand the reasons for, and effect of, state intervention in this part of the lifecycle is clearer than ever.

1 Overviews of recent international experience with pension reform are provided by, amongst others, Tamburi (1995), Lloyd-Sherlock and Johnson (1996), World Bank (1994, Ch. 8), and Johnson (1999, Ch.2).

This thesis aims to add to the debate about pension reform in the UK in four main ways. First, it presents an original typology of 'ideal type' pension systems, allowing the plethora of different reform proposals to be grouped into manageable bundles, and bringing-out the key choices facing pension reformers. Second, it aims to make the debate better informed by providing new estimates of future pensioner incomes and fiscal sustainability under existing policies and under alternative regimes, using the relatively new techniques of dynamic microsimulation and generational accounting. Third, it provides an assessment of one particular pension reform - the Labour government's plans to replace the current State Earnings-Related Pension Scheme (SERPS) with a new State Second Pension (S2P) – through describing the rationale for and effects of the new scheme. Finally, it is hoped this thesis contributes to broader theoretical debates about pension reform and the effectiveness of different forms of retirement income provision, adding to the economics and social policy literatures on the role (if any) for compulsory earnings-related pensions and the trade-off between incentives and redistribution in pension policy.

The main purpose of this chapter is to set out the typology of 'ideal type' pension systems used in this thesis and to describe the various ways in which the effects of pensions can be analysed. These are the subjects of Sections 1.3 and 1.4. However, before this it is useful to go back to first principles to examine why and how the state has become involved in retirement income provision. Sections 1.1 and 1.2 review the main arguments, the former considering the nature of the income risks associated with retirement, and from this the rationale for state intervention, while the latter looks at the various mechanisms that governments can use to influence pension provision (and hence reduce these risks). Though Section 1.2 provides some details of the UK's pension system, a full account is left to the Annex to this chapter (Chapter 1A).

1.1 The nature of the problem

Historically men and women faced very different income risks as they grew older. For women the risk was that the male breadwinner would no longer be there to provide for the household's needs, and that her own earning power would be insufficient to make

ends meet. The risk which increased with age was therefore of widowhood. In contrast, the income risk faced by males as they grew older was connected with their position in the labour market - until as late as 1921 the majority of men over 65 (the current state retirement age for males) were economically active, and employment might thus be considered their standard source of income (Macnicol, 1998, p. 23). The risk which increased with age was therefore that earnings would unexpectedly cease, for instance because of ill health or unemployment.

The situation today is rather different. First, the growth in female labour force participation means that the risks faced by men and women have become more closely aligned. For both, it is loss of earned income in later life which is now the problem[2]. Second, as employment rates among older workers (particularly men) have fallen, a period of worklessness at the end of life has become more of a certainty and less of a contingency. Hence in modern society retirement in itself is not a risk - almost everyone now reaches old age and almost everyone now retires. Rather, the concern today is that retirement brings with it a number of associated risks which, to a greater or lesser extent, require the state to become involved in this part of the lifecycle.

The starting point for economic analyses of retirement is that, if people expect their income from employment to fall at some point towards the end of their life, they will take some form of action to build up alternative means of financing consumption during these years. In other words, they will attempt to smooth consumption over their lifecycle. However, as discussed by Barr (1998, pp. 109-113), such consumption-smoothing is unlikely to take place simply through individuals accumulating assets during working years and then gradually selling these off during retirement. Rather, people will seek ways of pooling risk through insurance arrangements of one kind or another.

Three risks are particularly important in this lifecycle model of pension provision (a fourth risk of having an income below a society-wide minimum standard is discussed

2 Issues connected with spouses' (and divorcees') pension rights are, of course, still important. However, as women's lifetime earnings converge on those of men, such transfers will become more gender-neutral, though it is doubtful whether they will ever be completely neutral. In general this thesis does not deal with such gender-related issues.

later). First there is **longevity risk** – the risk that retirement will go on longer than might have been expected (e.g. on the basis of life tables), and hence that assets will be exhausted prior to death. Second, there is **investment risk** – the risk that the assets purchased during working life will not go up in value as much as expected (or, at the extreme, will go down in value). Last, there is **information risk** – the risk that through ignorance or mis-information an individual will not save 'enough' for their old age (even assuming average longevity and investment returns).

In theory, a competitive market should naturally develop financial products capable of dealing with both longevity and investment risk. However, in practice the nature of these risks means that the free-market is unlikely to produce an efficient outcome, and this provides a rationale for government intervention. In the case of longevity risk the problem is that, while people can purchase an annuity which will provide them with an income until they die, it is difficult for the market to provide inflation-proofed annuities (due to the problem of linked risk)[3]. As it seems reasonable to assume that people are concerned about their real purchasing power as they get older, there is therefore a case for government intervention to make such inflation-proofed annuities possible. In a similar vein, while the market can reduce investment risk through various devices (such as with-profit policies), there will always be some variation in returns to individual saving pots (with variations in charges adding a further element of risk; see Cook and Johnson, 2000, pp. 11-17). Minimising investment risk therefore requires that saving is collectivised in some way, with either employers or the state offering a guarantee of benefits (Barr, 1998, pp. 206-207)[4]. This is also likely to minimise administration costs (and hence charges).

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3 Linked risk occurs because unexpected rises in inflation affect the whole market, and hence there is no mechanism for insurers to lay off this risk on a secondary market. Of course, one way out of this would be for annuities to be financed out of investments in real assets (e.g. shares). However, this simply replaces inflation risk with investment risk – if there is an economic downturn then real rates of return on assets may become negative, so that fully protecting against unexpected inflation is again not possible. Indeed, the nominal rate of return to real assets may become negative, in which case payments would also fall in cash terms.

4 Note that investment risk (and indeed longevity risk) can never be completely eliminated. If there is a severe economic downturn it may prove impossible to meet promised pension pay-outs whether this promise is made by the state or by employers (as occurs in private occupational schemes). In other words, if national income falls then pensioners' living standards can only be protected by them receiving a larger slice of the cake, which for economic and political reasons may not be desirable (or feasible). Note also that there are separate issues connected with pension fund fraud; see in particular Goode (1993, Section 1.2) for an account of the Maxwell pension fund scandal and policy recommendations. The role (if any) for the state in compensating victims of what is, essentially, a failure of regulation is not

Longevity and investment risk therefore both provide a rationale for government regulation of private pensions and (potentially) for state provision of particular financial products. Taken to the extreme, the comprehensive earnings-related social insurance systems commonplace in continental Europe might also be justified in this way. However, the real rationale for this kind of approach must be found in the last risk – that people will not save enough for retirement due to information problems. As discussed further in Section 7.2, people may not only decide to save in the wrong way but may also make incorrect decisions about how much to save. If individuals have a tendency to be myopic (short-sighted) in their financial planning, the bias of these incorrect decisions will be for them not to save enough, so that in retirement they experience a bigger drop in their income than they would have wished (if planning their lifecycle finances with perfect foresight and knowledge). State intervention to ensure that workers always receive a pension worth a particular fraction of their lifetime earnings can set a minimum earnings-replacement rate, thus limiting (or, if the replacement rate is high, eliminating) information risk (Le Grand, 1995, pp. 30-31). If pensions are provided by the state this approach will, in addition, reduce or eliminate the first two risks (though note that a private compulsory saving scheme could also be a response to information risk).

The problem of information risk is illustrated in Figure 1.1, which shows two possible consumption streams for an individual with a given level of lifetime earnings. The highest and most hump-shaped line shows their earnings in each year between the ages of 20 and 65, assuming that their age-earnings profile follows the cross-sectional age distribution of males and that they earn (on average over their lifecycle) the average full-time wage[5]. The other two lines then show possible consumption patterns given this level of lifetime earnings. The flatter line shows how consumption would alter if

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discussed in this thesis.

5 The figure uses the mean gross weekly wage of all full-time workers (i.e. both men and women) whose gross weekly earnings were not affected by absence. Estimates are taken from the New Earnings Survey (ONS, 1999, Table A15) and are for April 1999 when, conveniently, average mean weekly full-time earnings were £400 a week. Note also that the cross-sectional profile of male earnings shown in the Figure is based on a 'snapshot' taken in April 1999 and, as discussed by Banks, Disney and Smith (2000, pp. 584-590), this is significantly different from the lifetime income profiles of individual cohorts. In particular, the pattern shown in the Figure may understate the extent to which earnings rise in the early years of working life and overstate the fall-off towards the end of working life.

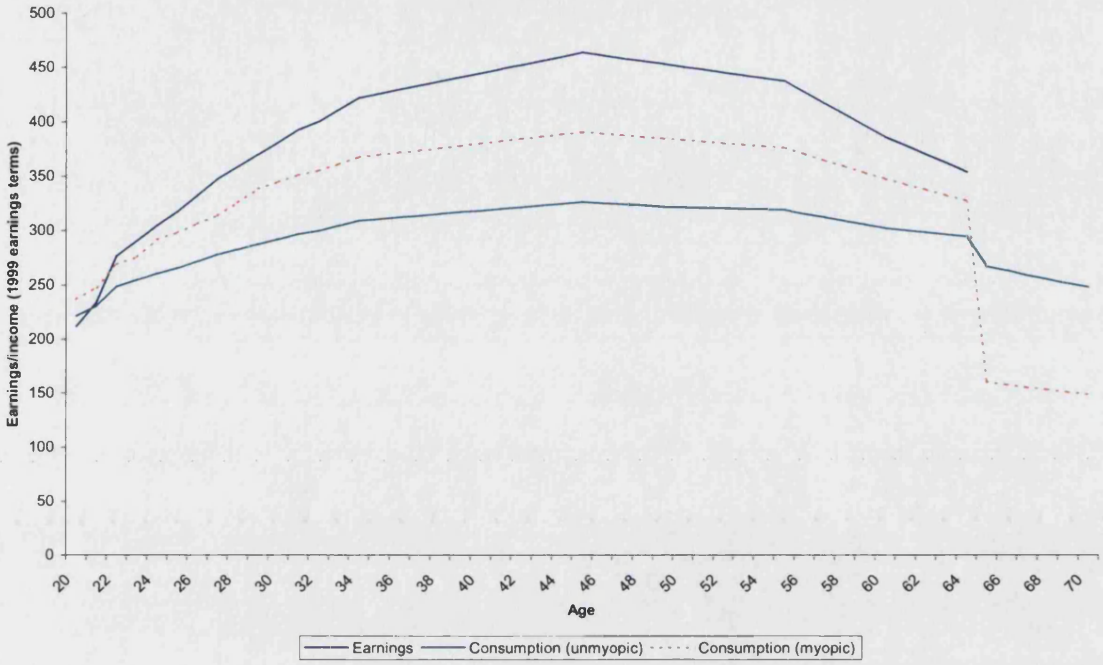
the individual is fully forward-looking, i.e. does not suffer from myopia. In this instance we might expect them to save enough during their working life to be able to afford a pension of two-thirds their average earnings (this being a typical target replacement-rate for occupational pension schemes), so that there is only a modest drop in consumption on retirement (at age 65, by assumption). This consumption pattern may be contrasted with that which would occur if the individual were myopic and consumed more of their income at the time it was earned. As the level of lifetime earnings is fixed this additional consumption during the individual's working life will be reflected in a lower 'replacement rate' (between pension benefits and earnings) in retirement - the Figure assumes that retirement income is now only 40% of average earnings. This second consumption stream therefore shows the problem of information risk and why (arguably) governments should intervene to ensure something closer to the unmyopic consumption stream is followed.

The decline in income after retirement shown in Figure 1.1 requires some explanation. In line with most analyses of pensions the Figure assumes that pension benefits maintain their real value in retirement, i.e. it assumes there is no unexpected inflation or that government intervention has made full-indexation possible. However, because the vertical axis of the Figure is in 1999 earnings terms[6], this means that pension income falls during retirement in relation to earnings. Following the Government Actuary (see, e.g., GAD, 1999, p. 33), this thesis assumes that earnings grow on average at 1.5% per year faster than prices.

6 As noted by the government (e.g. DSS, 1998, p. 41), putting estimates of future incomes in terms of their value relative to earnings gives a better idea of what sums will 'feel like' in the future.

Figure 1.1

Lifetime earnings and consumption with and without myopia



Poverty risk

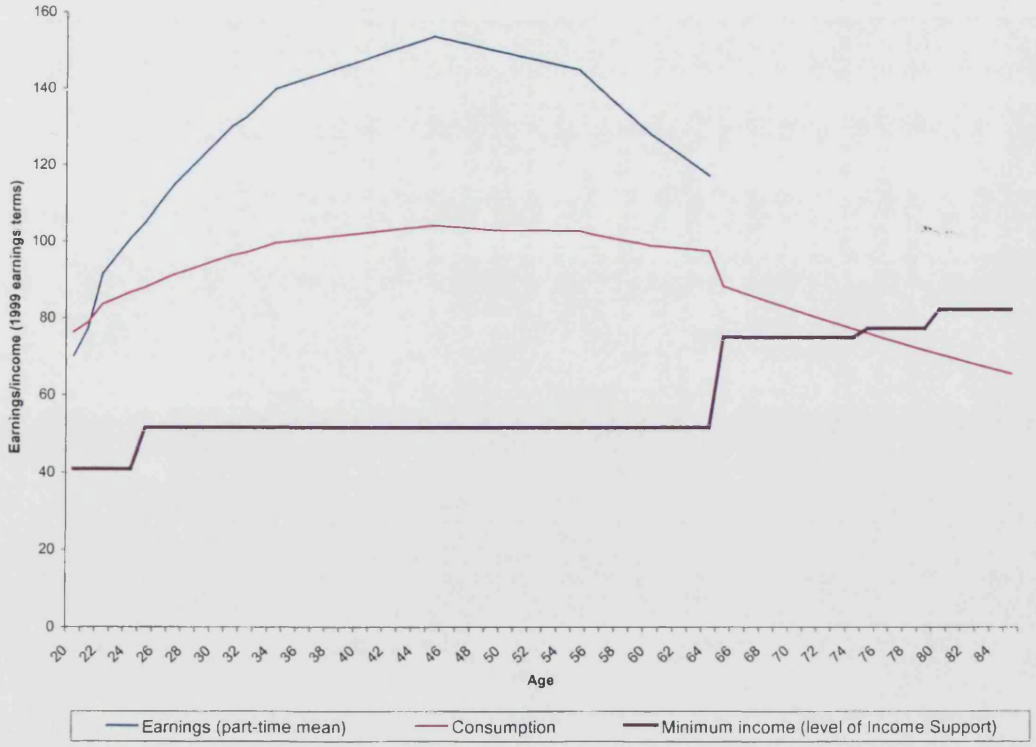
If lifetime earnings were narrowly dispersed, and economic growth low or nil, this would be the end of the income risks connected with retirement. However, in reality neither of these assumptions hold (at least in the UK). Some individuals have such low lifetime earnings that - even if they distribute their lifetime income 'correctly' (through voluntary or compulsory saving during working years) - they will end up with a retirement income which is below an acceptable level (the minimum income standard)[7]. Particularly if the minimum standard rises at age 60 or 65 (and possibly again at later ages, as under the age-related structure of Income Support), the 'natural' fall in income between working and retired years may well be sufficient to push some people into poverty. Moreover, as noted above (and in Johnson, Stears and Webb, 1998, pp. 211-214), for most people private pension income remains static (at best) in real terms during retirement, and hence even better-off members of older cohorts can fall into poverty as they grow older (assuming a relative definition of poverty is used, as is the case throughout this thesis).

7 Note that in reality it will be difficult to tell under a voluntary system whether people have a low retirement income due to not saving enough or through having low lifetime earnings; arguably this creates a rationale for second tier provision (see Sections 7.1 and 8.3).

Figure 1.2 shows how the two effects work. It illustrates the lifetime earnings and consumption of a 'typical' part-time worker; i.e. someone who (on average over their working life) earns the mean part-time wage (in fact this is a relatively unlikely scenario – people rarely work part-time throughout life)[8]. As in Figure 1.1, it assumes that their age-earnings profile follows that of male workers. The 'unmyopic' consumption stream associated with this level of earnings may then be compared with the level of the minimum income standard; as throughout this thesis this is taken as the level of Income Support. Note that the Figure also assumes a relative poverty standard, so that the minimum standard increases with average earnings (i.e. at 1.5% a year), and that pension benefits maintain their real value in retirement (so that they fall in relation to earnings, used as the scale on the vertical axis).

Figure 1.2

Lifetime income and poverty risk



8 More precisely, Figure 1.2 uses the New Earnings Survey (ONS, 1999, Tables F35 and F36) estimate for the mean gross weekly earnings of all part-time adults whose pay was not affected by absence. In April 1999 mean part-time earnings were £132 a week, a third of the mean amount received by full-time workers.

As can be seen, this individual ends up with an income below the minimum standard set by Income Support (both because their income falls in relation to earnings during retirement and because the level of the minimum rises with age). However, the important point to note is that this **poverty risk** is not the knock-on effect of longevity, investment or information risk (at least if we assume that two-thirds of earnings is the 'correct' replacement rate, i.e. that people with low lifetime earnings should not save more in order to avoid poverty in later life)[9]. Poverty risk is therefore rather different from the other risks, in that it arises not because of market failure but because governments set themselves the objective of ensuring a minimum retirement income. This thesis assumes that this objective for policy is inevitable. All mainstream political ideologies accept that the state has a moral duty to prevent people who are unable to work from falling into destitution and, though there may be disagreement about the appropriate age of retirement (when any work-test for benefit receipt would logically cease), this implies some form of state provision for retirees[10].

1.2 The policy response

The policy response to income risk in retirement takes a number of forms. The World Bank (1994, p.15) provide a useful classification, distinguishing between three 'pillars' or 'tiers' of pension provision: a first tier of means-tested or flat-rate state benefits, a second tier of compulsory earnings-related benefits, and a third tier of voluntarily pension contributions by individuals and employers. A summary of how each component of pension provision in the UK fits into this classification is in Table 1.1,

9 Arguably, longevity risk is an important contributor to poverty risk. For instance, if the value of benefits in retirement is fixed in nominal (rather than real) terms then the end part of the consumption/income stream shown in Figure 1.2 would be even more downward sloping. Particularly for women (who tend to live longer than men), this interaction between longevity and poverty can be important. However, it would be possible for the government to reduce this risk through insisting that all pension benefits are fully price-indexed.

10 More extreme commentators such as Green (1993, pp. 144-147; 1999, pp. 97-103) suggest that people with very low retirement incomes but reasonable earnings over their working life should not be eligible for state assistance, on the basis that they should have had the foresight to save more at a younger age. However, in practice excluding such 'lifetime rich/retirement poor' individuals from eligibility to means-tested benefits may prove extremely problematic. Certainly, the attempt to include a 'thrift condition' in the means-tested 1908 pension scheme was not a success, and this part of the scheme was rapidly abandoned (Macnicol, 1998, pp. 157-161).

while a detailed description of each element is in the Annex to this chapter (Chapter 1A). For the time-being this section concentrates on describing how each of the three tiers affects the various income risks discussed above. For convenience the tiers are discussed in reverse order.

Table 1.1

The three tiers of pension provision in the UK[11]

First tier *(compulsory flat-rate or means tested)*	**Second tier** *(compulsory earnings-related)*	**Third tier** *(voluntary)*
Basic pension Income Support	SERPS/S2P NIC rebates for private pension schemes and consequent benefit payments (Tax relief on NIC rebates)	Non-statutory contributions to and payments from private schemes Tax relief on voluntary contributions

Third tier provision can help to reduce both investment and information risk; regulation influencing the *nature* of voluntary provision (thereby reducing investment risk) and tax reliefs influencing the *level* of voluntary provision (and so information risk). Given the problems associated with personal pension schemes, in particular their high and variable charges, the assertion that third tier provision reduces investment risk may seem somewhat peculiar. However, the government's proposed Stakeholder pensions give a better idea of the potential for regulation to reduce this risk: as charges will be capped at 1% (and will fall wholly on investment returns without an annual fee) the risk of low returns due to excessive costs will be smaller (see DSS, 1999, p. 7)[12]. This said, Stakeholder schemes need not have any mechanism for evening out returns and, though such financial products would be possible, they are therefore likely to

11 Note that the classification in the Table is open to some debate, in particular about the tier which SERPS should be assigned to. This typology follows Banks and Emmerson (2000, pp. 30-39) in assigning all parts of SERPS (i.e. state provision as well as contracted-out private provision) to the second tier (see DSS, 1998, pp. 57-58).

12 Stakeholder pensions may also reduce information risk, as providers of the new product will be obliged to present projections of likely pension income in a common format, thus (hopefully) making retirement planning a less daunting task, and employers will be obliged to provide an automatic pay-roll deduction facility (see DSS, 1999).

remain subject to a substantial degree of investment risk. Nevertheless, the fact that the majority of voluntary pension saving in the UK occurs via occupational pension schemes, which are normally defined-benefit (i.e. the employer offers a guarantee of pension benefits), means that most third tier provision does not suffer from investment risk[13].

The effect of tax reliefs is to reduce the cost of buying retirement income, hence they act to increase the amount people save in the form of a pension (assuming the 'substitution' effect is greater than the 'income' effect). Such reliefs therefore reduce information risk, albeit in a rather haphazard way. While myopia (if it exists) will tend to reduce pension saving, tax reliefs will have the opposite effect; the hope is that in combination something like an 'optimal' level of saving will be achieved[14]. However, it should be noted that rather than leading to a higher pension income (and so less of a fall in consumption on retirement), such reliefs might equally be used to finance a longer (rather than a richer) retirement. In other words, tax reliefs necessarily subsidise early retirement as well as retirement income itself[15].

As Campbell (1999, pp. 3-5) discusses, the issue of early retirement is likely to move up the policy agenda in coming years, as the 'New Deals' for younger age-groups and robust economic growth make worklessness at younger ages less of a problem.

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13 In fact, it is possible to argue that occupational schemes **do** suffer from a form of investment risk, in that the value of the final pension earned (and hence the effective return on contributions) varies with an individual's employment history. In particular, people who change jobs frequently often do rather badly out of occupational provision. However penalties for early leavers can be reduced through regulation e.g., to force pension funds to index deferred benefits. A knock-on effect of such regulation is, however, that employers may be less willing to establish and maintain occupational provision as one of their chief motivations for remunerating their workforce in this way would now be removed (because long-stayers would no longer be reward for their loyalty).

14 This presentation of pension tax relief as a rational response to the problem of myopia is not historically accurate; as shown by Hannah (1986, pp. 47-52), the current system reflects a series of ad-hoc decisions - there was never any 'grand design'.

15 Again, regulation could (potentially) avoid this problem by restricting withdrawals until official retirement age had been reached. However, at present the minimum age in the UK for taking a private pension is 50, significantly below the age at which the state pension may be claimed (60 for women, 65 for men). The government is currently considering whether to increase the minimum age for private pensions to 55 (from 2010), but have run into opposition from the financial services industry who correctly fear that this will make pension saving less popular. But even if the government are successful there will still be a 10 year gap between the two ages, the retirement age for women itself rising to 65 between 2010 and 2020, and hence the point will remain valid.

Moreover, as Campbell's work shows, the fact that non-employment rates among older men have doubled in the last twenty years, so that two in five men between 55 and 65 are now without work, is in any case likely to call attention to this stage of the lifecycle. However, while the growth of early retirement/non-employment among the over-50s is (at least in part) due to the existence of pension tax reliefs (both directly through their encouraging saving and indirectly through their effect on employment practices), this subject is outside the remit of this thesis.

For the same reason the subsequent analysis also sets issues connected with pension tax reliefs to one side. For instance, Chapter 3's analysis of pensioner incomes under 'ideal type' pension systems effectively assumes that tax reliefs (and the extent of voluntary pension saving) remain as under current policy, while Part B ignores the government's proposed reforms to pension tax reliefs[16]. Though clearly a comprehensive analysis of pension reform options should include tax reliefs, the links between early retirement and such reliefs are too strong to ignore, and including one issue would necessitate including the other thereby broadening the scope of the thesis to an unacceptable degree. The decision was therefore made to restrict analysis to changes in first and second tier provision.

In its current form **second tier provision** is concerned solely with information risk, which SERPS reduces by imposing a compulsory earnings-replacement rate of a fifth of lifetime earnings between the Lower Earnings Limit (LEL) and the Upper Earnings Limit (UEL); see Section 1A.2. However, when second tier provision was first introduced in 1978 its aims were more extensive. Not only was the earnings-replacement rate higher but, as only occupational schemes were allowed to 'contract-out', all benefits produced by the scheme were defined-benefit. In addition, the original scheme also helped to inflation-proof occupational pensions, through the system of 'guaranteed minimum pensions'. Though both these aspects of the scheme were abolished under the 1986 and 1995 Pension Acts, the importance of investment and

16 A full analysis of the government's original proposals in relation to pension tax reliefs, as set out in the pensions Green Paper (DSS,1998, pp. 62-63), is in Agulnik (1999, pp. 63-66). The government's slightly revised proposals are in DSS (1999b).

longevity risk as factors behind the introduction of a second tier should be borne in mind[17].

However, as with tax reliefs, the issues of investment and longevity risk are generally ignored from here on - while important in their own right they are not the primary issues in pension reform. As noted earlier, the real problem with longevity risk is the difficulty of writing annuity contracts in real terms; the fact that unexpected inflation affects the whole market makes full inflation-proofing problematic (though limited price-indexation is feasible and practised). A potential solution is therefore for the government to issue indexed-linked bonds. This in fact already occurs in the UK and, though many annuities are still set in nominal terms, and the market is rather thin (i.e. lacking competition), the existence of this form of financial product should mean that longevity risk is no longer a major problem.

The reason for setting investment risk to one side is rather different. Though this risk is a major reason why the state has become involved in pension provision, recent years have seen increasing attention focussed on the political risk which state pension systems may be subject to (see, for example, Field, 1996, pp. 17-18). Any assessment of the risks attached to private provision would therefore have to be offset by an analysis of the rather different risks associated with relying on the state. Moreover, it is not clear that a reduction in investment risk is necessarily a good thing; for instance, less risky saving products will also tend to offer a lower rate of return and, while this will be preferred by 'risk-hating' individuals, some people will prefer a higher average return with greater variability[18]. Accordingly, this thesis concentrates on information

17 It is perhaps no coincidence that SERPS was introduced in the aftermath of the 1974 oil crisis, when inflation was higher and stock markets less bullish than in the 1990s. As explored in Part B, the rationale for the S2P is rather different from SERPS; it is concerned mainly with poverty risk (or with the incentive effects of using means-tested benefits to counter poverty risk) rather than with investment risk.

18 This is well illustrated by the debate about whether individuals should be forced to annuitise pension savings upon retirement or whether they should be allowed to keep them invested in stocks and shares. In particular, it has been suggested that annuities are (or have been) poor value for money, and hence people should be allowed to keep their money invested in real assets from which they could 'draw down' an income. However, the claim that the decline in annuity rates in the late 1990s means that annuities are now poor value for money is questionable – reductions in yields largely reflect lower (expected) inflation. Moreover, as noted earlier, the more important point is that even if investing in real assets results in higher returns on average, this must be set against the greater variability (riskiness) of returns. A full discussion of the role of compulsory annuitisation, particularly in preventing reliance on means-tested benefits, is in J. Brown (2000, pp. 14-17).

and poverty risk – on the accustomed living standards and minimum income objectives of policy. In practice it is these two risks which dominate the pension reform debate, and the problems of investment and longevity risk are essentially secondary, regulatory matters.

The final weapon in the government's policy armoury is **first tier provision**. The purpose of this tier is to reduce poverty risk (though second tier provision can also play some role in relation to this objective; see Sections 7.1 and 8.3). However, the two elements of this tier – Income Support and the basic pension – do not manage to ensure that all pensioners receive a minimum income, and hence poverty risk is not completely eliminated. In the case of the basic pension gaps in entitlement reflect the design of National Insurance, which excludes workers not earning above the LEL and non-workers who are ineligible for credits (see Section 1A.1). In the case of Income Support the gaps reflect more fundamental problems; as discussed in Section 8.2, means tested benefits are always likely to have less than complete take-up due to the difficulty of identifying eligible individuals and, more arguably, because of the social stigma attached to claiming such benefits.

The level of benefits offered by the first tier will also affect the extent of poverty risk. Though the current government's policy is to increase Income Support for pensioners (though not the basic pension) in line with earnings, the previous Conservative administration indexed all benefits to prices. If an absolute poverty standard is used, or if poverty is itself defined by the level of means-tested benefits, this policy does not affect the number of pensioners defined as poor. But if a relative standard is used, as the government is now proposing, and as is assumed throughout this thesis, then the level of the minimum income very directly affects poverty risk. Chapters 2 and 3 attempt to allow for this by providing two measures of poverty – half mean and half median income - though both are relative rather than absolute standards (i.e. they go up over time in line with average income).

1.3 A typology of pension systems

Codification of 'welfare regimes' is common (or, perhaps, essential) in comparative social policy (see, for instance, Esping-Andersen, 1990, pp. 26-29). While such divisions are clearly open to numerous objections, the attraction of this approach as a means to manage the complexities of welfare systems around the world is overwhelming. Similar arguments apply in policy analysis. There are any number of different ways of constructing a pension system, and a wide range of proposals for reforming the UK's pension system have been put forward. But in thinking about pension reform, whether second tier benefits should replace (say) a fifth or a quarter of lifetime earnings is relatively unimportant; the bigger question is whether an accustomed living standards objective (i.e. a compulsory link between retirement incomes and earnings) makes sense at all (see Chapter 7). The point of a typology is that it helps to direct attention to these central questions - it highlights the big choices facing policy makers, and minimises the danger of getting lost in the minutiae of the real world.

A contribution of this thesis has been to develop such a typology for pension reform options; this is shown in Figure 1.3. Its starting point is to look at the underlying objectives which different pension systems seek to achieve. The rows of the typology in Figure 1.3 are therefore labelled according to the **objective** for pension policy: is its role limited to ensuring a minimum retirement income or, in addition, does it also concern itself with individuals' accustomed living standards? In contrast, the columns in the Figure divide pension systems according to the **mechanism** used to deliver the chosen policy objective, distinguishing between those systems where the state provides universal benefits for all and those where public provision is limited to a residual 'safety-net' role. There are therefore four possible combinations: a minimum income objective achieved through either universal or residual state provision, and an accustomed living standards objective achieved either through either the public or the private sector. These possible combinations are labelled in the Figure as, respectively, basic income, targeting, (earnings-related) social insurance and compulsory saving. These labels are used throughout this thesis in accordance with this definition.

Figure 1.3

A typology of pension systems

Objective	*State provision:* Universal	Residual
Accustomed living standards	**(Earnings-related) Social insurance**	**Compulsory saving**
Minimum income	**Basic income**	**Targeting**

As with any typology, this division into four categories necessarily simplifies the various forms pension provision can take in real life. However, it is reassuring that it does appear to capture the main distinguishing features of pension systems around the world. Figure 1.4 illustrates how a number of countries fit into the typology. The top left hand box - where an accustomed living standard objective is achieved through state provision - is represented by Germany, where earnings-related social insurance plays a dominant role. In the top right hand box is Chile, where an earnings-related scheme operates through private sector accounts into which all employees are obliged to contribute ('compulsory saving')[19]. Australia, in the bottom right hand box, traditionally operated a targeted system, with the state's role in pension provision being confined to paying means tested assistance to poorer pensioners (albeit with a generous taper so that most pensioners benefit to some extent). Though this system has recently been supplemented by a compulsory saving scheme (operating on a collective rather than an individual basis), provision in Australia might still broadly be described as targeted. Last, in the bottom left hand corner is New Zealand, where a simple flat-rate pension is payable to everyone over retirement age subject only to a residence test; this is essentially the same as the basic income model.

19 Note that countries operating earnings-related pension systems (of either the social insurance or compulsory saving varieties) also provide assistance benefits to ensure that all pensioners receive (or are eligible to receive) a minimum income. However, the size of the earnings-related systems in most countries means that this element of provision is relatively unimportant.

Figure 1.4

International examples

Objective	*State provision:* Universal	Residual
Accustomed living standards	**Germany**	**Chile**
Minimum income	**New Zealand**	**Australia**

Apart from the obvious advantages of familiarity, the reason this thesis focuses on the UK is that, in contrast to the above-named countries, its current pension system sits somewhere in the middle of these four 'ideal types'. As shown in Table 1.1, first tier provision in the UK includes both the flat-rate basic pension (a basic income-type benefit) and Income Support (targeting), while second tier provision is split between the public and private sectors via SERPS (social insurance) and rebates (compulsory saving). In essence, the reason for this diversity of provision is that, by international standards, the UK pension system has changed considerably over the years, with each new reform building on the previous one (or rather, failing to clear away the debris from the last structure before creating a new edifice). This is illustrated in Figure 1.5, which shows how this typology may also be used to describe the historical development of the UK's pension system (a description of each of these legislative landmarks is in Chapter 5).

Figure 1.5

Pension legislation in the UK

Objective	*State provision:* Universal	Residual
Accustomed living standards	**1975** →	→ **1986**
Minimum income	↑ **1925** ←	← **1908**

This typology may also be used to describe the approach to pension policy taken by the Labour government elected in May 1997. Imagine that, as suggested above, under the policies Labour inherited the UK sat somewhere around the junction of the four ideal types. The effect of Labour's reforms (or proposed reforms) can then be represented by the three movements shown in Figure 1.6. The replacement of SERPS with a new State Second Pension (S2P), described in detail in Part B, simultaneously moves policy in the direction of both compulsory saving and a basic income. This reflects the rather complicated structure of the new scheme – for people earning less than £9,000 a year the S2P will provide flat-rate benefits administered by the state and financed on a PAYG basis, while for people earning more than £9,000 a year benefits will be earnings-related, private and funded[20]. Both state and private benefits will be bigger than under SERPS.

The Figure also shows a movement in the direction of targeting, in the form of the government's decision to increase Income Support in line with earnings (and to re-brand the benefit as a 'minimum income guarantee'). This means that in the short-term, until the S2P comes in, state benefits will be more heavily focussed on the poorest, due to the continuing decline in the level of the basic pension relative to earnings (and hence to Income Support). Overall, therefore, the government's plans will increase targeting for today's pensioners but reduce it for tomorrow's, while public spending on flat-rate state benefits (as under a basic income) and on contracted-out rebates (as under compulsory saving) will also both increase.

20 Under stage one of the reform a slightly different system will operate; see Chapter 6.

Figure 1.6

Pension reform under New Labour

Objective	*State provision:* Universal	Residual
Accustomed living standards		Larger rebates for people earning more than £9,000
Minimum income	More valuable flat-rate second pension for people earning less than £9,000	Minimum income guarantee for poorest pensioners (i.e. Income Support increased with earnings)

Finally, specific pension reform proposals may be categorised using this typology. Figure 1.7 shows the proposals for the UK which are analysed in Part A, while Figure 1.8 shows how a number of prominent proposals for the UK may be fitted into this framework. Though the examples chosen are by no means comprehensive, the latter Figure hopefully demonstrates that reform proposals can be grouped in a sensible way using this typology. No doubt there will be a continued flow of new proposals in the future but, if this typology is successful, the job of interpreting and analysing new schemes should now be much easier.

Figure 1.7

Reform proposals analysed in Part A of this thesis

Objective	*State provision:* Universal	Residual
Accustomed living standards	Restoring the 1975 SERPS legislation	The Basic Pension Plus (Lilley, 1997)
Minimum income	A Citizen's Pension (Sutherland, 1998)	A rapid transition to a minimum income guarantee

Figure 1.8

Other reform proposals for the UK

Objective	*State provision:* Universal	Residual
Accustomed living standards	Townsend and A. Walker (1995, pp. 20-25) Davies (1993, pp. 86-88) Lynes (1996, pp.28-30)	Anson (1996, pp. 26-28) Butler and Pirie (1995, pp.17-27) Field and Owen (1993, pp.9-10)
Minimum income	Parker (1989, Part 5) Jordan *et al* (2000, pp. 83-89) Salter (1997, p. 10)	R. Walker (2000) Dilnot, Kay and Morris (1984, pp. 113-130)

1.4 Analysing pension reform

Different academic disciplines have different perspectives on the effect of pensions, reflecting the varied concerns of those disciplines. For instance, sociologists are chiefly interested in how pensions affect the status of older people in society and the experience of ageing (see, amongst others, Fennell, Phillipson and Evers, 1988, or Walker and Maltby, 1997), while political scientists and historians are more concerned with how the development of pensions interacts with wider changes in the role of the state (see, for instance, Skocpol, 1995, Baldwin, 1990 or Pierson, 1994). Such disciplines therefore offer valuable qualitative insights into the nature of pensioning, and thereby into the types of pension reform which may be socially or politically desirable. However, this thesis is chiefly concerned with **quantifying** the effect of pensions – the aim is to provide numbers and not just ideas (though hopefully there are some of these too). Therefore, while Part C is theoretical, Parts A and (to a lesser extent) B are largely concerned with producing numerical estimates of the effect of current and alternative pension policies.

The importance of numbers in the pension reform debate is that, if used properly, they can lead to more informed policy making and hence 'better' decisions. For instance,

one of the government's main reasons for replacing SERPS with the S2P is that the new scheme will reduce future reliance on Income Support – the analysis in Chapter 6 gives some idea of how large this reduction will be. In a similar vein, one of the main drivers of pension reform in continental Europe is the increase in contribution rates needed to keep social insurance schemes solvent - the analysis in Chapter 4 shows the extent to which this 'demographic timebomb' affects the UK (if at all). In both cases the point is that, in order to assess the merits of a policy, decision makers need to know how big its effects are, not only which direction they go in. A policy which reduces reliance on Income Support by half will be viewed quite differently from one which reduces it by a fifth; a reform which increases public spending by 0.1% of GDP should be distinguished from one which increases spending by 1%.

As with all kinds of tax-benefit analysis there are two basic questions which policy makers (and the wider public) need to consider when assessing the relative merits of alternative pension systems. The first is; how does the reform affect the level and distribution of incomes, in this case pensioner incomes? The second is; how much does it cost or, more broadly, how will it affect the public finances over time? The below looks in turn at how each of these aspects of pension policy can be analysed.

Distributional effects

Harding (1990, pp. 9-15) identifies three distributional axes which policy makers are (or should be) interested in:

- the immediate distributional implications of a policy,
- how these distributional implications are likely to develop over time, and hence the effect of a policy on the future income distribution,
- the extent to which a policy reduces or increases inequalities in lifetime income.

Figure 1.9 describes the range of models which have been developed in the UK to look at these various distributional axes. It further divides models according to whether they are based on hypothetical (or illustrative) examples or whether they use a representative sample of the population.

Figure 1.9

Ways of analysing the distributional effects of tax-benefit policies

	Hypothetical examples	*Population*
Static	IFS virtual economy model DSS tax-benefit model tables	**POLIMOD** TAXBEN IGOTM PSM
Dynamic	**LIFEPEN** PHYLIS MAPS	**PENSIM** POPSIM (SAGE model) PSSRU long term care model
Lifetime	Woolley and Le Grand (1990)	LIFEMOD

Key: see text

The models used in this thesis are in bold in the Figure. As can be seen, three kinds of model are used at different times. Predominantly the emphasis is on the dynamic population model PENSIM. However, both the dynamic hypothetical model LIFEPEN and the static population model POLIMOD are also used, the former in Section 6.1 and the latter in Section 8.4. The arguments for using each kind of model are briefly examined below.

The simplest model used in this thesis is LIFEPEN, the dynamic hypothetical model developed by the DSS[21]. This is a spreadsheet-based model containing a number of case-study examples: a 'typical' male, a 'typical' female, a 'typical' low earner, etc. The main argument in favour of this kind of model is the ease with which it can be comprehended and developed. For the policy analyst such models can clarify which sub-groups of the population will be most affected by a reform, helping to identify which types of people will gain or lose as a result. In particular, hypothetical models

21 The analyses of Evans and Falkingham (1997) and Johnson (1999) using the PHYLIS model also illustrate how dynamic hypothetical models can be used in policy analysis, particularly comparative analysis. Davies and Joshi (1992) is another notable example of this kind of analysis, as is Rake (1998) using the MAPS model.

allow the effect of small variations in policy to be seen easily – changes are not 'buried' within the larger picture. It is principally for this reason that hypothetical models such as LIFEPEN can be a useful way of **understanding** policy.

However, the presentational advantages of using hypothetical examples are bought at a cost, and it is worth appreciating what such models cannot do. First relying on illustrative examples to inform policy analysis can be overly-simplistic, as the 'representative' examples used do not reflect the actual composition of the population, and hence a potentially inaccurate picture of the effect of a policy can be given (see Redmond, Sutherland and Wilson, 1998, pp. 4-5). For instance, in the IFS virtual economy model (as used by the BBC to illustrate the effect of Budget changes) the example pensioner couple have an income of £7,000 pa, pay rent, smoke and own a car. Very few (if any) pensioner couples actually have these characteristics, and hence the results of using this example to illustrate the situation of pensioners more generally may be seriously misleading. Second, the cost of a policy can only be calculated using a model that looks at how it affects the entire population. Where the aim is to provide an analysis of both costs and benefits a population model must therefore be used.

Most tax-benefit reforms can usefully (and relatively easily) be examined through static population models, such as the Cambridge Microsimulation Unit's model POLIMOD (see Redmond, Sutherland and Wilson, 1996, for a description of the model and Sutherland, 1998, or Atkinson and Sutherland, 1990, pp. 13-17, and 1998, pp. 4-10, for examples of its use)[22]. However, in pension policy the use of this kind of model is more limited. Static models can certainly be used to analyse **some** policies, in particular where only first tier provision is affected by the reform. The effect of proposals which take immediate effect (such as the introduction of a 'pensioner credit', see Section 8.4) can therefore usefully be examined using POLIMOD. However, static models can not look at **all** pension reforms, and in the majority of cases dynamic analysis is needed . This reflects the fact that many changes to the pension system have little or no effect on the incomes of current pensioners, and hence analysis must look into the future when

22 As well as POLIMOD three other static population models have been created for the UK: TAXBEN run by the IFS, IGOTM (Inter-Governmental Online Tax-Benefit Model) which is operated in a number of central government departments, and PSM (Policy Simulation Model), the Department of Social Security's specialised model.

reform has had a chance to work through to pensioner incomes. For instance, 'parametric' reform of a social insurance system (i.e. of the benefits provided by a scheme) will generally only alter the pension entitlements of people below retirement age, and it is rare for people currently receiving benefits to be affected.

The focus in this thesis is therefore on dynamic microsimulation, and a specially extended version of the dynamic simulation model PENSIM[23] is used in Chapters 2 and 3 to look at the distributional effect of current policy and of the four 'ideal types' described in the last section. How the model works, and how it has been extended, is described in Section 2.1. However, it should be noted that the underlying structure of the model has not been altered: its properties are basically the same as in other analyses using the model, such as Curry (1996) and Kumar and Ward (1999), though the baseline policy assumptions used are rather different.

The distributional perspective which this thesis omits is therefore the effect of a policy on the distribution of lifetime income. While the use of LIFEMOD – the only model for the UK – was considered, this approach was rejected[24]. One issue was time - not only would the effect of the various ideal type policies have to be modelled, the current version of LIFEMOD uses the 1991 tax-benefit system and this would have to have been updated as a first step. But more importantly, it is not clear whether this kind of analysis tells us something different from the information provided by PENSIM, at least if the object of interest is comparing policy options. While PENSIM cannot be used to look at the lifetime effect of current policy (as in the analysis by Falkingham and Hills, 1995), comparing PENSIM's results under two different policies effectively shows who gains from a reform on a lifetime basis (see the distributional Figures in

23 PENSIM is the UK's only working dynamic population model devoted to the analysis of pensioner incomes (strictly speaking PENSIM is actually a dynamic cohort model – it does not attempt to model fertility and hence does not generate an entire population). As set out in Figure 1.9, other dynamic microsimulation models for the UK include the PSSRU's model of long term care (see Wittenberg *et al*, 1998, pp. 25-44) and the POPSIM model being developed by the SAGE group at the LSE (see http://www.lse.ac.uk/Depts/sage/). Prior to the development of microsimulation the most notable attempt to estimate the future distribution of pensioner incomes was Atkinson and Altmann (1989, pp. 250-254).

24 The option of using or creating a hypothetical lifetime model, as in the analysis of Woolley and Le Grand (1990), was also not pursued; as with LIFEMOD it is not clear how this would add to the analysis using PENSIM.

Chapter 3). Although the income distribution is not calibrated in terms of lifetime income, this way of looking at this axis of redistribution may be good enough.

Cost

As well as the distributional effect of different pension systems, policy makers are also necessarily concerned with the cost of alternative policies. However, this can be interpreted in a number of ways: one is the public expenditure cost of policy, another is the policy's cost in terms of the bills it leaves for future generations (its effect on 'generational equity'), and a third is its economic cost taking into account macro-economic general equilibrium effects.

This thesis is essentially concerned with the first issue – the public expenditure cost of policy. However, the technique used to look at this issue is known as 'generational accounting' and, as its name suggests, this kind of model is more concerned with the second definition of cost. Nevertheless, in this thesis generational accounting is used solely to analyse the fiscal effects of policy, and questions of generational incidence are ignored; Section 4.1 explains why this stance has been taken. In effect, therefore, the technique of generational accounting is being used as a way of creating a 'long term fiscal model' for the UK, allowing the effects of demographic change on all areas of the public spending to be analysed. Such models have been developed in a number of countries; see, for instance, Todd (1997, Ch. 6 and Appendix) on New Zealand and Long-Term Issues Group (1998, Ch. 3) on Ireland[25].

A different sort of approach is taken in 'overlapping generations' (OLG) models, or dynamic lifecycle models as they are also known. These have been developed by economists to facilitate analysis of the long run macro-economic effects of policy (see Auerbach and Kotlikoff, 1987 and 1995, Miles, 1999, or Pecchenino and Pollard, 1997, for examples of their use). Such models forecast the development of the economy over time by looking at the lifecycle decisions which generations make in response to the policy environment in which they live. To simplify analysis, lifecycles are taken to

25 The closest the UK has come to this kind of analysis are the 30-year spending projections contained in the 1999 and 2000 Budgets. Propper (1992, pp. 113-114) also looks at the effect of demographic change on a range of public expenditure programmes, though over a rather shorter timescale.

consist of two periods, youth and old age, corresponding respectively to the periods when work and saving decisions are made and when equivalent retirement and dis-saving occurs. In Samuelson's (1958, pp. 468-469) consumption-loan model, the forerunner to today's OLG models, a number of assumptions were incorporated about, for instance, lifetime preferences being consistent (i.e. no myopia), the output and productivity of each generation being fixed, and the absence of bequests. These assumptions are clearly highly restrictive, and the succeeding literature has attempted to make the analysis more 'realistic' through dropping some or all of the simplifying assumptions. Modern OLG models are therefore built around a number of key relationships – between, for instance, tax rates and labour supply, transfer payments and savings behaviour, and savings and investment – which in Samuelson's model were exogenous to the system.

However, the greater 'realism' of modern OLG models means that the precise values chosen for particular relationships (e.g. between investment and growth) greatly affect the properties of a model, and hence the policy conclusions which spring from it. The use of such models in policy analysis is therefore fraught with difficulty. As discussed further in Section 3.1, there are numerous problems with including the 'second round' effects of policy in microsimulation models (such as POLIMOD or PENSIM), and the same issues arise in relation to OLG models. Though estimates which include behavioural effects are closer to reality (i.e. no behavioural response is very unlikely), we know too little about how individuals react to different policy environments to make this a worthwhile exercise. Accordingly, behavioural responses to policy are not included in the numerical analysis in this thesis, though chapters 4, 7 and 8 do discuss the economics literature on the effect of pensions on the labour market, savings and growth.

1.5 Plan of thesis

This thesis is divided into three parts. Part A looks at the effects of current policy on pensioner incomes and the public finances and at how these estimates alter under the four ideal type systems described in Section 1.3. Part B then analyses one specific

reform in detail, the replacement of SERPS with the S2P, looking at the history behind the introduction of the new scheme as well as setting out its effects on pensioner incomes and the public finances. Part C then examines the rationales for different kinds of pension system (as represented by the four ideal types).

The thematic framework is provided by the typology outlined in Section 1.3, which underlies the analysis in Part A of the effect of alternative systems and is reflected in Part C in the division between Chapters 7 and 8 (which discuss, respectively, the social insurance and compulsory saving and basic income and targeting models). The exception is Part B, which concerns itself with one particular pension reform rather than with the four ideal types. A full plan of the thesis is in Table 1.2.

Table 1.2

Plan of Thesis

Chapter	Part	Purpose
2	A	Describes the techniques used to project forward pensioner incomes and presents 'baseline' results.
3	A	Uses the techniques of Chapter 2 to analyse the effect of four ideal type systems on incomes in retirement.
4	A	Looks at the effect of the four ideal types on the public finances using the technique of generational accounting.
5	B	Provides historical background to, and the rationale for, the introduction of the State Second Pension.
6	B	Describes the structure of the State Second Pension and looks at its effect on pensioner incomes and on the public finances.
7	C	Discusses the social insurance and compulsory saving models through analysing the rationale for compulsory earnings-related pensions.
8	C	Discusses the basic income and targeting models by analysing the most efficient means of ensuring a minimum retirement income.
9	C	Summarises the analysis in the thesis and presents some conclusions.

The Table shows how the four aims for the thesis stated earlier will be met. It provides new estimates of the effect of current policy on pensioner incomes and on fiscal sustainability, and compares these estimates under alternative policies (Part A). It looks in depth at one specific pension reform, the replacement of SERPS by the S2P (Part B). And it analyses theoretical issues in pension reform (Part C). Moreover, Parts A and C use the typology outlined in this chapter, testing the usefulness of the four ideal types as a means for simplifying analysis of pension reform.

1A. Annex: the three tiers of pension provision in the UK

The World Bank distinguish between three 'pillars' or 'tiers' of pension provision: a first tier of tax-financed state benefits, a second tier of compulsory earnings-related benefits paid from private pension schemes, and a third tier of voluntarily pension contributions by individuals and employers. The components of each of these tiers in the UK are looked at below, though with minor adjustments to the World Bank's classification in line with the framework of Banks and Emmerson (2000, pp. 30-39)

1A.1 First tier provision

First tier pension provision in the UK has two main elements, the vast majority of pensioners receiving the flat-rate basic pension but a significant minority also getting means-tested benefits, principally Income Support[26]. In April 1999 the basic pension was worth £66.75 a week for a single person and £106.70 a week for a couple (if one of the partners does not have full entitlement in their own right). This was rather below the level of Income Support, which was worth £75 and £116.60 a week respectively. In relation to mean full-time earnings (i.e. the wage of the 'typical' worker used in Figure 1.1) the basic pension was worth 16.7% for single people and 26.7% for couples, while the equivalent figures for Income Support were 18.75% and 29.15%[27]. While the basic pension increases by a mere 25p at age 80, older claimants of Income Support receive more substantial increases. In 1999/2000 claimants of Income Support receive increments of £2.30 a week for a single person and £3.25 a week for a couple upon reaching age 75, with a further increment of £4.95 and £5.45 respectively becoming payable at age 80. Note therefore that, although it is common to equate the level of

26 Note that the government now refer to Income Support for pensioners as a 'minimum income guarantee', though no changes to the structure of the benefit, or indeed its name, have yet been proposed. The benefit is therefore called by its proper title in this thesis, rather than by its political moniker.

27 This calculation is based on the mean earnings in April 1999 of full-time adults whose pay was not affected by absence, which was £400 a week according to ONS (1999, Table A1).

Income Support with the amount received by a single person aged 65-74 (this thesis being no exception), the actual structure is considerably more complex than this[28].

Eligibility for the basic pension depends on an individual's contribution record, with 44 years of contribution being required for men to be able to claim the full pension and 39 years being required for women. People with fewer than the requisite number of contribution years receive a reduced pension proportional to their years of contribution (except for those who fail to cross a threshold of 25% of the required years, who receive nothing). However, the availability of credits to cover most kinds of joblessness, and the fact that years in the labour market prior to the introduction of the current scheme are automatically credited to individuals, means that almost all currently retired men, though less than two-thirds of women, are eligible for the full payment (GAD, 1999, pp. 84-89)[29]. Although there are no provisions to start receiving the basic pension benefit prior to state retirement age (currently 60 for women and 65 for men; 65 for everyone from 2020), people may defer receipt of the benefit and receive an increased level of payment in return. At the moment the increase in benefits is rather less than actuarially-fair (the expected lifetime value of payments being lower than if the pension is claimed at retirement age), but increased increments are being phased-in so that something closer to actuarial fairness will eventually be achieved (Cracknell and Strickland, 1995, p. 15)[30]. At present there are no plans to raise the state retirement age, bar the transition to gender equalisation legislated for in 1995.

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28 Given that the majority of pensioner Income Support claimants are over 75 (and 40% are over 80), the effect of age increments may in reality be quite important.

29 Evidence from administrative data suggests that full entitlement may be rather lower than estimated by the Government Actuary. Looking at the working-age population, around 17% of people are currently not in employment and not receiving basic pension credits (Kumar, 1999, Figure 12). Despite this, it is likely that gaps in basic pension entitlement will generally become smaller in future years (at least for women), due to eligibility for credits being widened in the 1970s through the introduction of 'Home Responsibilities Protection' and due to the concurrent abolition of the married woman's reduced rate of NICs (see GAD, 1999, Appendix D).

30 The concept of actuarial fairness is important in understanding pension policy. A transaction such as delaying claim for benefit in return for a higher level of benefit when it is paid, or trading future rights to SERPS in return for a contracted-out rebate, is actuarially-fair if the trade-off between amounts given-up/received now are linked to future gains/losses in such a way that the expected net present value of the transaction is zero. In other words, a system is actuarially-fair if it presents individuals with neutral choices.

The other element of first tier provision in the UK is the means-tested benefit Income Support. In contrast to the basic pension there are no contribution conditions for Income Support, with eligibility instead being determined through a test of means and assets[31]. The means test simply states that to qualify a household (in the case of pensioners, a couple or an individual) must have an income below the value of the benefit (i.e. less than £75 a week for a single 65 year-old in 1999/2000), the job of Income Support being to top them up to the minimum level[32]. The assets test is more complex, with the first £6,000 of savings being ignored but every £250 of capital above this level causing entitlement to be reduced by £1 a week, and savings of more than £12,000 ending eligibility altogether. It should be noted that these limits come into effect in April 2001 and represent a significant loosening of the assets test, which previously started when capital reached £3,000 with an upper limit of £8,000. How the future value of the limits is determined in this thesis is discussed in Section 2.2.

Nearly 30% of pensioner households are entitled to claim Income Support, though in practice incomplete take-up means a little over a fifth of pensioner households actually receive this benefit (DSS, 1999a, Table 1.1, and DSS, 2000, Table 10)[33]. Additional means-tested assistance is also available to help low income households meet the cost of rent (Housing Benefit) and local taxes (Council Tax Benefit), and including these benefits brings the total number of pensioner households receiving some form of means-tested support to around 3 million, just under 40% of the total (Johnson, Disney

31 Strictly speaking entitlement to means-tested benefits is determined by reference to the income and assets of the 'benefit unit', rather than the household (though the system of non-dependent deductions complicates the situation). This reflects the fact that, in contrast to the '*obligation alimentaire*' operated in France and some other countries, means testing in the UK ignores familial links across generations. The benefit unit can therefore only ever be a (cohabiting) couple or a single person; the existence of other people in the household (such as sons and daughters) is only relevant if they are classified as dependent (e.g. because they are under 16). It should also be noted that to be eligible for means tested benefits individuals must pass a residence test.

32 This thesis uses the terms 'household' and 'benefit unit' interchangeably. Though the latter is the correct term in the benefits system, it is often more convenient to refer to a household. The key point, however, is that 'household' only ever means a couple or a single pensioner – situations where pensioners share their home with others are ignored.

33 Note that the estimate for the proportion of pensioners entitled to Income Support is rather uncertain, as witnessed by the fact the DSS (1999a, Table 1.1) only provide a range of possible estimates for take-up (between 63% and 73% of eligible households in the case of pensioners and Income Support in 1997/8).

and Stears, 1996, p. 7)[34]. Allowing for incomplete take-up may bring the overall figure for eligibility to means-tested benefits closer to 50% of pensioner households, though it should be recognised that in many cases individuals are only eligible for very small payments.

A further form of state support for retirement incomes should also be mentioned, though it is not generally considered part of first tier provision and does not feature elsewhere in this thesis. Nevertheless, the additional tax allowance for people over 65 has all the qualities of other forms of first tier provision (though with a rather different distributional incidence). Indeed, it is classified by the Treasury as a 'tax expenditure', denoting the fact that it is not a structural part of the tax system but provides targeted relief to a particular group. In this case the beneficiaries are pensioners over 65 with an income of more than £4,335 pa (the level of the tax allowance for working age people in 1999/2000) and less than £19,750 pa (the level of income in 1999/2000 at which the age allowance of £5,720 is fully phased-out)[35]. At present the maximum benefit an individual can receive from this source is about £400 pa, and the annual cost of the allowance (£1.3 billion in 1999/2000) is barely 4% of spending on the basic pension (HMT, 1999, Table 7; DSS, 2000, Table 6). Consequently its omission from the analysis in this thesis is of little empirical significance. However, if the benefits provided by (and cost of) this form of support were to grow its exclusion from this thesis, and from almost all other analyses of pension policy, would be more problematic[36].

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34 The existence of means-tested support for housing costs is largely ignored in this thesis; in effect means-tested assistance is taken to be synonymous with Income Support.

35 For individuals with an income of more than £16,800 (in 1999/2000) the additional age allowance is reduced by 50p for every extra £ of income, so that entitlement is fully extinguished at £19,750. People aged over 75 are entitled to a higher allowance - £5,980 in 1999/2000 – and hence the point where the enhanced allowance is fully phased-out is slightly higher for this group. In addition, married couples where one person is aged over 65 are eligible for an increased tax allowance (£5,125 pa restricted to 10%). However, as from April 2000 all new awards of married couples' allowance will cease, and only older existing claimants will receive this special treatment.

36 In particular it should be noted that the benefits of tax allowances go predominantly to better-off pensioners, reflecting the fact that only 40% of people over 65 are currently liable to income tax (HMT, 2000, paragraph 5.48). The distributional effects of this form of support are therefore 'upside-down' (Sinfield, 1999, p. 3), as poorer pensioners gain nothing from their introduction and extension. A fuller discussion of the role (if any) for the age allowance is in Morris (1981).

Finally, three recent policy innovations should be described, though as with the tax allowance they are generally excluded from the analysis in this thesis. First is the recently created system of winter fuel payments. This is an annual allowance (worth £100 in the 1999/2000 tax year and £150 in 2000/2001) which goes to all pensioner households irrespective of their position in relation to the basic pension or Income Support, i.e. payments are based on the household rather than the individual (as under Income Support) but are not determined by a means test. Second, on top of the various concessions currently available to pensioners (such as reductions on public transport and free dental care), from November 2000 households with someone over 75 will be entitled to a free TV licence (worth £104 a year in 1999/2000)[37]. Last is the 'pensioner credit' announced in the March 2000 Budget. As yet it is unclear how this new system will work, but it seems likely that it will resemble the tapered means-test examined in Section 8.4.

1A.2 Second tier provision

Second tier provision in the UK does not fit neatly into the World Bank's classification. They envisage a second tier consisting of individualised personal accounts into which workers are forced to pay a proportion of their earnings and which, in return, pay out actuarially-fair pensions in retirement. Accordingly, the World Bank see the second tier as being provided privately and on a funded basis (i.e. with benefits financed out of capital assets), and view contributions to such accounts as being separate from taxation or social insurance contributions. Arrangements in the UK are not quite like this. While SERPS benefits are actuarially-fair (and wholly earnings-related), provision is split between the public and private sectors and, therefore, not all such provision is funded. Moreover, contributions to the second tier in the UK are not administered through a separate 'pension contribution' but are integrated with National Insurance Contributions (NICs), the revenue from which is also used to pay for the basic pension and more minor elements of the National Insurance scheme. Given the unusual structure of this system it is worth briefly setting out how it works and, in so doing,

37 The issue of whether benefits-in-kind should be included in analysis is discussed further in Section 2.5.

how it came to be so complex. A fuller account of the history of second tier pensions in the UK is in Chapter 5, while the structure of second tier provision from 2002, when the S2P will be introduced, is in Chapter 6.

A significant second tier of pension benefits was only introduced in the UK in 1978 with the implementation of SERPS[38]. At that time a comprehensive second tier was ensured through compelling all employees (though not self-employed) to join SERPS but then allowing members of defined-benefit (DB)[39] occupational pension schemes to 'contract-out' of state provision. To compensate for their lost SERPS rights, members of occupational schemes (and their employers) paid reduced NICs, with the reduction reflecting the proportion of earnings which an average worker would have to pay into a private scheme to achieve the same benefits as SERPS. Note therefore that the equivalence between SERPS and the second pension entitlements earned by people in private pension schemes relies on the Government Actuary accurately assessing likely investment returns, charges and annuity rates. If these assumptions turn out to be too optimistic then people in private schemes will, in retrospect, have been better-off remaining in SERPS. Conversely, if investment and annuity rates exceed assumed levels people who chose to opt-out will end up with higher pension benefits than those who stayed in SERPS.

The original SERPS contracting-out arrangements were therefore actuarially fair (or, at least, may be thought of as such – see Hemming and Kay, 1981, pp. 27-28, for a more critical examination). However, in 1988 this framework was altered to allow for the inclusion of defined-contribution (DC) schemes, in particular the newly introduced (appropriate) personal pensions. People contracting-out of SERPS into such schemes

38 A form of earnings-related second tier provision was in fact introduced in 1961 through the 'graduated pension scheme'. However, the system had no mechanism for uprating the value of benefits which people earned, so while contributions to the scheme were earnings-related the pensions it produced were not (Ellis, 1989, p. 15). Its existence is therefore ignored in this thesis.

39 Defined-benefit pension schemes pay guaranteed benefits related to an individual's earnings. The benefit may be calculated with reference to lifetime earnings (as in SERPS) or earnings in the final year or three years of employment (final salary schemes). Most occupational schemes are of this latter type. Such schemes are distinguished from defined-contribution (DC) schemes by virtue of benefits not being dependent on the investment performance of an individual's fund but on a pension promise, with either the state (for SERPS) or employers (for occupational schemes) acting as contributor of the last resort and hence guarantor of benefits (Dilnot *et al*, 1994, pp. 194-198).

became eligible for a 'rebate' on their NICs (or that proportion of contributions paid in respect of SERPS), which was paid directly to their pension provider[40]. But in the case of personal pensions these rebates were not actuarially-fair, being paid as a set proportion of earnings and therefore benefiting younger people most. This anomaly was partially corrected in April 1997 when age-related rebates (capped at 9%) were introduced (see GAD, 1995, pp. 3-4)[41].

The level of contracted-out rebate paid to an average-age worker (or more simply the NIC deduction members of occupational schemes qualify for) can therefore effectively be seen as the UK's compulsory contribution rate in respect of second tier pensions. Given the age-related structure of rebates, SERPS' benefit schedule similarly shows the retirement income which individuals can expect from the second tier (if the Government Actuary's assumptions are correct). However, this story is complicated by the fact that the legislation which first established SERPS attempted to hasten its impact through including 'accelerated accrual' provisions, the effect of which is that second tier provision in the UK has yet to reach a steady-state position.

Following reforms in 1986 and 1995 the formula for calculating SERPS entitlements is now relatively straightforward, with the scheme providing an inflation-proofed pension worth a fifth of an individual's average lifetime earnings between an upper and a lower

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40 As personal pension schemes are individual accounts they can be (and mostly are) established independently of employers. In firms without occupational schemes contracting-out therefore operates through all employees paying NICs at the full contracted-in rate (with employers similarly paying the full rate), but then those people who have opted-out receiving a rebate paid directly to their personal pension. As such rebates are not counted as public expenditure there is no difference in the national accounts between contracted-out occupational schemes, where NICs are reduced 'at source' by the employer, and other contracted-out schemes where a cash rebate of contributions is paid. This thesis follows this custom in so far as that the term 'rebates' should also be taken to apply to the contracted-out deduction system for occupational schemes; though in reality people may perceive a direct deduction from NICs to be different from paying full NICs and then receiving back some of this money as a rebate, it is implicitly assumed here that individuals see through this administrative quirk. However, the accounting convention of excluding rebates from both revenue and expenditure is not followed. For the reasons set out in Chapter 4, rebates are counted as public expenditure and hence both spending and revenue are higher than in the government's accounts.

41 As younger people benefit from more years of investment growth they stand to receive a higher pension from an investment made now than do older people. It follows that, to replicate the benefits provided by SERPS, individualised DC schemes (such as personal pensions) must receive rebates which are related to age as well as earnings. For instance, using the Government Actuary assumptions, to achieve a particular level of benefit in retirement the amount which would need to be paid into a DC scheme held by a 16 year old is under a third the amount which a 64 year old would need to pay in. Note, therefore, that the 9% upper limit to rebates means that, even after April 1997, the system is still not actuarially-fair for workers aged over 50 or so (GAD, 1995, p. 12).

earning limit (with earnings in pre-retirement years revalued in line with increases in average earnings to the retirement date). But when the scheme was first introduced a more complex formula was used, with the scheme providing benefits equivalent to a quarter of an individual's 20 best earning years (between the limits). This therefore meant that people retiring from the scheme after 1998 could receive full benefits despite the fact that they had only contributed for a portion of their working life. For instance, someone working up until retirement in 2003 would have spent 25 years contributing to SERPS, but would still be entitled to the same pension as someone retiring in 2027 would get after contributing for 49 years.

Because accelerated accrual applies to contracted-out schemes as well as SERPS (reflecting the actuarially-fair nature of these arrangements), the value of the contracted-out rebate has gradually declined since 1978. In the long run, after 2027 when everyone benefiting from accelerated accrual will have retired, the average rebate will be around 3.5% of earnings[42]. However, at present the average rebate is 4.6%, reflecting the enduring effect of the original benefit formula. Members of occupational schemes therefore receive a reduction in NICs of this value (split between the employee and the employer), while members of personal pension schemes receive age-related rebates which, after allowance for administrative costs, should produce a DC pension of the same values as SERPS[43].

The role of the earnings limits in second tier provision is also worth mentioning. Contributions to and payments from SERPS are calculated with reference to an individual's earnings between a lower and an upper limit (the LEL and UEL); in

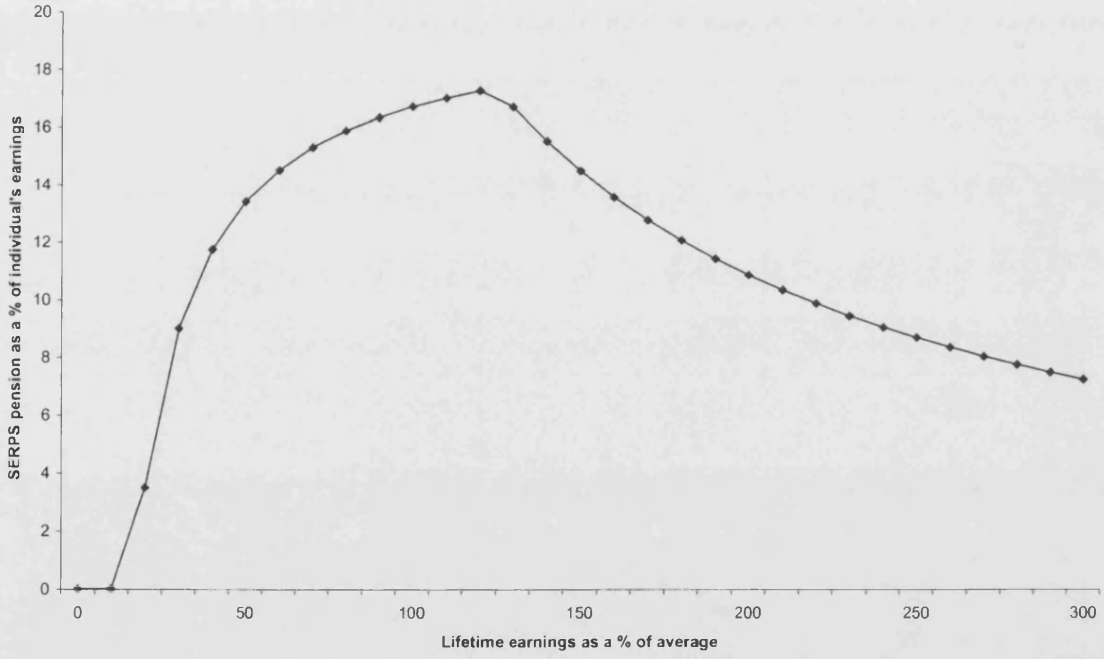
42 The required rebate needed to replace SERPS benefits is set on a quinquennial basis through a process of actuarial review. In order to do this the Government Actuary makes a number of assumptions about, for instance, rates of return to equities and gilts, inflation and life expectancy (see, for instance, GAD, 1995, pp. 3-8). If these assumptions turn out to be accurate then investing 3.5% of earnings every year over a 49 year working life will produce a pension equivalent to SERPS, i.e. an inflation-proofed annuity worth a fifth of an individual's average lifetime earnings. However, if these assumptions are wrong the pension provided privately will not be the same as the individual would have got from SERPS; for instance, if the real rate of return to equities is higher than the Government Actuary's assumption (of earnings growth plus 2.25 percentage points) then rebates will produce a pension worth more than SERPS. Nevertheless, because Government Actuary assumptions are used throughout this thesis, the equivalence between rebates and second tier pension benefits always holds here.

43 Note that DC occupational schemes (of which there are relatively few) receive lower age-related rebates, reflecting their smaller administrative costs (see GAD, 1995, p.14).

1999/2000 these were £66 and £500 a week respectively. This therefore means that people with earnings throughout life which are only just above the LEL receive very small second tier pension benefits, both absolutely and in relation to their earnings, while people with high earnings throughout life receive the maximum SERPS payment (of 20% of the UEL minus the LEL), though in relation to their earnings this will similarly be small. This effect is shown in Figure 1A.1, which sets out the value of SERPS benefits earned by individuals with different lifetime earnings as a proportion of their own earnings.

Figure 1A.1

Second tier pension benefits on retirement when SERPS matures[44]



44 It should be noted that only cohorts retiring after 2027 (49 years after SERPS was introduced) will enjoy the level of benefits shown, and only then if they have had a full working life - individuals with the same lifetime earnings but different number of years of work will earn different pension entitlements. Further, the Figure implicitly assumes that the LEL and UEL are increased in line with movements in wages in the future, so that they maintain the same position relative to average earnings; in fact current policy is to increase these limits in line with prices (see Section 2.2).

1A.3 Third tier provision

Third tier provision consists of all pension contributions made by self-employed people (who are not covered by second tier provision) and voluntary contributions by employees and employers[45]. In the UK the bulk of third tier provision has historically come from employers via occupational pension schemes, but the role of individual contributions by employees and self-employed people is now growing (reflecting changes in the labour market and the introduction of personal pensions in 1988). As private pension provision (both occupational and personal) is still maturing, it will provide a greater proportion of retirement income in the future than is the case today (see Section 2.3).

Generous tax reliefs are available to support private pensions, and this has had a significant influence on the extent of contributions to the third tier (Hannah, 1986, Ch. 3). Indeed, the very existence of third tier pension provision is predicated on the tax advantages which are afforded to this form of saving. For individuals these arise because contributions are not taxed while the tax due on pension benefits tends to be lower than an individual would have paid during their working life. For basic rate taxpayers this is largely because a quarter of the pension (or one-and-a-half times final salary in an occupational scheme) may be taken as a tax-free lump sum. However, for higher rate tax payers there is the additional (potential) advantage that they may become a basic rate tax payer in retirement, and hence gain through tax arbitrage (see Emmerson and Tanner, 2000, p. 68). Moreover, higher rate payers are more likely to make savings which exceed the limit on alternative investment vehicles such as Individual Savings Accounts (where the maximum annual contribution is currently £7,000), and hence may also gain from the fact that investment returns on pension funds are only partially taxed[46].

45 Forms of saving which do not lead to an annuity might also be considered part of third tier provision, particularly if they are intended to provide an income in retirement.
46 Prior to July 1997 investment returns were completely free of tax. However, in July 1997 the new Labour government abolished Advanced Corporation Tax, so that dividend income became partially taxable. Note, though, that because capital gains remain tax-exempt the precise effect of this change will depend on how pension fund managers adjust their investment strategies, and it is not yet clear how much additional tax will in fact be paid under the new regime.

Employer contributions to their employees' pensions receive an even more generous tax treatment, and it is perhaps unsurprising that most third tier pension provision comes from this source. As well as the above tax advantages employers do not pay NICs on pension contributions and, similarly, such contributions do not count towards employee NICs (employees' contributions get no such NIC relief). The effect is that in 2000/1 a pension contribution of one pound from a basic-rate-paying employee will reduce their take-home pay by 78p (i.e. they get relief at the basic rate of 22%), while one pound paid in by an employer will in effect cost them 56p (22% tax relief plus 12% employer NICs and 10% employee NICs). More details of the tax relief system and its effects are in Agulnik and Le Grand (1998, pp. 405-413), Kvist and Sinfield (1996), Dilnot and Johnson (1993, pp. 30-35), Knox (1990), Emmerson and Tanner (2000) and Agulnik (1999a, pp. 3-8). However, for the reasons set out in Section 1.2, in general issues related to tax relief are not explored in this thesis.

Finally, it is worth noting that tax relief also applies to second tier contributions to private schemes, though not to contributions to SERPS. Administratively this stems from the fact that occupational pension schemes do not need to distinguish between those contributions which are statutory (i.e. derived from the contracted-out reduction in NICs) and those which are voluntary. However, as SERPS is a PAYG scheme, and contributions are integrated with NICs, there is no way of providing equivalent relief on contributions to the state scheme. Because all pension benefits count as taxable income this quirk means that, even though the contracting-out arrangements are actuarially-fair, people who have access to a private scheme are in fact likely to be better-off outside the state scheme. Moreover, the cost of tax relief on compulsory contributions to private sector pensions (£2 billion a year) should really be added to the £8 billion net cost of contracted-out rebates. In general, though, this aspect of second tier provision is also ignored in this thesis.

Part A. Analysing pension reform

This part presents estimates of the distributional and fiscal effects of current (baseline) policy and of the four 'ideal type' policies described in Section 1.3. First it uses the dynamic microsimulation model PENSIM to look at future pensioner incomes. Chapter 2 describes the model and how it has been altered for this thesis, sets out the baseline assumptions and results, and discusses how reliable these estimates are. Chapter 3 then uses PENSIM to analyse the distributional effects of the ideal type policies. Finally, Chapter 4 turns to the effect of current and alternative pension policies on the public finances, looking at the sustainability of current policy and how this prognosis changes under the four ideal types.

2. Pensioner incomes under current policy

Dynamic microsimulation models can be used both to describe the effects of current pension policies and to investigate potential reforms. In the former case the aim is to help diagnose problems in advance, by providing government and other interested parties with estimates of the effect of existing policies on the level and composition of pensioner incomes in the future. Such 'baseline' projections can therefore show whether current trends – such as the increase in inequality among pensioners experienced since the late 1970s (Johnson and Stears, 1995, pp. 79-81) - are likely to continue into the future, and help to indicate emerging trends (such as, perhaps, increased reliance on Income Support). Additionally, dynamic microsimulation models may be used for comparative purposes, allowing the distributional effect of alternative policies to be illustrated and hence helping to improve analysis of reform options. In this instance, therefore, the concern is not with the accuracy of the projections *per se* but with the difference between two sets of policies[47].

This chapter is principally concerned with the first of these functions, while the next chapter is intended to demonstrate the usefulness (or otherwise) of dynamic microsimulation in comparing policy regimes. The aim of this chapter is therefore to describe how the dynamic model PENSIM has been adapted for use in this thesis, to provide results from the 'baseline' projection and to interpret these results. There are five sections. Section 2.1 describes PENSIM and details how the projection period has been extended from 2025 to 2066 through re-using the data underlying the original model. Section 2.2 then discusses the assumptions used in the baseline (i.e. current policy) projection, and Section 2.3 provides results and discusses the trends indicated. The reliability of these estimates is then assessed in Section 2.4, which compares PENSIM's results with survey-based estimates of pensioner incomes, administrative data and with Government Actuary spending projections. Section 2.5 concludes by discussing how microsimulation techniques can best be used in analysing pension policy.

47 Whether current or alternative policies are being analysed, it is also possible to use dynamic microsimulation to estimate future expenditure on state transfer payments. In particular, dynamic models can be used to estimate future spending on means-tested benefits (see Chapter 4).

2.1 Projecting pensioner incomes using PENSIM

The development of PENSIM has been lengthy and improvements to it are continually taking place; like painting the Forth Bridge, work on the model is never complete. This thesis uses the version of the model current in November 1999 (version 11b), and subsequent changes to its structure and the availability of new data (on, for instance, the coverage of private pension schemes) have been ignored[48]. Early stages in PENSIM's development are described by Pudney (1992, pp. 21-40) and by Hancock *et al* (1992, pp.41-43), who originally built the model on behalf of the Department of Social Security, while later in-house work on the model, and some results, are in Curry (1996, pp.18-34) and Kumar and Ward (1999, pp.8-15). The latter publications were produced by DSS economists and may be thought of as providing 'official' estimates of future pensioner incomes. More general analyses of dynamic microsimulation, and of the problems inherent in constructing such models, are in Harding (1990) and in Krupp (1986) and Caldwell (1986, pp.61-65).

In general this thesis is not concerned with the mechanics of microsimulation, rather, it is how such models can be used to analyse pension reform options which is the object of interest[49]. However, in order to meaningfully compare policy options it is necessary to look into the distant future, and the fact that PENSIM only projects until 2025 is a significant limitation to its usefulness in this respect (see PIU, 2000, p39). As well as using PENSIM in novel ways, an additional contribution of this thesis has therefore

48 Though improvements to PENSIM will continue to be made, the DSS have recently started work on developing a completely new model ('Pensim2'). This will improve upon the current version through using far richer (and more up-to-date) data sources, the aim being to combine information from the Lifetime Labour Market Database, DSS administrative data and the Family Resources Survey. At the time of writing work on the new model had only just begun; more information will be available in due course from the DSS.

49 Though improving the way PENSIM worked was not the object of the exercise, the process of using the model revealed a number of errors ('bugs') in the computer code. In practice a very substantial amount of time was devoted to identifying and rectifying such bugs, and an important (if unintended) output from the work for this thesis has been to improve the model in this way. As such, the exercise has also served to illustrate the benefits of 'road-testing' simulation models thoroughly (or rather, of using models which have already been passed road-worthy by someone else). See also Section 2.5.

been to extend the model's projection range to 2066. How this was done is set out below, but it is helpful first to provide a brief description of the workings of the model.

Structure of the model and assumptions

As it stands PENSIM is very much a 'black box': assumptions about the parameters of the pension system and other variables are fed into it and, in turn, it produces results showing the distribution and composition of pensioner incomes in selected future years[50]. However, as set out in Kumar and Ward (pp. 6/7), conceptually it is useful to think of the model as having three distinct components. First is the process of projecting forward model individuals' working lives through estimating the likelihood that they will experience particular labour market events (such as changing job, becoming unemployed, etc) and their future earnings. This stage of the model therefore operates by applying a series of duration and transition probabilities to each model individual, so that whether a particular event affects an individual depends on their characteristics and past life-history and on the assumed correlation between these and the event in question. The second stage of the model is then to simulate how individuals accumulate pension rights and savings over their working lives, so that their assets on retirement (including pension entitlements) may be calculated. Last is the process of estimating incomes during retirement, which in turn involves simulating the flow of income from pension assets and from state benefits (which may change because of varying entitlement to means-tested benefits). PENSIM's output is a 'snapshot' of this final process, capturing the incomes of individuals at different stages of retirement in a particular year (2066 in most of the analysis below).

These various stages all require a wide range of assumptions to be made and, in the same way as the modelling process may be sub-divided, it is useful to arrange the assumptions needed into a number of categories. Accordingly, the analysis below divides the assumptions used in PENSIM into four types:

- labour market,
- macro-economic,

50 This means there is little intermediate data that can be used to audit the reasonableness of the results produced – to some extent PENSIM's estimates must be taken in good faith (though see later and Section 2.4). The DSS envisage that the proposed Pensim2 will be explicitly based on a modular structure (along similar lines to the framework described here), allowing analysts to look into the 'black box'.

- pension, and
- policy assumptions.

First are the assumptions PENSIM makes about the **labour market**, e.g., about the relationship between occupation and unemployment, in order to project forward model individuals' future working lives. As described in Hancock *et al* (1992, pp. 44-47), these assumptions are based on equations modelled econometrically from the post-1970 work-history data in the Retirement Survey and the Social Change and Economic Lives Initiative (SCELI) survey, two of the datasets used by PENSIM to create model individuals (see Table 2.1 later). Hence the model should generate future working lives which are similar to those experienced over the period 1970-1987/88 (when the Retirement Survey and SCELI interviews were conducted). Clearly one problem with the model is therefore that these labour market assumptions are now rather out of date; as highlighted by a recent Cabinet Office report into government modelling (PIU, 2000, p. 38), the fact that PENSIM relies on such old data means that *"the model does not capture labour market changes such as increased earnings inequalities, increased female participation, increased part-time and temporary working etc., or the impact of recent Government policies on these"*[51]. However, unlike in the other categories, where variables are inputted via spreadsheets, the labour market assumptions in the model are hard-coded in C (the computer language used by PENSIM), and hence alterations can only be made by DSS computing staff. Accordingly, analysing the effect of changing these assumptions is a complex task – there is no simple mechanism for setting (say) the future path for earnings inequality. Moreover, the DSS are currently attempting to improve this aspect of the model through the development of 'Pensim2', which will be based on the continuously-updated Lifetime Labour Market Database (see Ball, 1997, pp. 6-9). For both reasons, therefore, no attempt is made here to alter the labour market assumptions in the model[52].

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51 It should also be borne in mind that data drawn from the Retirement Survey and SCELI are recall data, i.e. survey respondents were asked about their previous labour market activity rather than being followed over time (as would be the case in a panel dataset). There is evidence that individuals tend to omit short periods of unemployment when recalling their employment history (Paull, 1997), hence an additional problem is that the data itself may be less than fully representative of labour market conditions between 1970 and 1988.

52 A further problem relating to the way PENSIM models the labour market is that it works on the assumption that retirement will occur when individuals reach state pension age (currently 65 for men and 60 for women, rising to 65 for everyone by 2020). Though non-employment is one of the labour market

The second kind of assumption relates to **macro-economic variables** such as inflation, unemployment, earnings growth and rates of return to private savings. These are used in all stages of the model: in the process of projecting forward future working lives assumptions about unemployment and earnings growth determine average labour market conditions (with the labour market assumptions determining how individual histories vary around this average); in calculating private pension entitlements an assumption about the rate of return to capital is required; and the modelling of incomes post-retirement uses assumptions about investment returns, inflation and earnings growth.

The macro-economic assumptions are therefore extremely important in determining the properties of the model, and the results reported below would look rather different if (for instance) earnings growth were assumed to be significantly higher. Indeed, one of the main reasons for using dynamic microsimulation models to look at pension policy is that they allow the effect of 'optimistic' and 'pessimistic' macro-economic assumptions to be illustrated. However, no attempt is made here to conduct this kind of sensitivity analysis, first because it has already been done (see Curry, p31-33 and Kumar and Ward, p15) and, second, because the comparison of the effects of alternative policies presented in Chapter 3 is already complex enough without including a number of variants on the baseline projection. The macro-economic assumptions used in Kumar and Ward's central projection (which are generally the same as those used by the Government Actuary) are therefore retained throughout the analysis below. For the record, the most important of these are:

- cyclical inflation with six years of low inflation followed by four years of high inflation, giving an overall average of 3.8% per year[53];

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states modelled (alongside full- and part-time employment, self-employment and unemployment), this state implies that the individual might return to work, whereas retirement implies a more permanent withdrawal. Moreover, participation rates for older men were significantly higher two decades ago than they are now (Campbell, 1999, Table 2), and hence the likelihood is that PENSIM significantly over-estimates the extent to which people continue working in the years immediately prior to retirement age. As discussed in Section 2.4, this may be one of the reasons why PENSIM's estimates for the size of a second tier provision appear to be too high.

53 This assumption is something of an historical anomaly. When originally set at the beginning of the 1990s it appeared a reasonable approximation of macro-economic conditions at the time. However, given

- average earnings growth of 1.5% per year above inflation (though, as noted, in any one year individuals in the sample may have earnings growth above or below this);
- unemployment of 1-1.25 million;
- a real rate of return (above inflation) on investments (e.g. personal pension funds) of 3.5 % per year.

A third type of assumption used in PENSIM relates to the **level and nature of private pension provision**. For instance, assumptions are required about the coverage of occupational pension schemes (by occupation, sex and employment status), how such schemes work (e.g. final salary or money-purchase), rates of contribution to personal pensions, and the number of people contracted-out of SERPS. For modelling the effects of existing policy these assumptions are set in line with current rates, so that changes in pension provision in the recent past can be incorporated when new data becomes available, and in all future years the blanket assumption is made that current rates will remain unchanged. It should be noted, therefore, that this approach involves the implicit assumption that private pensioning will not alter in response to economic circumstances or changes in benefit levels. For instance, current policy of uprating the basic pension with prices will result in the value of this benefit declining over time relative to earnings, yet the model does not compensate for this shift through any increase in the rate of voluntary savings (as economic theory predicts would occur). The implications of this lack of behavioural response for using PENSIM to look at reform options are discussed further in Section 3.1. But short of making voluntary saving fully endogenous in the model (an extremely difficult, if not impossible, task), it is difficult to see what other assumption could be made. Accordingly, the only assumption which is in fact changed in the analysis in Chapter 3 is the level of contracting-out (under the social insurance and compulsory saving options), and otherwise the pension assumptions in Kumar and Ward are used throughout this thesis[54].

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the government's inflation target of 2.5% (and its success in meeting this target), it now seems rather out-of-date. Nevertheless, it was not changed by Curry or by Kumar and Ward, and it is similarly left unchanged here. This means successive analyses are consistent with each other (a particularly important consideration here), at the expense of their 'realism'.

54 Note that the model is therefore based on data available in November 1999, and subsequent updates,

The final type of assumption relates to the parameters of **state pension provision** (including second as well as first tier provision) and, more generally, the tax and benefit rules in operation during individuals' retirement. It is these assumptions which are the main focus of attention in this thesis, both in relation to producing a baseline projection and to the analysis of reforms in Chapter 3. Accordingly, the main policy assumptions used in the baseline are described in full in Section 2.2.

Data sources and extending the model

According to their age, model individuals are drawn from one of three separate surveys (all of which took place in 1987 or 1988), so that in aggregate something approximating a representative sample of the entire adult population is built up. The oldest cohorts - those aged over 70 in 1988 – are taken from the 1988 Family Expenditure Survey (FES), where data on 1232 benefit units (1535 individuals) are available, those aged between 55 and 69 (in 1988) are taken from the 1988 Retirement Survey, providing information on 2361 benefit units (3781 individuals); and individuals between 20 and 54 in 1988 are taken from the Social Change and Economic Life Initiative (SCELI) survey, providing data on a further 1638 benefit units (2699 individuals). PENSIM's job in relation to cases drawn from the FES is therefore limited to projecting individuals' retirement income, while for Retirement Survey and SCELI cases it must also complete work and pension accumulation histories. Table 2.1 summarises.

Table 2.1

Data sources for PENSIM

Data source	Year of birth	Year reach age 65	Age in 1988
FES	Before 1918	Before 1983	70+
Retirement Survey	1919-1933	1984-1998	55-69
SCELI	1924-1968	1989-2033	20-64

Note: There is some overlap between the SCELI and the Retirement Survey data. However, as the tails of the SCELI data are rather thin, SCELI individuals older than 54 are ignored.

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e.g. from surveys of occupational scheme membership, are not incorporated.

The Table shows why, as it currently stands, PENSIM is only able to predict pensioner incomes until 2025. As the youngest individuals in the SCELI survey were aged 20 in 1988 they will be approaching 60 at the end of this projection period, when under pre-1995 legislation women reached state pension age. Hence on the basis of the existing data it would not have been possible to produce projections into the more distant future - as the model moved further forward it would run out of newly-retired individuals, so estimates of the pensioner income distribution produced for after 2025 would fail to be representative of all pensioners alive at that time[55]. In other words, this date is not distant enough to allow the full effects of a pension system to work their way through to pensioner incomes – for what is referred to in DSS (2000a, p. 34) as the 'maturing' (build up of pension rights) and 'replacement' (older cohorts die off) transition phases to be complete. Instead of a 25-year projection period something more like 70 or 80 years would be preferable, so that there is time for model individuals to start work, build up pension rights, retire and die all within the timeframe of the model[56]. It is only by going so far forward that people with pension rights accumulated under past systems will all die off, allowing the 'pure' effect of a policy on pensioner incomes to be seen[57].

A major challenge for this thesis was therefore to find a way of looking further into the future. In the absence of any workable alternative, other than building a new model from scratch (which on the evidence of the plans for Pensim2 would require an input of at least five person-years from start to finish), the solution adopted here has therefore

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55 The Cabinet Office report on modelling in government (PIU, 2000, p. 39) criticised PENSIM for being *"only able to project to 2025. It cannot therefore examine the effect of changes in pension policy over the whole working life of people starting work today (which would require a model that extended at least to 2050). This means the impact of policy changes, once fully implemented, cannot be easily gauged from the model"*.

56 It is worth noting that the US Social Security Administration use a 75 year horizon in their long term spending forecasts (see, for instance, Goss, 1997, Table 1). Bearing in mind that a working life in the UK is defined as 49 years (at least for the purposes of second tier pension provision), and that on average retirement now lasts nearly 20 years, this might represent a good benchmark for future dynamic models, allowing sufficient time for both the 'maturing' and 'replacement' stages.

57 Dynamic models may also be used to look at **transitions** between pension systems: PENSIM can easily produce results for each year of its projection range, and these could be used to show how pensioner incomes alter during the period between the introduction of a reform and the point when it becomes fully mature (i.e. when all pensioners have spent the whole of their working life under the reformed system). As noted, full maturity may not occur until 70 or 80 years after the reform is introduced, so the transition phase can not be captured by looking at one year only. This thesis therefore looks mostly at simple 'before' and 'after' pictures of the effect of different policies on pensioner incomes.

been to keep 'feeding' the model with new individuals through re-using the SCELI data. In other words, the process through which PENSIM generates estimates of pensioner incomes is the same as in the shorter version of the model, but the individuals in the original data have been replicated so that the model now runs-on for longer.

Two ways of extending the model have been tried. The first method involved adding all individuals in the SCELI survey on to the bottom of the original dataset, with the new model individuals being 41 years younger than in the original data[58]. Under this variant, therefore, people in the extended dataset 'born' in 1970 are identical to individuals born in 1929 – the same data is used for both. However, while this method maximises the number of different types of individual that are projected, reflecting the fact that (more-or-less) the entire SCELI survey is re-used, it has the obvious disadvantage that the characteristics of the 'new' model individuals are very dated. PENSIM's tendency to produce working lives which reflect labour market experiences in the past will therefore be re-enforced. Accordingly a second method was also tried, whereby only the youngest benefit units in SCELI were re-used but, to extend the projection far enough forward, were re-used a number of times. While clearly this task could have been performed in a number of ways, it was felt that re-using benefit units containing individuals who were under 30 in SCELI (i.e. the youngest 10 years) four times offered the best balance between their characteristics being up-to-date and not making the data too 'narrow'[59].

It is not obvious which of these two techniques should be preferred; on the one hand it is important to have a broad range of individuals in the model so that more unusual cases are picked up, while on the other hand the up-to-dateness of data is clearly also a

58 To ensure that the model's results for 2025 were the same as those produced by Kumar and Ward (given the same input assumptions), 51 years were added to SCELI cases where an individual was born before 1926. A total of 1638 benefit units (2699 individuals) were therefore added to the model under this variant, though the ordering of the cases was not precisely the same as in the original SCELI data.

59 As under variant 1, this technique therefore results in around 1600 benefit units being added to the bottom of the original SCELI data. However, in this instance it is best to think of this as adding four sets of data each containing 400 benefit units. Note also that under this variant it would be possible to extend the projection period indefinitely through constantly re-feeding the model with the same 10 years of data. However, as official population projections are only available until 2066 no attempt was made to extend the model more than forty years further forward. This is just about sufficient time for the full effects of pension reform to work through.

factor. However, in the event PENSIM results were not vastly different under the two variants, the mean income of single pensioners in 2066 being just £7 a week (4%) higher in variant one than in variant two. This in turn reflects the fact that, by the time PENSIM has completed individuals' working lives, the work histories generated under each variant were quite similar. For instance, the median number of years worked by heads of household was 36 years in variant one compared to 38 years in variant two, while for spouses the difference was even smaller at 35 and 36 years respectively[60]. The decision was therefore made to base this choice upon which variant needed the least re-weighting - in order to ensure that there is the right number of pensioners, and the correct mix between singles and couples and between younger (under 75) and older (over 75) age groups, PENSIM's raw output is weighted according to official population projections produced by the Government Actuary (see Table 2.3 below)[61].

Table 2.2 provides summary statistics on the weights required in 2066 under each variant. It shows that a substantial amount of weighting is required under both. However, in general it is clear that variant two involves less re-weighting than variant one. For instance, the largest weight applied to any model individual is 24.5 in variant one, compared to 17.2 under variant two. Ignoring these outliers variant two also performs best – excluding the worst tenth the smallest weight applied in variant two is 0.49 (i.e. these model individuals are weighted to half their former importance) while under variant one this statistic is 0.38. Hence variant two was chosen as the preferred method for extending PENSIM's projection period. The analysis in the rest of this thesis relates solely to this version of the model.

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60 Perhaps more noteworthy than the relatively small difference between the two estimates is the fact that working lives are predicted to be so long under both variants. As noted earlier, this may be because PENSIM assumes that individuals generally retire at state pension age.

61 A major issue in the development of PENSIM was how to weight model data to population projections, and in particular whether weights should be applied as future lives are projected or at the end of the modelling process. Though Pudney (1992, pp. 5-10) favoured the former technique, and the original model was constructed incorporating such dynamic re-weighting, this proved too difficult to operate in practice. The current version of the model therefore uses a simpler technique which separates out the weighting process from the main model (see Curry, 1996, pp. 23-24). It should also be noted that the Government Actuary's projections only distinguish between singles and couples up to 2020, and that beyond this date the split has been estimated by the author.

Table 2.2

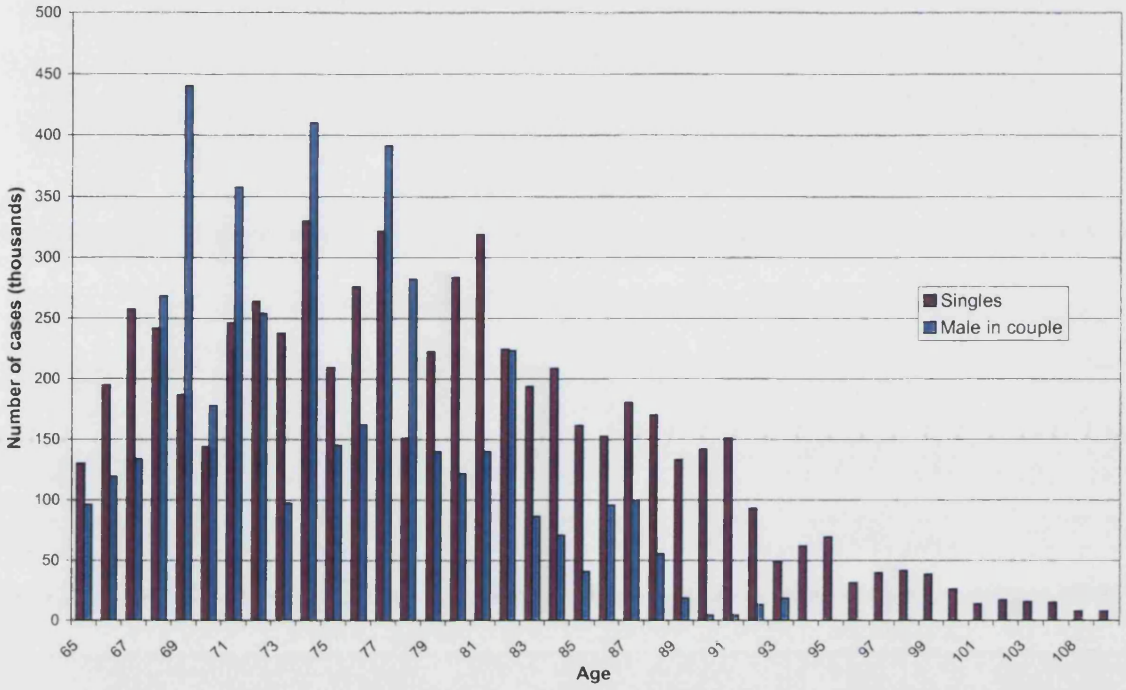
Weights needed under variants one and two

	Maximum weight	Minimum weight	Highest weight excluding top 10%	Lowest weight excluding bottom 10%	Inter-quartile range of weights
Variant 1	24.5	0.38	2.3	0.38	0.76
Variant 2	17.2	0.39	1.8	0.49	0.23

It is worth briefly describing the characteristics of the weighted dataset of pensioners in 2066 created at the end of this process. As noted above, the overall number of pensioners, and the split between singles and couples and younger and older age groups, is determined by the weighting programme. However, this only weights by broad categories: under or over 75 and in a couple or single. Therefore, though these aggregate groups are the correct size in the weighted data (i.e. they are in line with the Government Actuary's projection for 2066), within each group there is no attempt to achieve a particular distribution by age. As Figure 2.1 shows, this means the distribution of singles and couples broken-down by individual age-bands is rather lumpy. Though overall the estimates are reasonably sensible, e.g. single pensioners dominate at older ages, there is a considerable amount of variation from year-to-year – for instance, the number of couple pensioners with a male aged 69 is twice as high as the number with a male aged 70.

Figure 2.1

Number of singles and couples in weighted data for 2066, by age



There are a number of possible reasons why PENSIM's output jumps around so much when broken down in this way. First, the fact that the model works through random probabilities means its output will always exhibit a degree of stochastic variation. Second, the lumpiness of the output reflects the lumpiness of the data fed into the model: the cases taken from SCELI are not evenly spread between the ages of 20 and 30, and this unevenness is amplified through the process of replication. Last, the weighting process can also amplify variations. In particular, as Table 2.3 shows, the discrepancy between PENSIM's unweighted 'raw' output and the final weighted data is much larger for couples than for singles (most noticeably for couples with a male under 75). This might explain the smoother age-profile of single pensioners shown in Figure 2.1 – singles require less weighting and hence there is less distortion to the original data.

Table 2.3

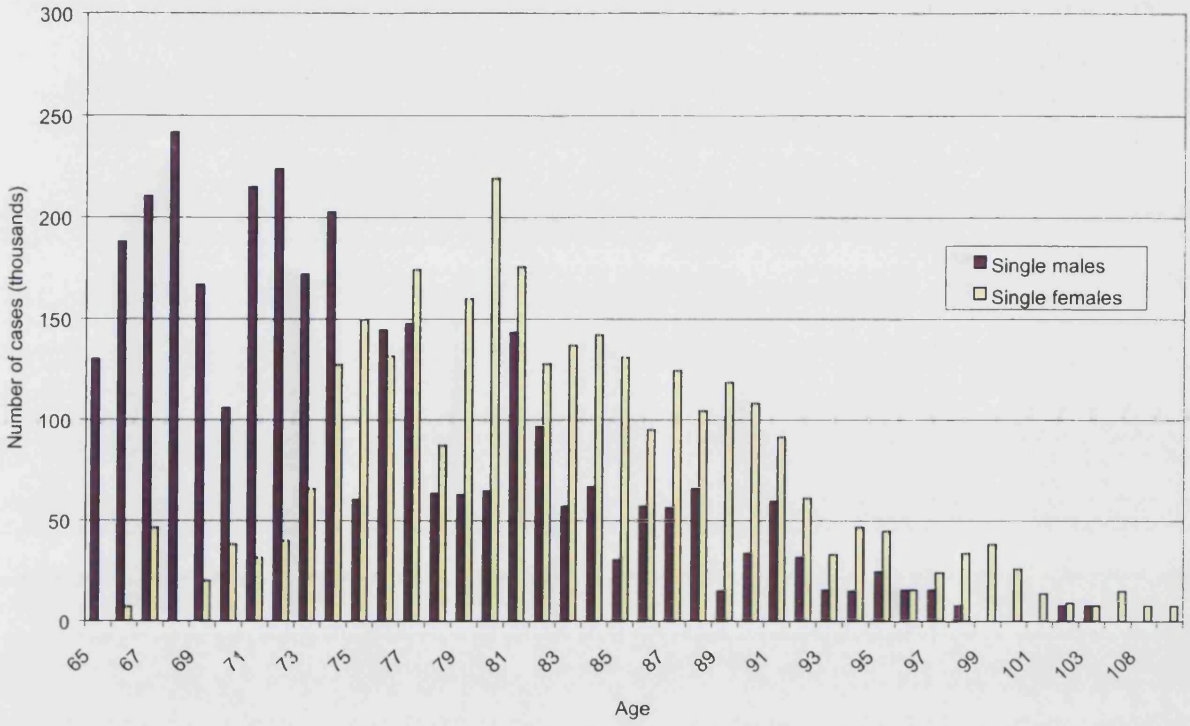
Comparison of number of cases in weighted and unweighted data

Weighting category	No. of cases in weighted data	*No. of cases in unweighted PENSIM output*
Couples, male <75	2498	*700*
Couples, male >75	1963	*1350*
Singles, <75	2572	*2960*
Singles, >75	3683	*3200*

Finally, the gender make-up of the pseudo-sample of pensioners in 2066 should be discussed. As the weighting programme does not take gender into account (only individuals age-group and couple status), the gender-composition of the weighted data reflects that in PENSIM's unweighted output. The result is that there are too many male pensioners in the pseudo-sample – rather than single pensioners being predominantly female (at present more than three-quarters of single pensioners are women), the split between male and female single pensioners is roughly equal. As men tend to earn more and build-up bigger private pension rights than women, this over-representation of males in the model may lead to PENSIM's estimates for future pensioner incomes being too high. Moreover, as Figure 2.2 shows, the distribution of male and female single pensioners by age is somewhat peculiar, with there being very few single females aged under 75. This may also distort PENSIM's results.

Figure 2.2

Gender of single pensioners in weighted data for 2066, by age



2.2 Baseline policy assumptions

Though the extended version of PENSIM used in this thesis was constructed mostly for comparative purposes (see Chapter 3), a natural starting point is to look at its projection for pensioner incomes under current policy. This section therefore describes the assumptions used in the baseline projection, i.e. how current policy is represented, while Section 2.3 provides baseline results for a number of years. Section 2.4 then goes on to give some idea of the confidence bounds surrounding these estimates by comparing them with survey and administrative data and with Government Actuary projections.

Determining the correct assumptions to use in the baseline is not a wholly mechanistic process. Although policy in relation to some parts of the pension system is clear, there

are also a number of areas where the modeller must come to their own judgement as to the best assumptions to use[62]. Some particularly difficult issues are highlighted below.

One important issue is how the earnings limits for National Insurance benefits (and contributions) should be modelled. As set out in Section 1A.2, SERPS entitlements and contracted-out rebates are calculated with reference to an individual's earnings between a lower and an upper limit (the LEL and the UEL), and under current legislation these earning limits are linked to the value of the basic pension. However this means that, because current policy is to uprate the basic pension in line with prices, the earning limits are gradually falling relative to average earnings. An almost hidden knock-on effect of price-linking the basic pension is therefore to gradually change the nature of second tier pension provision, with more and more workers only accumulating SERPS on a portion of their earnings[63]. Although this may be the deliberate aim of policy, it could also be argued that the connection between the basic pension and the earning limits legislated for when SERPS was first introduced implicitly assumed that the basic pension would rise with earnings, and the fact that this has turned out not to be the case makes it necessary to model the LEL and UEL separately. Nevertheless, while the interaction between the basic pension and the earning limits should be borne in mind, assuming away current legislation seems too big a change to be included automatically in the baseline. Hence the baseline estimates presented below assume that the LEL and the UEL are both price-uprated.

A second issue relates to whether existing legislation should be taken as including Home Responsibilities Protection (HRP; the system of credits in SERPS which reduces the number of years carers must work to get a full pension). The somewhat hazy status of this element of SERPS reflects the way the scheme was originally intended to operate and the legislative device used to effect its introduction. In its first incarnation SERPS was based on a formula where benefits were calculated with reference to an

62 Though one way out of this would simply be to present a number of baselines, so that all judgements are left to the reader, this risks curing the disease through killing the patient.

63 In other words, as the UEL falls further down the earnings distribution more workers will accrue the maximum entitlement to SERPS. For this increasing proportion of the workforce SERPS therefore effectively provides flat-rate benefits. A similar effect can be seen in Canada, where the ceiling on earnings-related benefits is already around half average earnings.

individual's 20 best years of earning. Hence, though HRP was part of the 1975 legislation which brought in SERPS, this part of the scheme would only become relevant from April 1999 after the initial phasing-in period was complete. The 1975 legislation therefore prescribed that regulations should be brought in at a future date to bring HRP into effect. However, regulations were not in fact introduced by the relevant date, as by that time the government was already planning to replace SERPS with the S2P (see Part B). It is therefore not clear whether HRP should be included in 'current policy' as it does not, and never will, exist on anything more than paper. Against this, the Government Actuary (GAD, 1999, p44) argues that "[though] *the regulations applying home responsibilities protection to SERPS... have not been introduced, nevertheless there is a commitment on the part of government to introduce some form of extra second pension... it would not be appropriate, therefore, to exclude allowance for the extra costs*". This argument is persuasive, and HRP is therefore also included in the baseline here.

In a similar vein, there is also a question mark over whether the recent move to linking the value of Income Support to earnings should be in or out of the baseline. Reflecting government policy until 1998, early analysis using PENSIM assumed that all benefits (including Income Support) would increase in line with prices, and the results in Curry (1996, pp. 26-34) are on this basis. However, Kumar and Ward (1999, p. 8) amended this assumption to take account of the Labour government's commitment to increasing Income Support in line with earnings (see Section 5.4). Their baseline analysis therefore includes one part of Labour's reforms but ignores the other main proposed change, the introduction of the S2P. Potentially this could be misleading – the baseline does not represent 'pre-Labour' policy but rather 'pre-S2P' policy. Even so, given the fact that Income Support has increased in line with earnings since the new government came to power, while the S2P will not come in until 2002, the decision was taken to include the earnings-link as part of the baseline[64].

64 Ross (1998, p. 102) argues that a policy of price-uprating Income Support forever is not politically credible, as it will lead to the living standards of the poorest pensioners falling ever further behind the rest of the population. This is a further reason for assuming earnings-uprating of this benefit. Indeed, as Section 3.1 sets out, this thesis in fact assumes earnings-uprating of Income Support in all the policy options looked at in the next chapter. This means that the estimates presented can more easily be compared. The alternative of presenting the results both under price- and earnings-uprating of Income Support was rejected due to space constraints.

The above issues are essentially about how legislation should be interpreted and how the 'before' and 'after' line should be drawn in constructing a baseline. They involve the modeller making a choice between two alternative positions. However, in relation to other parts of the tax-benefit system the modeller is faced with a wider range of options about what assumptions are most appropriate. Particular difficulties are posed by the capital limit in Income Support, the part of the means test which prevents individuals or couples with assets over a certain amount from receiving benefit (see Section 1A.1). As one of the main objectives of PENSIM is to provide a way of modelling future receipt of means-tested benefits it is clearly important to get this assumption right.

In Curry (1996) and Kumar and Ward (1999) the capital limit is not indexed at all, reflecting the absence of any statutory indexation requirement and the fact the assets test remained at the same level (£3,000) throughout the 1990s. However, the March 2000 Budget changed the prognosis for the capital limit, as it doubled the allowance to £6,000. Though no move was made to explicit indexation, this change suggests that periodic updating could become the norm, and hence that freezing the limit throughout the projection period may not be a good representation of future policy. More technically, if the modeller assumes that the level of the limit is fixed in nominal terms then their estimate for Income Support receipt will be lower than would otherwise be the case, as over time more pensioners would be excluded from entitlement on asset grounds. Even if the capital limit had not been increased in March 2000, there would therefore still be a case for indexing the limit in order to remove the downward bias to PENSIM's Income Support projection (i.e. so that this 'hidden' effect does not affect the results).

This then leaves the question of what index the capital limit should be linked to. One option would be to assume that the level of the limit will stay the same in real terms, and hence that it will increase in line with prices. However, under this assumption the assets test would still become more stringent as the model moved forward in time – the proportion of pensioners affected by the assets test would continue to grow. Moreover, the increase in the capital limit in Budget 2000 was considerably larger than that

needed to return the limit to its real 1990 value, suggesting that this assumption undershoots political expectations of the appropriate level for the assets test. A higher indexation basis is therefore needed. One possibility would be to model the limit as increasing with earnings, so that it kept pace with the main rate of Income Support. If the excess of investment returns over earnings is seen as representing a genuine increase in well-being (the economist's view) then this would be the appropriate index to use. But if the objective is to take out any effect from the capital limits, so that the proportion of pensioners excluded from entitlement to benefit on capital grounds remains constant over time, then this is insufficient. As the model assumes that investments grow two percentage points faster than earnings, pensioners with capital will still tend to creep over the limit if it is modelled as increasing with earnings. Hence the uprating base adopted here is to increase the capital limits in line with investment growth, i.e. at 3.5% per year above inflation[65].

The assumption for take-up of Income Support should also be briefly mentioned. As noted in Section 1A.1, official estimates suggest that on a caseload basis take-up of Income Support is between 63 and 73% (DSS, 1999a, Table 1.1). Nevertheless, the analysis here is based on a take-up assumption of 81%. This is clearly too high, causing the model to over-estimate income from Income Support. However, as with the rather idiosyncratic assumption for cyclical inflation discussed in Section 2.1, in the interests of compatibility with the assumptions underlying Kumar and Ward (1999) it was decided not to reduce this assumption to a level closer to survey estimates.

In conclusion, the main policy assumptions used in the baseline were as follows:

- the basic pension and the National Insurance earnings limits increase in line with prices;
- the structure of second tier provision is set by SERPS, and includes Home Responsibilities Protection;

65 It should be noted that this assumption has a substantial effect on PENSIM's estimate for Income Support receipt in 2066, its importance as a component of pensioners' income nearly doubling compared to if the limit is fixed in nominal terms.

- Income Support rates increase in line with earnings (i.e. the move to a 'minimum income guarantee' is in the baseline);
- the capital limit for Income Support increases in line with investment growth;
- take-up of Income Support remains constant at 81%.

2.3 Baseline results

PENSIM provides information to the policy analyst about the overall level of pensioner incomes in the future, the distribution of this income, and the relative importance of different components of income. As shown later in this chapter (and in Chapter 3), it is easiest to look at these dimensions of PENSIM's projection individually. However, as the baseline run will be referred back to frequently, it is appropriate to set out the estimates here in a more comprehensive manner. Tables 2.4 and 2.5 therefore present the baseline results in full for three years: 1997, the latest year for which survey data is available; 2025, the final year estimated by the original model, and 2066, the final year of the extended projection. The income distribution is divided into quintiles in both instances. The estimates in the Tables are then illustrated in Figures 2.3 and 2.4, which use a more detailed breakdown of the income distribution based on twentieths ('vingtiles') rather than fifths.

A few notes on the Tables and Figures are required. First, it should be noted that estimates are shown separately for singles and couples, thereby avoiding the need for equivalisation and making it possible to compare the results with survey and administrative data (see Section 2.4). Second, all estimates are deflated by earnings rather than prices, i.e. they are in real earnings rather than real price terms[66]. As the government have recognised (see DSS, 1998, p. 41) presenting projections of pensioner incomes in earnings terms gives a better idea of what these sums will 'feel like' in the future. Third, the estimates ignore income from state benefits related to housing (principally Housing and Council Tax Benefits); even though PENSIM does attempt to

66 This is analogous to looking at estimates of future public spending in relation to the size of GDP, which grows over time, rather than in real price terms. As PENSIM assumes that earnings rise by 1.5% a year faster than prices (the Government Actuary's assumption) this is the rate of increase used to deflate the estimates.

model entitlement to these benefits it is very doubtful whether it does so successfully (see PIU, 2000, p39)[67]. Fourth, though the Table shows the composition of **gross** income, the income distribution used to derive the quintiles was ranked according to **net** (i.e. after tax) income, and also includes housing-related benefits. Though this means the Tables and Figures are not fully internally consistent, the advantage of ranking by net income is that it allows greater comparability with other sources: both Kumar and Ward (1999, paragraph 4.14) and DSS (1999c, p. 44) rank by net income even when illustrating differences in gross income.

67 Note though that the estimates for net (i.e. post-tax) incomes shown in Table 2.6 later do include Housing Benefit.

Table 2.4

Income of single pensioners under baseline assumptions

(£ per week, 1999 earnings terms)

	Q1	Q2	Q3	Q4	Q5	Mean
1997						
Income Support	9.5	15.4	11.4	9.1	1.0	9.3
Basic state pension	42.5	55.5	56.8	59.6	62.2	55.3
SERPS	2.7	3.8	7.8	9.7	18.0	8.4
Occupational pensions	1.9	4.6	9.0	19.8	66.0	20.3
Personal pensions	0.1	0.1	0.0	0.2	0.6	0.2
Investment income	5.7	3.4	5.6	8.5	69.0	18.4
Earnings/other	0.1	0.2	0.5	0.7	12.2	2.7
Gross income	**53.0**	**67.5**	**79.8**	**98.6**	**228.0**	**114.7**
2025						
Income Support	10.9	15.8	12.7	0.8	0.0	8.0
Basic state pension	32.0	35.2	37.5	40.7	41.0	37.3
SERPS	10.9	16.9	20.8	32.3	32.6	22.7
Occupational pensions	3.4	6.1	9.0	26.4	68.4	22.6
Personal pensions	1.0	1.4	1.9	5.7	16.3	5.3
Investment income	6.5	5.7	7.1	19.2	96.6	27.0
Earnings/other	0.0	0.0	0.0	0.8	13.6	2.9
Gross income	**53.9**	**65.4**	**76.3**	**125.0**	**268.4**	**125.8**
2066						
Income Support	11.9	22.0	13.1	0.0	0.0	9.4
Basic state pension	22.7	22.9	23.2	24.0	23.8	23.3
SERPS	15.1	14.9	18.4	24.1	23.3	19.2
Occupational pensions	8.6	10.7	18.9	48.1	203.6	58.0
Personal pensions	7.7	8.7	12.2	20.2	22.5	14.3
Investment income	4.3	5.1	10.2	22.2	130.8	34.5
Earnings/other	0.0	0.0	0.0	0.5	11.5	2.4
Gross income	**58.3**	**62.4**	**82.8**	**139.2**	**415.5**	**161.1**

Table 2.5

Income of couple pensioners under baseline assumptions

(£ per week, 1999 earnings terms)

	Q1	Q2	Q3	Q4	Q5	Mean
1997						
Income Support	1.8	0.9	0.1	0.0	0.0	0.6
Basic state pension	108.1	115.0	115.5	119.3	116.2	114.8
SERPS	9.2	15.9	24.3	25.4	26.3	20.2
Occupational pensions	7.1	21.9	44.6	65.7	112.7	50.4
Personal pensions	0.3	0.1	0.4	0.9	1.2	0.6
Investment income	7.1	12.8	24.1	54.5	140.8	47.9
Earnings/other	0.1	1.1	2.2	12.4	208.0	44.8
Gross income	**131.8**	**166.8**	**211.2**	**278.2**	**605.2**	**278.7**
2025						
Income Support	8.0	1.0	0.0	0.0	0.0	1.8
Basic state pension	68.5	72.4	74.3	75.6	74.5	73.1
SERPS	22.1	33.3	39.0	39.2	40.3	34.8
Occupational pensions	9.6	27.9	55.4	83.6	92.6	53.8
Personal pensions	3.1	7.5	11.5	18.4	27.0	13.5
Investment income	7.8	12.7	20.5	48.1	179.2	53.7
Earnings/other	0.0	0.7	2.1	10.6	227.3	48.2
Gross income	**111.1**	**154.6**	**202.9**	**275.5**	**640.9**	**277.0**
2066						
Income Support	14.2	1.6	0.0	0.0	0.0	3.1
Basic state pension	43.7	44.8	45.6	46.8	46.2	45.4
SERPS	28.7	32.9	38.7	41.4	41.6	36.7
Occupational pensions	15.8	36.6	60.7	95.5	276.4	97.2
Personal pensions	13.7	21.8	31.3	29.7	32.1	25.8
Investment income	5.9	14.7	22.7	56.3	192.3	58.5
Earnings/other	0.6	0.4	3.0	7.1	205.2	43.4
Gross income	**108.2**	**151.2**	**202.1**	**276.8**	**793.7**	**306.9**

Figure 2.3

Income of single pensioners under baseline assumptions

(£ per week, 1999 earnings terms)

A. 1997

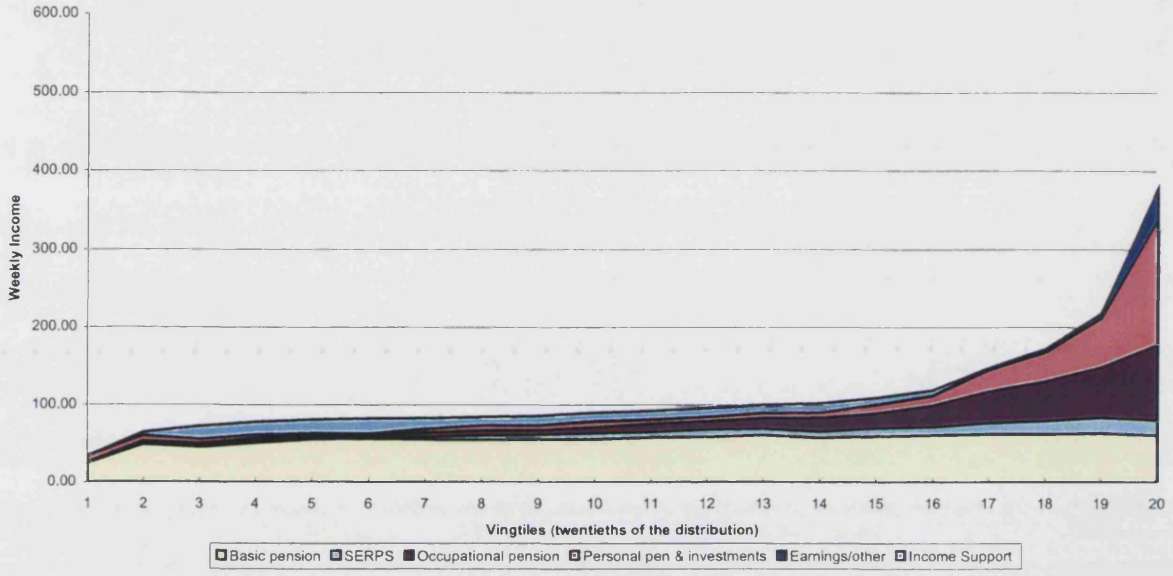


Figure 2.3 cont.

B: 2025

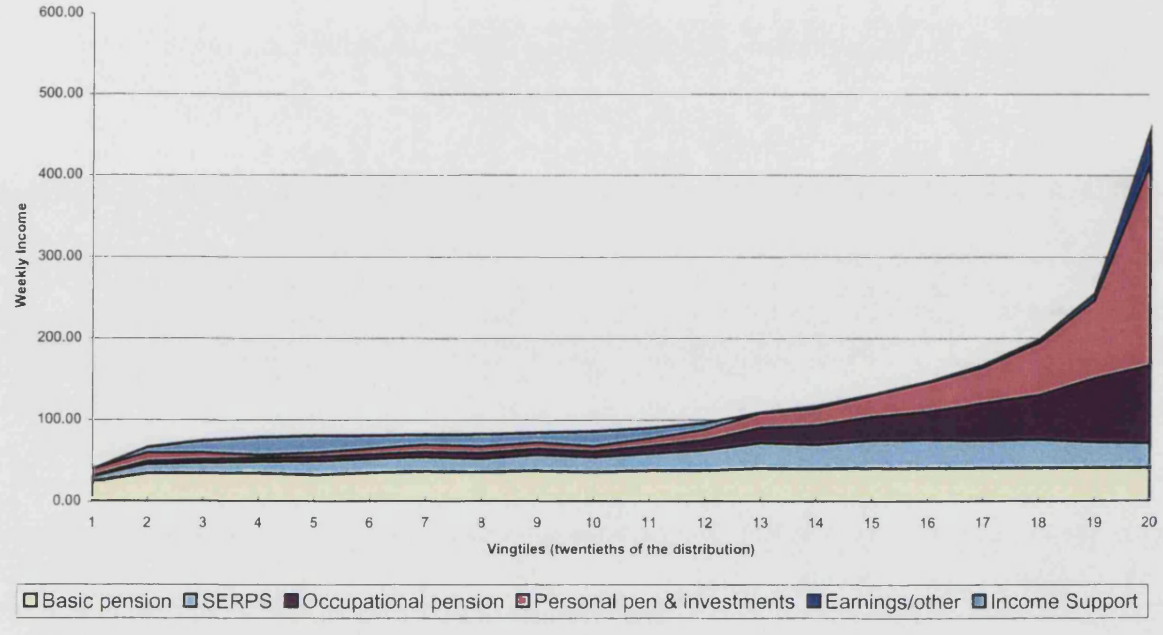


Figure 2.3 cont.

C: 2066

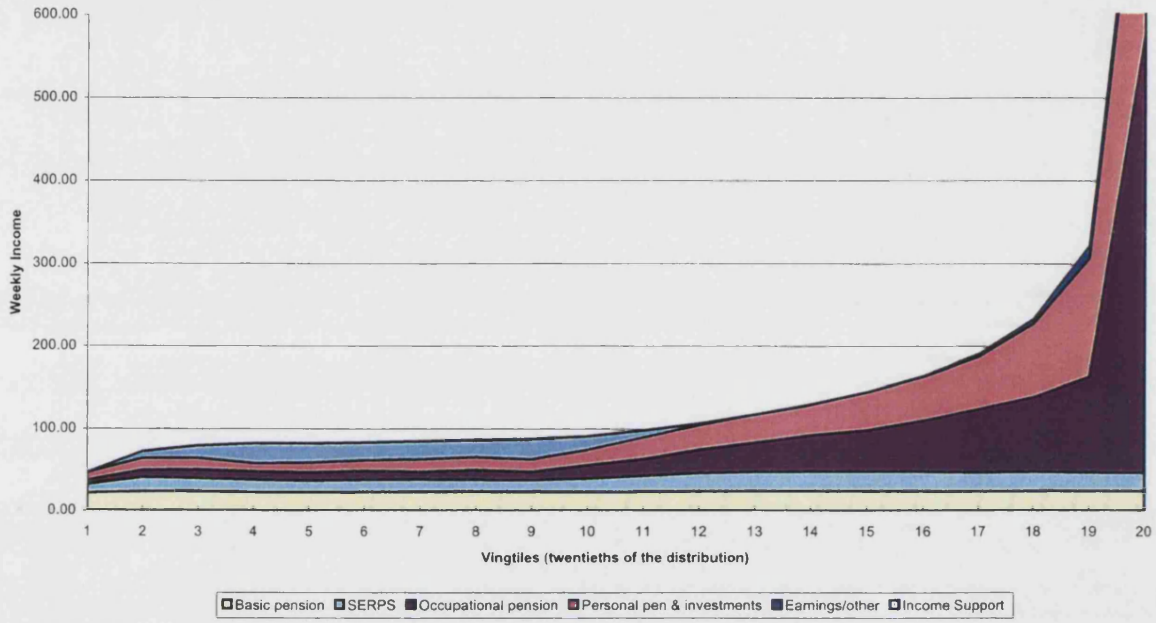


Figure 2.4

Income of couple pensioners under baseline assumptions

(£ per week, 1999 earnings terms)

A. 1997

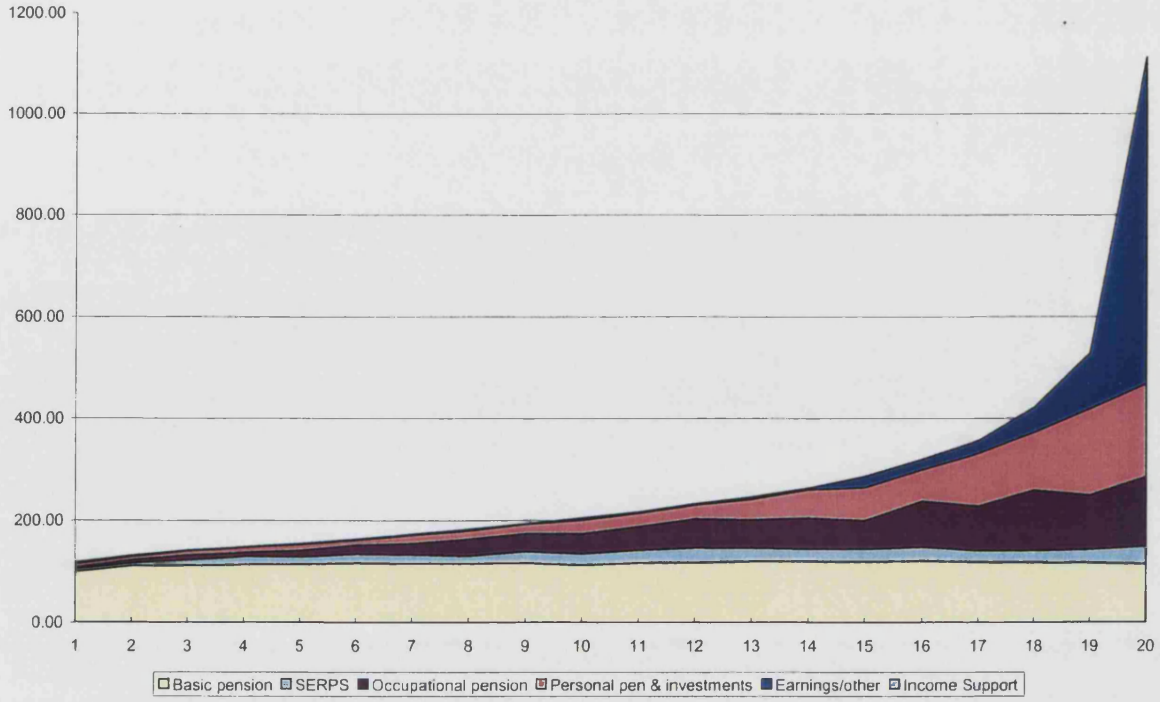


Figure 2.4 cont.

B: 2025

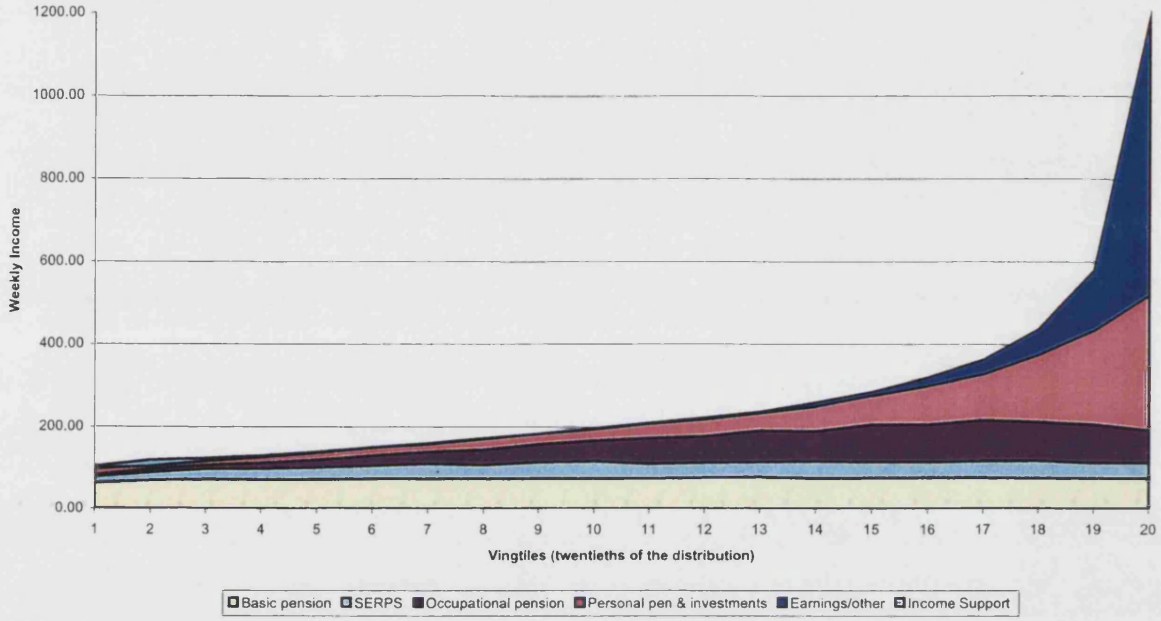
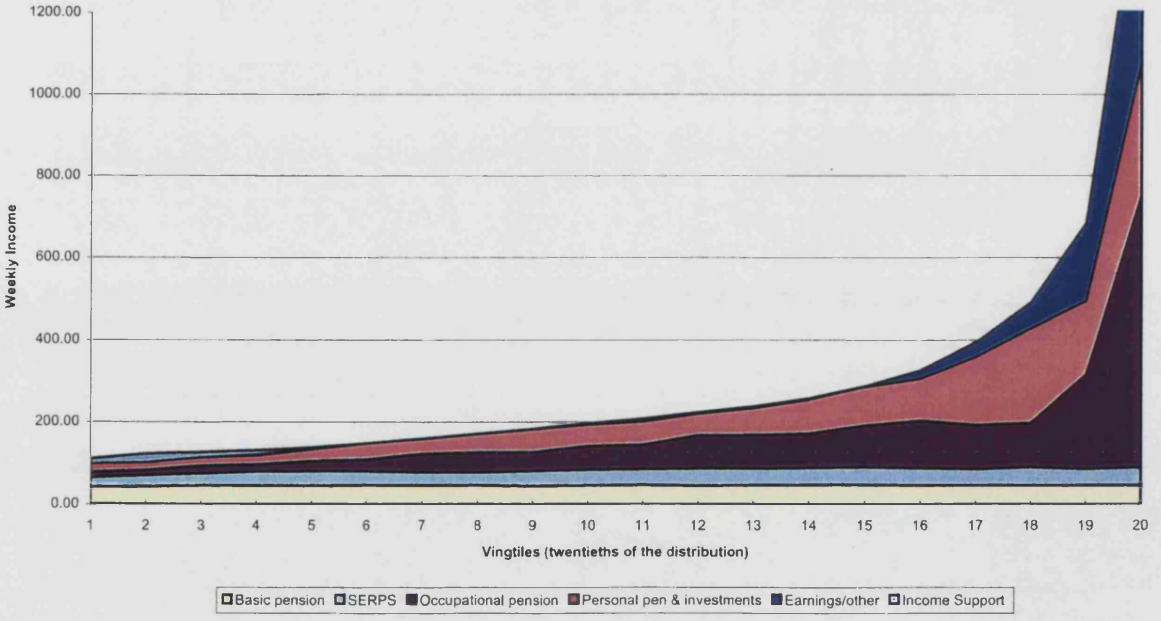


Figure 2.4 cont.

C: 2066



As can be seen, PENSIM provides a wealth of information about pensioner incomes in the future. However, in order to bring out the 'story' underlying these results it is useful to present estimates for different years alongside each other, so that they may be directly compared in the same table or figure. This is difficult to achieve while simultaneously attempting to show the composition and distribution of pensioner incomes (as in Figures 2.3 and 2.4). Figures 2.5 and 2.6 therefore split the analysis, with the former concentrating on composition and the latter on distribution.

However, before this it is useful to clarify the rather surprising pattern for Income Support receipt among single pensioners shown in Table 2.4 and Figure 2.3. As can be seen most clearly in Figure 2.3, PENSIM's projection suggests that the amount received from Income Support tails off towards the bottom of the income distribution. Though the purpose of means-tested benefits is to provide support for the least well-off, this result is not in fact as counter-intuitive as it might seem. First, there is the problem of incomplete take-up: PENSIM assumes that just under a fifth of eligible pensioners fail to take-up their Income Support entitlement (and this is still probably too optimistic; see previous section). Second, those who are excluded from eligibility for Income Support solely because of the assets test will be counted among the poorest on the basis of their income. Third, the provision of disability premia in Income Support can lift recipients into middling-income bands. Last, the Figures show the income distribution after including Income Support, and the picture would look rather different if original income were used.

Figure 2.5 shows PENSIM's baseline estimates for pensioners' mean gross income in 1997, 2025 and 2066. It shows that, on average, pensioner incomes will rise relative to average earnings, i.e. as a group pensioners' living standards will increase more than workers' (though not coming close to reaching parity). However, perhaps more noteworthy are the changes in the components of income which PENSIM predicts – the decreasing contribution made by the basic pension due to the policy of price uprating is one outstanding feature, as is the rise of occupational income and, to a lesser extent, private pension and investment income. Weighting the estimates according to the share of singles and couples in the pensioner population, PENSIM's projection suggests that the ratio of public to private sources of income will shift from roughly 50:50 in 1997 to

30:70 in 2066. This is broadly in line with the government's estimate that, after the introduction of the S2P, and between 1998 and 2050, the public:private ratio would change from 60:40 to 40:60.

Figure 2.5

Components of mean gross income in 1997, 2025 and 2066 under baseline assumptions (£ per week, 1999 earnings terms)

A. Singles

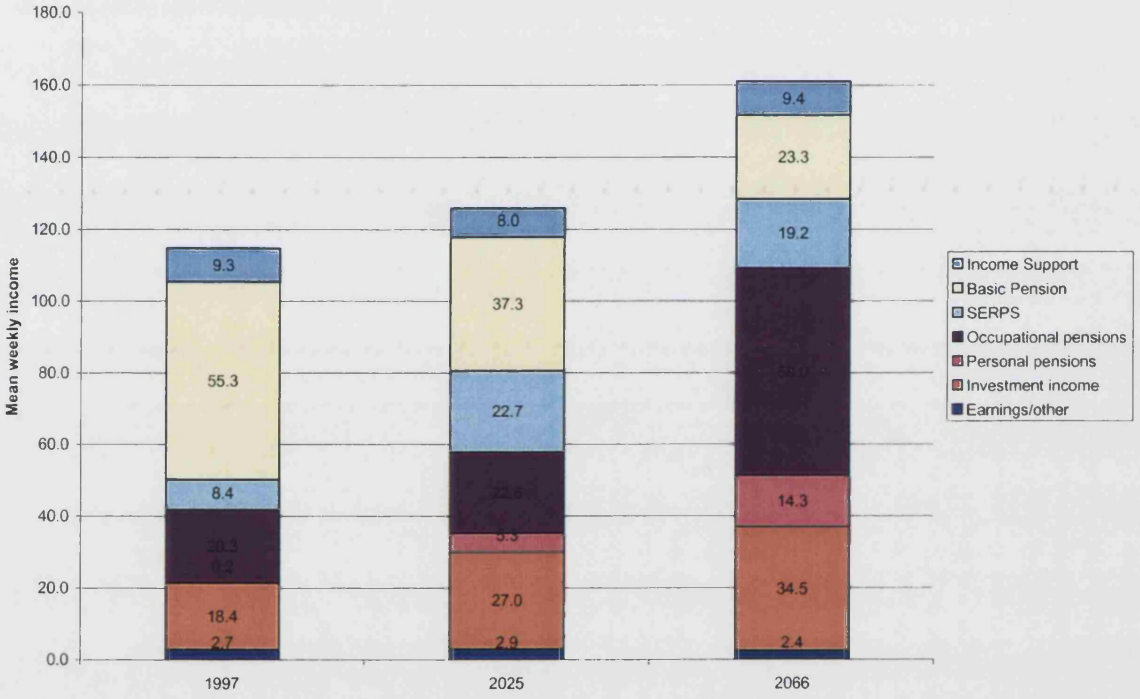


Figure 2.5 cont.

B: Couples

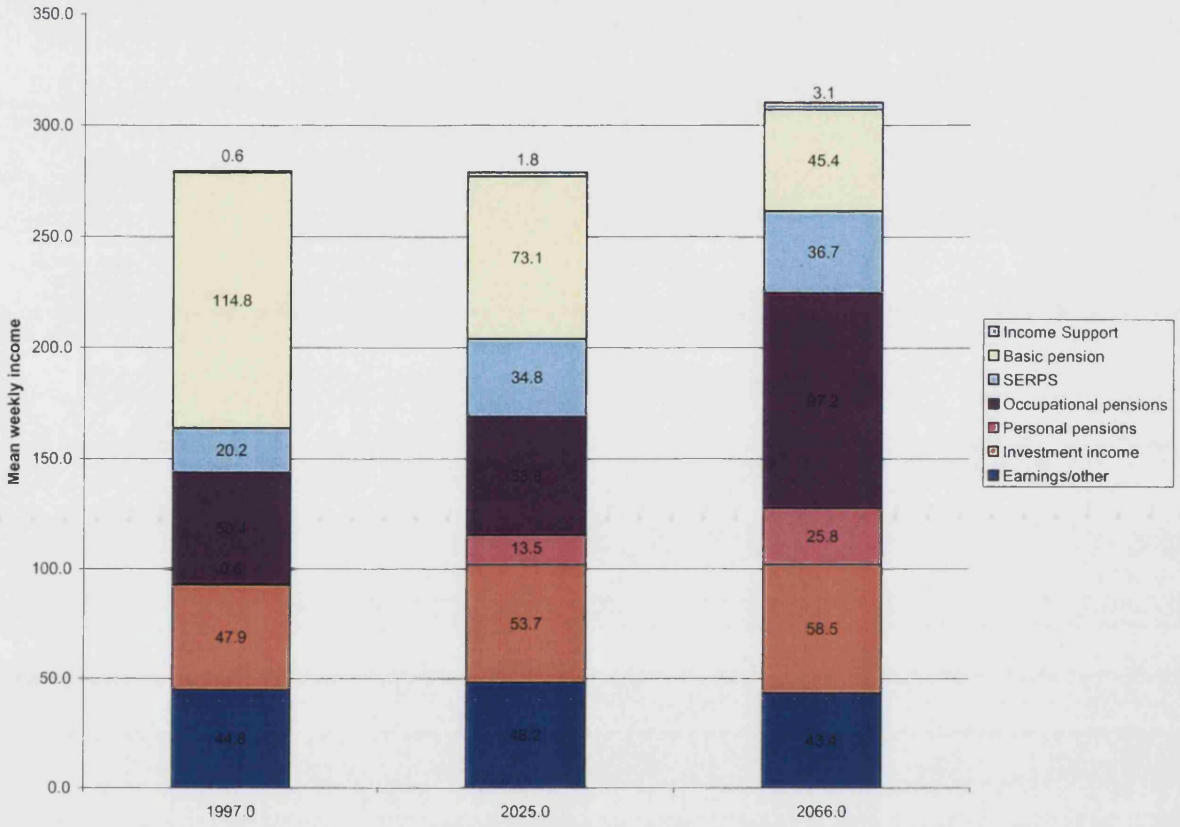


Figure 2.6 turns to the distributional aspects of PENSIM's results, showing for singles and couples the distribution of gross pensioner incomes in 1997, 2025 and 2066. In order to emphasise the bottom end of the distribution a logarithmic scale is used on the vertical axis, which, as in previous Figures, is also in 1999 earnings terms. The Figure also shows a 'poverty line' taken from the Households Below Average Income survey (HBAI; DSS, 2000b) which, to take into account differences in need between singles and couples this standard, is equivalised (i.e. it is lower for single people than for couples, reflecting their lower needs). Although a number of definitions of 'poverty' could have been used (and two are shown in Table 2.6), the Figure shows the frequently-used yardstick of half mean household income. It is important to realise, therefore, that the poverty standard is super-imposed onto the Figure - it is not generated internally by the model – and that it is derived from data on incomes throughout the population (not just pensioners)[68]. Further, it is also assumed that mean

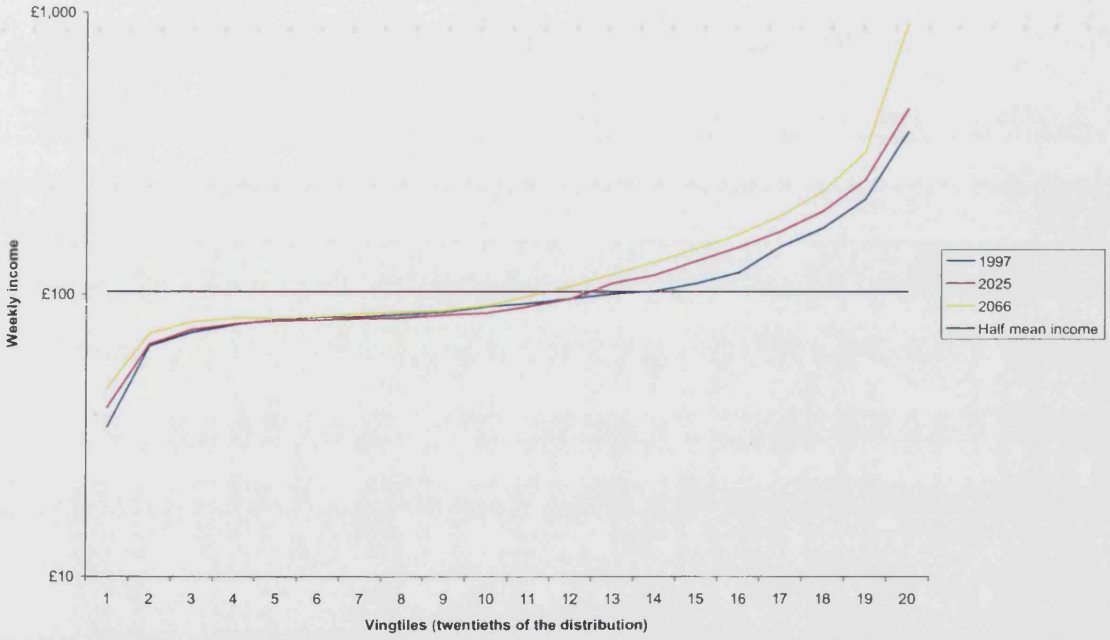
68 It should also be noted that the HBAI estimates include income from housing-related benefits and are

population-wide household income grows precisely in line with earnings (i.e. at 1.5% above inflation), so that the poverty line stays constant over time (relative to the earnings-deflated vertical axis). In other words, the Figure effectively assumes that the 1998/9 HBAI estimates of half mean household income, of £102 and £167 a week for singles and couples respectively (before housing costs and including the self-employed, see DSS 2000b, Table C), are permanently fixed relative to average earnings[69].

Figure 2.6

Distribution of gross pensioner incomes in 1997, 2025 and 2066 under baseline assumptions (£ per week, 1999 earnings terms, log scale)

A: Singles



on a net (after-tax) basis. In contrast, PENSIM's estimates are gross and omit housing-related benefits (though the ranking variable is net and includes all benefits). The income definition used to derive the poverty standard is therefore different from the one underlying PENSIM's estimates. Of the two discrepancies, the more important is probably the absence of income from housing-related benefits in PENSIM's estimates – few pensioners in the bottom half of the income distribution pay tax and hence there is little difference between their gross and net incomes. The likelihood is therefore that there would be fewer pensioners with incomes under the poverty line if fully consistent income definitions were used.

69 Though the HBAI figures are for 1998/9 they are also in February 2000 prices, and hence may be a reasonable approximation of the 1999 earnings base used in the Figure.

Figure 2.6 cont.

B: Couples

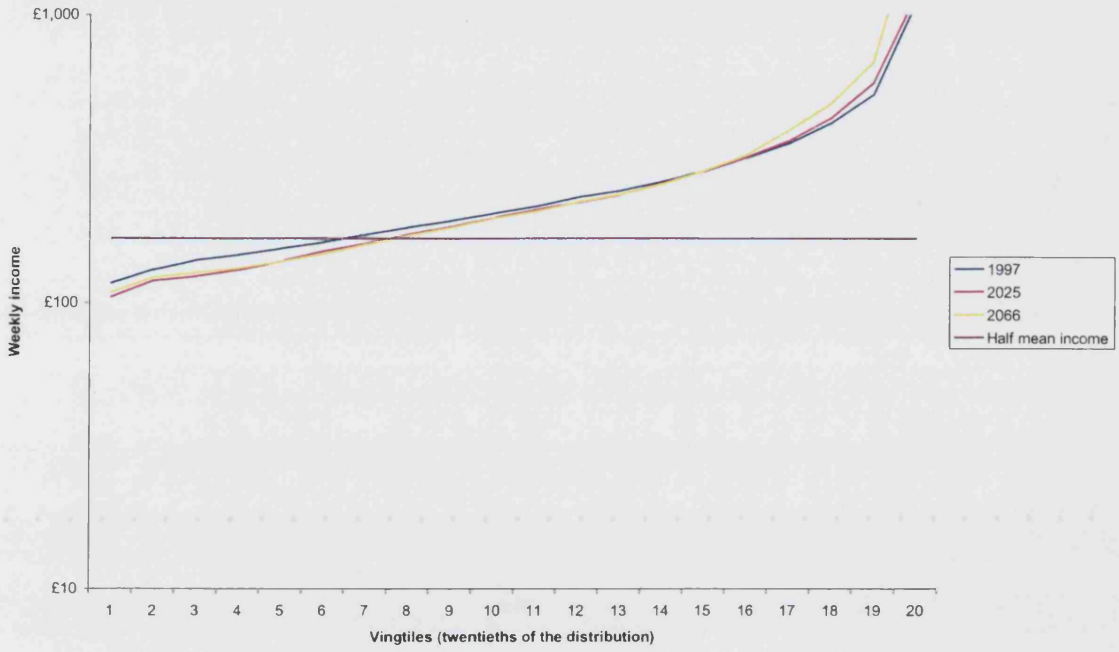


Table 2.6 finishes this presentation of the baseline results by providing a number of summary measures. The first two rows show two inequality statistics, the Gini coefficient and the 90/10 ratio (i.e. the income at the 90th percentile divided by that at the 10th). Both these measures therefore summarise the income distribution, but the 90/10 ratio reduces the importance of more outlying households by ignoring estimates for the top and bottom deciles. The next three rows then give alternative measures of poverty. Row three shows the proportion of pensioners with incomes below half population-wide mean household income (i.e. below the HBAI poverty lines shown in Figures 2.3 and 2.4), while row four shows the proportion below half population-wide median household income[70]; due to the concentration of pensioner incomes around this point relatively small changes in how poverty is defined have a significant impact, and hence it is instructive to show two measures. Row five then shows the proportion of pensioners claiming Income Support, which in practice is a matter of considerable

70 The half-mean and half-median poverty standards are both taken from DSS (2000b) and are assumed to grow in line with average earnings (see earlier). In 1998/9 half population-wide median household income was £82 and £135 a week for singles and couples respectively (before housing costs and including the self-employed; see DSS, 2000b, Table A2). The caveats set out earlier regarding inconsistencies between the income concept used for PENSIM's estimates and that used in the HBAI should again be borne in mind.

policy concern. Finally rows five and six provide PENSIM's estimates for pensioners' mean and median net income. Note that for greater comparability with DSS estimates these final two statistics are based on pensioners' net rather than gross income, and also include income from Housing and Council Tax Benefits. They cannot therefore be related directly to the gross income estimates presented in earlier Tables and Figures.

Table 2.6

Summary statistics under baseline assumptions

		Singles			Couples	
	1997	2025	2066	1997	2025	2066
90:10 ratio	2.5	2.8	3.2	3.0	3.6	4.0
Gini coefficient	0.24	0.27	0.35	0.28	0.32	0.36
% below half mean income	47%	56%	54%	27%	36%	37%
% below half median income	21%	26%	14%	9%	20%	20%
% claiming Income Support	35%	30%	34%	4%	9%	13%
Mean net income (per week, 1999 earnings)	£117	£121	£145	£256	£249	£272
Median net income (per week, 1999 earnings)	£100	£97	£97	£196	£195	£197

As can be seen, under the baseline policy assumptions described in Section 2.2, the broad picture painted by PENSIM is that between now and 2066:

- pensioner inequality will increase;
- the proportion of pensioners 'in poverty' (i.e. below half-mean and half-median population-wide household income) will rise;
- the proportion of pensioner benefit units claiming Income Support is expected to fall very slightly before rising;
- mean pensioner income will increase faster than average earnings, though median income will fall slightly (relative to earnings).

Chapter 3 examines how these results alter under alternative policy assumptions, but before this the next section looks at the reliability of the extended model by comparing the results presented above with other sources.

2.4 How reliable are the results?

Caldwell and Morrison (1998, pp. 2-4) suggest that as dynamic microsimulation models become more established policy tools the credibility of their results will become an increasingly important issue[71]. This section therefore takes three of the validity tests used by Caldwell and Morrison in their work on CORSIM and DYNACAN (dynamic models for the US and Canada) and adapts them for PENSIM and the UK.

The first validation exercise carried out was to compare the model's results for 1997 with survey data on pensioner incomes in that year (because PENSIM relies on data collected in 1988 its estimate for 1997 already relies on nearly 10 years of simulation). Figure 2.7 sets out the difference between the baseline estimates for gross incomes in 1997 and survey estimates from the 1997/8 Pensioner Income (PI) series (DSS, 1999c, Table 14), showing for each quintile the excess (or deficit) in the PI series estimate relative to PENSIM (i.e. the Figure shows the PI series estimate minus the PENSIM estimate)[72]. For consistency with other figures in this chapter all estimates are scaled to 1999. Note also that income from the basic pension, SERPS, Income Support and Housing Benefit is all included under 'benefit income'; this is in line with the way the PI series groups sources of income but different from the categorisation used in earlier Figures.

71 Redmond, Sutherland and Wilson (1998, Part 4) also highlight the importance of validation in relation to static microsimulation models.

72 As explained earlier, though the Figures presented in this thesis generally show gross income, the variable used to rank pensioners in the income distribution is their net income. This is the same as in the PI series, which also ranks by net income throughout (see DSS, 1999c, p. 44). The comparison between the two estimates is therefore reasonably precise.

Figure 2.7

Comparison with survey data: difference in components of income in 1997 between the Pensioner Income series and PENSIM (£ per week, 1999 prices)

A: Singles

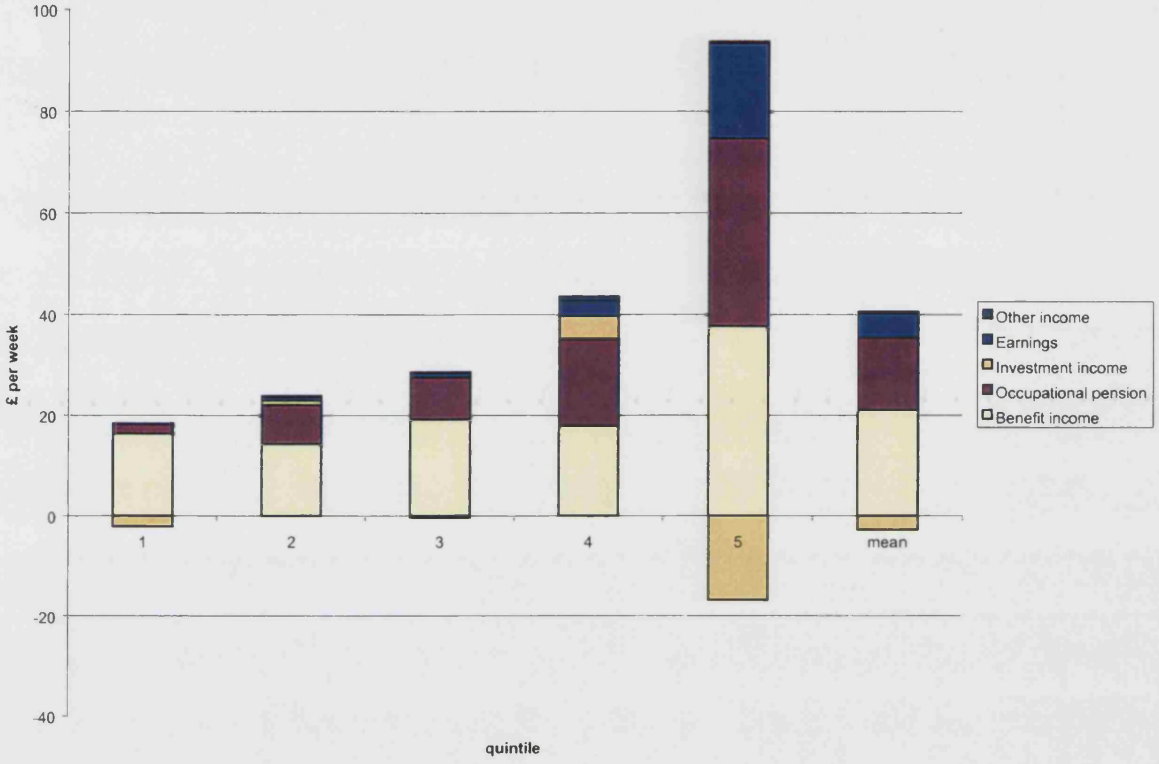
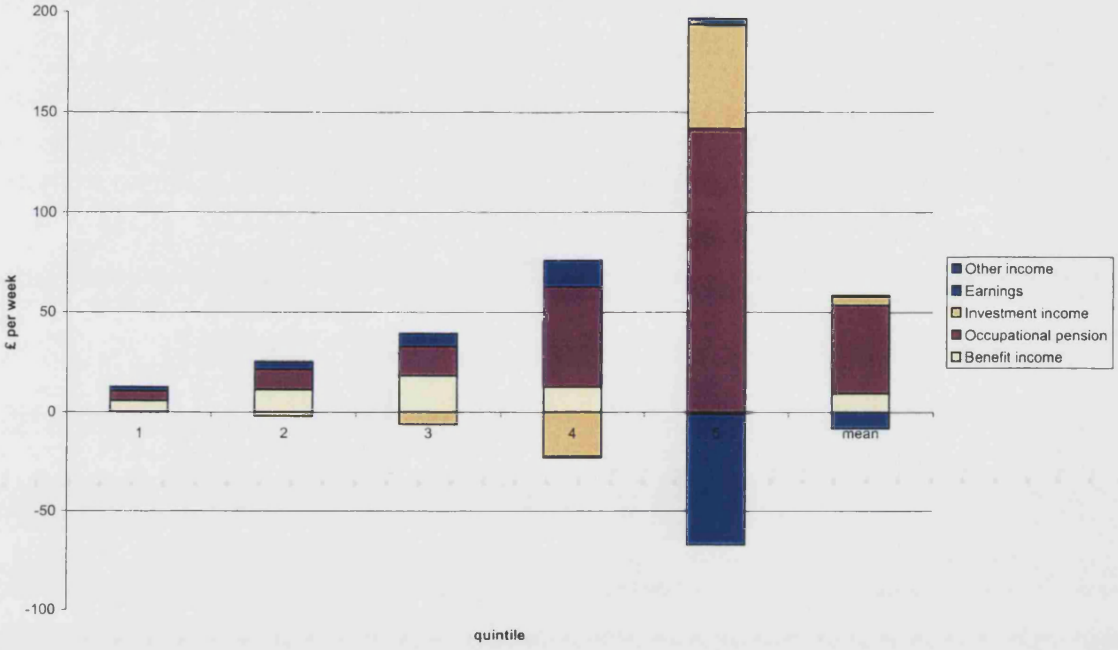


Figure 2.7 cont.

B: Couples



As can be seen, PENSIM underestimates pensioner incomes across the board – the PI series estimates are higher for all quintiles. However, probably more important is the fact that PENSIM's estimates are much worse for the top quintile (and to a lesser extent the fourth quintile) than for the rest of the income distribution. This in turn largely reflects the fact that the model's estimates for income from occupational pensions are too low (at least for 1997). Note, therefore, that though PENSIM underestimates mean pensioner income and pensioner inequality (see Table 2.7 below), it does so because it fails to assign enough income to the richest pensioners. In comparison errors in its projection for poorer pensioners, who derive most of their income from state benefits, are not too bad (though admittedly benefit income for single pensioners is too low).

In general this thesis has not been concerned with improving PENSIM (though some bugs in the computer code were corrected, see later), and similarly no attempt has been made analyse the cause of these errors in depth. However, it is possible to speculate about the factors that might be responsible. In terms of the discrepancy in the estimates for the top quintile, the fact that higher incomes are generally under-reported in survey data may be important. The PI series gets round this problem through using the Inland

Revenue's Survey of Personal Incomes to estimate incomes at the very top of the distribution (DSS, 1999c, p. 8). In contrast, PENSIM uses data taken directly from the Family Expenditure Survey (and other surveys) without any attempt to boost higher incomes. Hence it is perhaps not suprising that its estimates for the richest pensioners are below those in the PI series. More speculatively, the discrepancy in the estimates for benefit income going to single pensioners may be due to the fact that PENSIM does not include estimates for disability-related benefits.

The next type of validation exercise involved comparing PENSIM's estimates with administrative data on the characteristics of actual benefit claimants in 1997. Any number of different types of comparison would have been possible. However, given the importance of the model's estimate for Income Support it was decided to investigate this area in particular. Figure 2.8 therefore presents PENSIM's estimates for how the proportion of single pensioners claiming Income Support varies with age alongside estimates based on DSS administrative data (taken from DSS, 1997). Two lines are shown for PENSIM, one taken from the projection for 1997 and the other from the projection for 2066. Though the first of these is clearly more relevant to the comparison with administrative data, the latter estimate acts as a check on PENSIM's consistency over time.

Figure 2.8

Comparison with administrative data: percentage of single pensioners claiming Income Support by age

The Figure shows that PENSIM appears to be modelling the age of Income Support recipients reasonably well. The heavy tilt towards older age groups fits the administrative data quite closely, as well as according with what we know about income dynamics in retirement from other sources (such as, for instance, from Johnson, Stears and Webb 1998, p. 214). Moreover, the shape of PENSIM's estimate stays fairly constant over time (as does, in this case, the overall proportion of pensioners claiming Income Support; see Table 2.4). However, given what we know about the way PENSIM works, the fact that the modelled estimates turn out to be quite close to administrative records is more worrying. In particular, the omission of any modelling of disability status means that this route onto Income Support is closed-off (the existence of disability premia in means-tested benefits, and generally lower lifetime incomes, makes receipt of Income Support much more prevalent among disabled pensioners). Moreover, the model completely ignores older people in residential care and, as noted earlier, uses a take-up assumption (81%) that is rather higher than official estimates. In the light of this the good fit between PENSIM's estimates and the administrative data looks more like a product of good luck than of good model design.

A comparison of PENSIM's results and survey and administrative data from a number of sources is in Table 2.7. This gives some indication of the discrepancies in the various summary statistics used in Section 2.3 and in Chapter 3. In particular, the Table shows that PENSIM significantly over-estimates the proportion of single pensioners below the half-mean and half-median income HBAI poverty standards. This may be due to the fact that PENSIM's estimates exclude income from housing-related benefits. However, as shown in Figure 2.6, the projected income distribution for single pensioners is rather flat around the relevant income levels, and hence the number of single pensioners recorded as being 'in poverty' is sensitive to the precise poverty line chosen.

Table 2.7

Comparison with survey and administrative data: summary statistics

	Survey and admin. data 1997: Singles	***PENSIM 1997: Singles***	**Survey and admin. data 1997: Couples**	***PENSIM 1997: Couples***
90:10 ratio[i]	3.0	*2.5*	3.4	*3.0*
Gini coefficient[ii]	0.26	*0.24*	0.29	*0.28*
% below half mean income[iv]	24%	*47%*	22%	*27%*
% below half median income[iv]	14%	*21%*	9%	*9%*
% claiming Income Support[iii]	30%	*35%*	6%	*4%*
Mean net income (per week, 1999 earnings)[i]	£146	*£117*	£285	*£256*
Median net income (per week, 1999 earnings)[i]	£125	*£100*	£224	*£196*

Source of administrative estimates

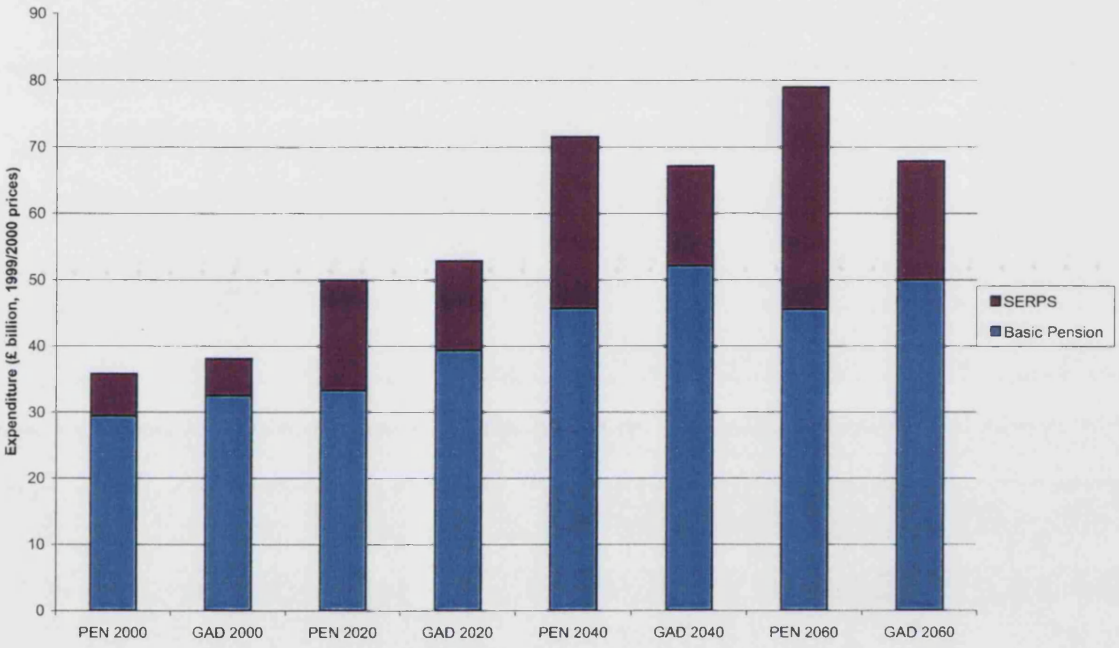
i. Pensioner Income Series 1997/8 (DSS, 1999c, Table 13).
ii. The Changing Welfare State: Pensioner Incomes (DSS, 2000a, p. 26).
iii. Income Support Quarterly Enquiry August 1997 (DSS, 1997, Table 2.1).
iv. Households Below Average Income 1998/9 (DSS, 2000b, Table F1 BHC).

The final validation exercise involved comparing PENSIM's output with Government Actuary projections for future expenditure on National Insurance benefits. As these projections end in 2060, and results are not published for 2025, the baseline projection was re-run for 2020, 2040 and 2060. Estimates were then grossed-up in proportion to the number of single and couple pensioners using Government Actuary population

projections. The results are set out in Figure 2.9, alongside the Government Actuary's projection for each year. To fit with the Government Actuary's method of presenting expenditure projections all estimates are in 1999/2000 prices.

Figure 2.9

Comparison with Government Actuary: future spending on National Insurance benefits (£ billion, 1999/2000 prices)



The Figure shows that PENSIM's estimates for future spending on National Insurance benefits are significantly different from the Government Actuary's. However, in the case of the basic pension differences in each year are fairly constant - though PENSIM consistently underestimates spending, the trend it indicates accords reasonably well with the Government Actuary. This is not surprising - the basic pension is gradually becoming more like a basic income-type benefit, the system of credits introduced in the 1970s ensuring that the vast majority of future retirees will be fully entitled (Johnson and Stears, 1996, pp. 109-111). Hence expenditure estimates depend largely on population projections.

More troubling is the estimate for spending on SERPS, where the trend shown by PENSIM is radically different from that estimated by the Government Actuary. The reasons for this discrepancy are difficult to divine, as spending on SERPS is affected

not only by the gross entitlements individuals build-up (which varies with their earnings history) but also the extent to which SERPS benefits are pre-funded through rebates. However, the long median number of years worked reported in Section 2.1 (38 years for heads of household and 36 for spouses) suggests that the former problem is important – PENSIM probably over-estimates the number of years people work and hence the gross SERPS entitlements they earn. Evidence from Chapter 3 also tends to confirm this: changes in the structure of SERPS have a large effect on income from private pension schemes, indicating that the level of contracted-out rebates in the model is substantial. The probability, therefore, is that PENSIM over-estimates the size of all second tier pension provision, i.e. gross as well as net SERPS entitlements are too large[73].

However, it should also be borne in mind that the Government Actuary's projections for spending on SERPS are themselves potentially quite inaccurate. They have certainly been subject to significant variations over the years. An example is in Table 2.8, which compares the Government Actuary's 1994 and 1999 estimates for spending on SERPS (see GAD, 1994, Table 1 and GAD, 1999, Table 15.1). As there were no changes in policy between these two projections (the 1994 projection anticipates the effect of the 1995 Pension Act) they should be identical, save for the difference between 1994/5 and 1999/2000 prices. This is clearly not the case. Although the short-term projections are similar, the 1999 estimates for 2040 and 2050 are half as large again as the 1994 estimates. Moreover, the trend is also different – rather than peaking in 2030, as under the 1994 projection, the 1999 estimates suggest that expenditure will continue to grow throughout the next century (reaching £17.9 billion in 2060, the last year of projection in 1999)[74]. The conclusion is that SERPS is a very difficult benefit to model, and while PENSIM's projections are markedly different from those of the Government Actuary it is much less clear that one is 'right' and the other 'wrong'.

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73 Recall that PENSIM assumes individuals will retire at state pension age, while in reality less than 60% of men aged 55-64 are currently in work (see Campbell, 1999, Table 3). This factor was highlighted by the Government Actuary (1999, p41) in explaining why actual SERPS awards for 1999/00 were around half the level which would be expected if everyone had full employment records.

74 Note that all estimates are in real price terms – the modest increases after 2030 which the Government Actuary now predicts still implies that SERPS expenditure will fall significantly as a proportion of GDP.

Table 2.8

Government Actuary projections of spending on SERPS: comparison of 1994 and 1999 estimates (£ billion, contemporaneous prices)

	2000	2010	2020	2030	2040	2050
1994 projection	4.2	8.4	10.9	12.0	10.2	9.9
1999 projection	5.0	9.8	12.5	14.8	14.9	15.7

2.5 Conclusion

There are a number of reasons why the estimates produced by PENSIM should be treated with considerable caution. Two problems common to all dynamic models - behavioural response and whether benefits-in-kind should be included – are discussed later. However, specific problems with PENSIM should first be mentioned.

One problem with the model is that, to say the least, it did not pass the validation exercises with flying colours. In particular, its estimates for pensioners at the top of the distribution are open to significant doubt. Moreover, as changes at the top can make a big difference to pensioners' mean (though not median) income, there are also wide margins of error attached to this summary statistic. Given the bunching of the income distribution for single pensioners, the sensitivity of the results to the poverty standard chosen should also be noted.

Second, there is the problem that it is not clear that PENSIM is working correctly technically. Although this thesis did not set out to improve the way the model works, a number of errors in the computer code ('bugs') were detected *en route.* These have all now been corrected by DSS computer programmers, and the results set out above and in the next chapter use this corrected version of the model. But nevertheless, the fact that any bugs were found at all should be of concern, as it suggests there may be some as-yet-undetected errors remaining[75]. As a cautionary tale, it is worth briefly describing

75 It is worth noting that one advantage of extending the model to 2066 was that it made the effect of bugs more obvious. Even in 2025 the majority of the model's projection is based on pension entitlements recorded in the original 1988 survey data, rather than on estimates produced internally by the model. Hence it is difficult to detect bugs in the pre-retirement modelling process 'by eye', as large changes in

the two most important bugs found during the preparation of this thesis. One of these (also recorded in paragraph 3.6 of Kumar and Ward, 1999) related to an error in the random numbers used in the model: rather than being random they were grouped around 0.97. The other was a simple error in the code determining whether individuals without occupational pensions were contracted-out into a personal pension: the probabilities read-in by the model (from user-defined spreadsheet files) were the wrong way round, so that individuals were allocated to personal pensions in inverse proportion to the intended split. As it happens neither bug made a significant difference to the overall results – mean pensioner income remained within 10% of the previous projection - but in itself this may be a cause for concern. The description of PENSIM as a 'black box' is only too accurate; though the model may **appear** to be working (e.g. the results presented in the next chapter accord with common-sense reasoning about the direction of effects associated with the various options analysed), it is difficult to be sure that it is bug-free.

Third, the fact that the model does not include behavioural response should again be noted. As discussed further in the next chapter, while this is probably the least-worst option, it means PENSIM does not capture the interaction between compulsory and voluntary provision and, in particular, ignores the incentive effects of means-tested benefits.

Finally, a fourth reason for being cautious in interpreting PENSIM's results is that the model's estimates are about income only – they do not show pensioners' well-being which, presumably, is the underlying subject of concern. Conceptual issues in the analysis of poverty and inequality are legion, and no attempt to cover the full range of issues is made here[76]. However, it is worth briefly highlighting the issue of whether benefits-in-kind should be included in the analysis.

There are a number of reasons for including benefits-in-kind in analyses of well-being, particularly when the focus of attention is older people. The first is that non-cash

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income would not be expected by 2025 in any event.

76 Comprehensive surveys of the issues involved in analysing poverty and inequality are in Amiel and Cowell (1999), Hills (1995, pp. 106-115) and Atkinson (1975, Ch. 3; 1987; 1998, Lecture 1).

benefits are a more important component of pensioners' incomes than is the case for the rest of the population (Sefton, 1997, Figure 2.5), hence ignoring such benefits gives a partial view of the income security 'package' provided by the welfare state[77]. The second reason for incorporating benefits-in-kind is that the value of state-provided health-care (on a per capita basis) is likely to rise in the future due to the effect of improved medical technology (and, possibly, health's status as a luxury good; see Section 4.4). Ignoring such benefits therefore disguises the growth of in-kind transfers, so that predicted falls in the amount pensioners receive in the form of benefits may be offset by increases in the support provided via the NHS. In other words, there may be a shift in the composition of state support – from cash to care - but not in its level[78]. Last, without the inclusion of such benefits the effect of some policy changes will be lost. For instance, suppose a government decided to 'nationalise' finance of long term care, so that it was provided free to anyone in need. This would clearly improve the well-being of people needing care and their partner/family (and, moreover, would probably also add to the general well-being of pensioners, in that fear of having to pay for long term care may have psychological costs). However, greater state funding of long term care would not affect their income, and hence would be excluded from income-based measures of pensioners' living standards. In a similar way, the government's recent announcement of free television licences for the over-75s will not affect income data, and hence official indicators of well-being.

In conclusion, in spite of all the caveats listed above, in the final analysis PENSIM (or rather, dynamic microsimulation) is the only way getting at certain issues, in particular the relationship between changes in the structure of second tier provision and means-tested benefit payments. Given this it is probably better than nothing - a rough idea of what the future might look like as better than no idea at all. It is worth again quoting

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77 This was the reason Whiteford and Kennedy's (1995, Ch. 5) comparative analysis of the living standards of older people included benefits-in-kind. They put the argument for taking into account services as well as cash as follows: *"Social policy outcomes should not be measured only in terms of the distribution of cash disposable incomes. Rather it is the level and distribution of the total package of resources available to groups such as older people which should be of concern"* (Whiteford and Kennedy, 1995, p98).

78 If it is assumed that health-care benefits completely cover need then inclusion of such benefits-in-kind will not affect well-being. However, if care only covers a proportion of need then changes in the value of health-care supplied will affect well-being (as well as the size of state transfers).

the Cabinet Office report on modelling in government (PIU, 2000, p. 38), which under 'strengths' commented that:

> *"PENSIM provides a consistent way of looking at information on future pension provision. It is a ground-breaking model which, despite its acknowledged limitations... has allowed policy to be based more firmly on analysis than was the case before its development".*

The limitations of the version of PENSIM used here are undoubtedly larger than apply to the version discussed by the Cabinet Office, as this thesis has attempted to project pension incomes through to 2066, forty years beyond the original projection period. Doubts about the reliability of PENSIM's projection to 2025 are therefore amplified. However, even if estimates of the distant future must by their very nature be rather uncertain, setting a shorter timescale simply ignores the way pensions work. Indeed, as shown by Hemming and Kay's (1982) study of the long term costs of SERPS, analyses of pensions which fail to look into the more distant future can be seriously misleading[79].

79 Hemming and Kay's *bete noir* in this respect were the projections produced by the Government Actuary for the 1975 SERPS legislation, which failed to look at expenditure in the period when the scheme would be fully mature and when baby-boom cohorts would be retiring.

3. Pensioner incomes under four 'ideal type' pension systems

This chapter uses PENSIM to look at the effect of a range of reform options on pensioner incomes. The reforms chosen are both archetypal, in that they illustrate each of the four 'ideal type' pension systems described in the introductory chapter, and specific, in that they are based on the UK and (in three of the four cases) on actual proposals (see Figure 1.7). Therefore, though the estimates presented below show the effect of proposals from the recent past, the lessons which can be learnt from each should be more widely applicable (see Figure 1.8). To the extent that future reform proposals slot into the categorisation used in this thesis, the broad direction of their effect on pensioner incomes can be deduced from the examples in this chapter.

The order of analysis in the chapter reflects the history of the UK pension system (as summarised in Figure 1.5. The middle four sections therefore look respectively at the targeting, basic income, social insurance and compulsory saving models for pension provision (or rather, at examples which are representative of each model), comparing the effect of each with the baseline projection described in the last chapter. These sections are then topped and tailed by an introductory section which examines problems in comparing policy options and a concluding section which compares the various reforms with each other. The effect of the State Second Pension is examined separately in Chapter 6 while the effect of each ideal type on the public finances (i.e. their cost) is analysed in Section 4.3.

3.1 Problems in comparing policy options

In looking at the effect of alternative policies it is clearly important to ensure that like is being compared with like, i.e. that the difference between two projections reflects explicit changes in policy rather than 'back-door' changes in assumptions. On one level this simply implies that the same labour market and macro-economic assumptions should be used in each case, and that the assumptions made are not biased in favour of particular kinds of policy. For instance, the assumed rate of investment growth should

be uniform throughout and based on non-partisan estimates (such as those produced by the Government Actuary). The set-up of PENSIM makes it easy to ensure that this is the case, and the analysis below follows these strictures. However, more difficult issues also arise in comparing policy options.

One problem is how the minimum income standard should be defined. The analysis in this chapter assumes that the minimum is the same in all options, and the current (post – 1998) policy of uprating Income Support with earnings is assumed throughout. The reasoning is that unless this objective is fixed at the outset comparisons between options will not be fair. In particular, if the minimum standard were allowed to vary between options PENSIM's estimate for the number of people receiving Income Support under the alternatives would be difficult to interpret, as it would reflect differences in the level of the minimum standard as well as differences in policy. By holding this part of the system constant in all four options their relative success in reducing Income Support payments can be meaningfully compared[80]. However, it should be noted that this also means policy towards Income Support is super-imposed on the examples looked at, i.e. earnings-uprating is assumed whether or not this formed part of the original proposals. This is particularly problematic for Section 3.5, which uses the Basic Pension Plus proposals outlined by the Conservative Party in the run-up to the 1997 general election (see Lilley, 1997) to illustrate the compulsory saving model for pension provision. As Conservative policy for their 17 years in office was to increase Income Support with prices (though in practice there was a small increase in its real value, see Section 5.3), the assumption here of earnings-uprating does not, in all probability, represent the true intentions of the proponents. Nevertheless, without this assumption it would not be possible to compare reliance on Income Support, and consistency between the options is the over-riding analytical concern.

A second problem relates to whether the analysis should take into account 'offset' between different forms of pension provision (i.e. how to include the 'income effect' resulting from changes in the level of state transfers). The effect of changes in first and second tier provision on voluntary (third-tier) provision is an important topic in pension

80 Given the emphasis on reducing means testing in pension reform in the UK (see Part B) it is particularly important that the projection for reliance on Income Support can be easily interpreted.

reform. Most notably in the US, there is an on-going debate among economists about the extent to which public pension systems reduce voluntary private saving and, in a slightly different way, whether moving towards the compulsory saving model would increase total national saving or merely alter its composition[81]. In terms of the macro-economic impact of pension reform this is clearly an important issue. However, it is also important in the context of estimating the effect of alternative polices on pensioner incomes. On the one hand, if individuals are perfectly rational and have perfect knowledge and foresight we would expect their behaviour to adapt to government policy, so that whatever happens they achieve their target retirement income. In this instance, therefore, changes in government policy make no difference to gross pensioner incomes - their only effect is on the composition of the total (more from second tier sources and less from the third tier)[82]. At the other extreme, analysis might assume that people go on saving the same amount whatever the policy regime in place, so that changes in second tier provision feed through to pensioner incomes on a one-to-one basis.

It is this latter assumption which has been adopted here, i.e. it is assumed that there is zero offset between compulsory and voluntary saving. In this respect, therefore, the comparisons provided below over-estimate the extent to which the different polices will affect pensioner incomes; in reality people will (to some extent) adjust to a new policy regime through changing the amount they save voluntarily. However this assumption has the analytical advantage that the changes in income shown in Sections 3.2 – 3.5 all reflect variations in the level and distribution of publicly-financed (though not necessarily publicly-provided) pension benefits. Moreover, it is worth appreciating the problems involved in including offset within PENSIM (and hence why the simpler solution of assuming no offset was used here). One problem is that, though it would be

81 For an account of the arguments in this debate and a survey and interpretation of the various studies which have looked at the extent of offset see Gale (1998, pp. 719-721). Section 4.5 also discusses this issue.

82 This position in fact involves a rather restrictive set of assumptions. In order for there to be no change whatsoever in total pension incomes then not only must individuals be perfectly rational and forward looking, but:

a) the different tiers of pension provision must be perfect substitutes (e.g. individuals must perceive state-provided second tier benefits as being the same as private third tier benefits), and
b) the reform must have no effect on individuals' lifetime budget constraints, or
c) there must be 'Ricardian equivalence' i.e. inter-generational (inter-familial) transfers must fully compensate for public transfers between generations.

relatively easy to change voluntary saving rates 'by eye' through over-writing existing assumptions, it would not be possible at present to make cohort-specific adjustments in the model[83]. In a similar vein, if a reform affects some individuals more than others (e.g. high earners more than low earners) then income-specific adjustments would be needed and, again, this is not possible in the current version of PENSIM. Finally, and most importantly, even if PENSIM did model savings behaviour in a more sophisticated way it is not clear precisely how much offset should be assumed. Until there are better estimates of the importance of offset it makes most sense to exclude it from the model - assuming 'no change' is the safest option[84].

Finally there is the vexed issue of whether analysis should include allowance for the incentive effects of policy (i.e. the 'substitution effect' resulting from changes in the marginal return to saving). This issue has been discussed extensively in relation to static microsimulation models, where the effect of changes in marginal tax rates on labour supply is a particular focus for attention[85]. In the case of dynamic microsimulation the importance of incentive effects is, if anything, even more important. Unlike the 'before' and 'after' snapshots presented by static models, the whole point of dynamic modelling is that it looks at the effect of policies over entire lifetimes. Hence there is ample time for people to respond to the incentives created by policy, and it cannot be argued that the model is only intended to capture the 'morning after' effects of policy change (as can reasonably be argued for static microsimulation).

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83 PENSIM does not model voluntary saving behaviour as such. Rather, third tier provision is allocated according to the type of pension scheme an individual is a member of, which in turn is mostly determined by their occupational status. To over-simplify, PENSIM's assumptions about saving behaviour result in most members of SERPS or personal pension schemes making low or no voluntary pension contributions (with additional savings being allocated randomly), while members of occupational schemes are assumed to build up quite large non-statutory entitlements, reflecting the fact that the majority of such schemes provide a generous pension of two-thirds final salary.

84 Despite the fact that the UK offers a number of 'natural experiments', with the level of second tier pension provision fluctuating considerably from zero prior to 1961 to a substantial and comprehensive second tier in 1978 (subsequently cut-back), as yet there has been no analysis of whether contributions to different types of pension responded in any systematic way.

85 At present none of the UK's static microsimulation models – POLIMOD (the Cambridge University model), TAXBEN (the IFS model), IGOTM (the central government model) and PSM (the DSS model) - incorporate incentive effects directly within their analysis. However, attempts have been made to link TAXBEN to a labour market simulation model (see, for example, Bingley and Walker, 1996 or Gregg, Johnson and Reed, 1999), and models have been developed in other countries which explicitly include behavioural change within their analysis (see, for example, Gardes, Lhommeau and Starzec, 1998). The merits and demerits of introducing incentive effects into static microsimulation are discussed by Hancock and Sutherland (1992, pp. 188-190) and by Redmond, Sutherland and Wilson (1998, pp. 7-9).

However, as with the 'offset' problem discussed above, there are major difficulties in incorporating incentive effects into the modelling process. For one it is technically impossible within the current structure of the model, and attempting to incorporate such effects into PENSIM would have been too large a task for this thesis. But perhaps more importantly, there are no reliable estimates of how voluntary saving is affected by different incentive structures, and hence again assuming 'no change' is probably the safest option.

Most notably, the fact that the model ignores incentives means it makes no allowance for the effect of means testing on saving behaviour. In this respect it therefore under-estimates the extent to which alternative policies affect pensioner incomes. As is discussed extensively in Parts B and C, means testing inevitably creates a problem of 'moral hazard' – it provides an incentive for people to consume more during their working lives (or to save via owner-occupied housing rather than pensions) in order to maximise state income in retirement. It is therefore likely to cause a substantial fall in voluntary pension saving, as individuals who expect to have a retirement income close to or below the level of Income Support have little or no incentive to save. However, PENSIM does not capture this effect and hence under-estimates the (downward) effect of means testing on pensioner incomes (and, equivalently, under-estimates the extent to which receipt of Income Support will rise).

Arguably this problem already invalidates the estimates presented in the last chapter of the effects of baseline policy. As set out in Section 2.2, the baseline projection is based on the assumption that the basic pension and Income Support will be uprated at different rates, causing the gap between the two to steadily widen. This means saving disincentives are likely to grow in the future. However, the importance of such incentive effect should not be exaggerated, and in reality there are a number of reasons why behaviour may not alter too greatly in response to increased means-testing (or will only change after a long time-lag):

- people may disregard, or lack information on, how the benefits system works[86], or may systematically over-estimate their pension rights (and hence ignore means tested benefits when they might in fact be relevant);
- couples (who are much less likely to have an income below the level of the means test; see Table 2.5) may not consider the position of dependants after widow(er)hood and their potential eligibility for means-tested benefits;
- more generally individuals may be myopic, and hence ignore the fact that they might qualify for additional benefits in the later stages of their retirement (recall the tilt towards older pensioners in the pattern for Income Support receipt shown in Figure 2.7);
- workers may be unable to adjust the amount they save voluntarily if this operates on a collective basis (as is the case with occupational pensions);
- the existence of pension tax reliefs may create counter-incentives which favour pension saving[87].

In conclusion, PENSIM cannot model incentive effects and hence misses out a potentially important influence on incomes in retirement. However, there are few reliable estimates of the extent to which real-world saving behaviour responds to incentives, and there are good reasons for expecting the response to vary with an individual's circumstances[88]. It is therefore very difficult to know the magnitude of incentive effects, and hence how wrong the baseline is. As Hancock and Sutherland

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86 In fact there may be an agency relationship in voluntary pension provision, with individuals relying on financial advisers to guide them in their choices. Hence it may be advisers' knowledge of the benefits system which is crucial, in which case there is less (but not no) chance that lack of information will be a problem. The guidance from the Financial Services Authority quoted in Section 8.5 suggests that the importance of the benefits system is at least recognised by the regulator.

87 The incentive effects of pension tax reliefs on voluntary saving is a topic in its own right, and has been analysed extensively (for example in the UK by Dilnot and Johnson, 1993, pp. 20-22; and by Hills, 1984, Ch. 4; and in the US by Wise, 1987, Section 1.1; Auerbach, 1996, pp. 51-61; and Engen and Gale, 1996, pp. 104-108). There is not space here to do justice to the various theoretical and empirical issues raised, but the conclusion of the most recent OECD review of the evidence is worth quoting in full: *"to summarise, econometric studies using large micro-data sets on individual households find strong evidence that marginal tax rates affect the decision to hold certain assets and liabilities... Governments are therefore likely to be able to influence the composition of household saving by choice of tax policy, even if there is no clear evidence (which there is not from these studies) that the overall level of saving will be affected"* [OECD (1994), p62].

88 Any attempt to incorporate incentive effects into dynamic microsimulation would therefore have to be very sophisticated, taking into account numerous factors which are likely to affect how individuals respond to means testing. Such a model is not in prospect.

(1992, p. 189) conclude in the case of static models, assuming no behavioural response is probably the safest option. Nevertheless, the problem of incentives should be borne in mind, particularly in the next section which looks at a policy of deliberately increasing the role of means-tested benefits.

3.2 Targeting: A rapid transition to a 'minimum income guarantee'

The first model looked at is targeting - a policy of relying on means-tested benefits to achieve a minimum retirement income. This was the strategy adopted in 1908 when state pension provision was first introduced in the UK, with benefits under Asquith's scheme being limited to people over the age of 70 with incomes below a minimum level (see Section 5.1). The equivalent form of provision today is the 'minimum income guarantee', the government's term for the means-tested assistance provided to pensioners through Income Support[89]. However, while in 1908 such benefits were the only form of state support for pensioners, the development of first and second tier provision since then means Income Support now co-exists with the basic pension, SERPS and contracted-out rebates. Hence though the current policy regime contains an element of targeting, this is far less than would be the case if these other forms of provision were abolished or reduced.

This section looks at the effect of deliberately placing more weight on means-tested benefits through gradually phasing-out the basic pension. As set out in Section 1A.1, because earnings grow faster than prices (by 1.5% a year on average according to the Government Actuary), the current policy of uprating the basic pension with prices but uprating Income Support with earnings means that something similar to this is already taking place. The level of the basic pension is steadily falling relative to earnings, so that eventually its value will be 'nugatory' (as Michael Portillo once famously put it). Even so, as shown in Figures 2.3 and 2.4 earlier, increases in other sources of income mean that the growing gap between the basic pension and the minimum income is not projected to result in dramatically increased receipt of Income Support, at least over

89 For clarity, this thesis generally refers to Income Support rather than the minimum income guarantee. Their meanings are identical (for pensioners).

PENSIM's projection period. Indeed, Income Support's contribution to pensioners' incomes in 2025 is predicted to be lower than in 1997, and even in 2066 PENSIM's projection suggests that average payments will be only marginally higher than today (averaging between couples and singles). If the baseline assumptions were used to represent a policy of targeting the (rather counter-intuitive) conclusion that getting rid of the basic pension would not increase means-testing could easily be drawn.

However, the important point about the baseline results is that Income Support payments are on an upward trend at the end of the projection period, suggesting that if the period of analysis were extended even further into the future there would be more substantial rises (as the relative value of the basic pension grew ever smaller). Any conclusion drawn from the baseline results about the long-run impact of targeting must therefore be tentative. Accordingly, this section attempts to get closer to this final position by looking at a more radical move in the direction of targeting. Rather than the basic pension being slowly phased-out through the policy of price-uprating, as under the baseline, the targeting policy looked at here assumes that its nominal (i.e. cash) value is frozen, so that the level of benefit provided falls in real terms as well as in relation to earnings[90]. In effect, therefore, this anticipates the eventual position under current policies through speeding up the basic pension's demise, its value declining to less than 0.5% of average earnings by 2066 under this policy (assuming inflation averages 3.8% p.a., see Section 2.1), compared to around 6% in the baseline. As such the results here may give a better idea of the effect of current policies in the very long term.

Results for the level and composition of mean pensioner incomes under this policy are given in Table 3.1. For convenience the Table misses out earned (and other) income and investment income – income from these sources does not alter under any of the options looked at, and hence they do not need to be listed. Income from both sources is, though, included in the total income estimates. Note also that results for SERPS, occupational and personal pension schemes are reported here even though there is no

90 Note that although the level of the basic pension is frozen in this option, no change to the National Insurance earnings limits is assumed i.e. they remain linked to prices. Implicitly, therefore, the analysis assumes that the current link between the basic pension and the earnings limits is broken (see also Section 2.2).

change under this policy option; the effect of changes in second tier provision are explored in Sections 3.4. and 3.5, and for greater comparability the same format for results is used throughout this chapter. Results are only shown for 2066, the final year of PENSIM's expected projection; though it would be possible to provide results for other years, focusing on the final year is as close as it is possible to get to looking at the full post-reform effects of policy. As with all the other policy options looked at, it is assumed that reform takes place in the year 2000 and that pension rights accumulated prior to this date are unaffected.

Table 3.1

Effect of targeting on mean pensioner incomes in 2066

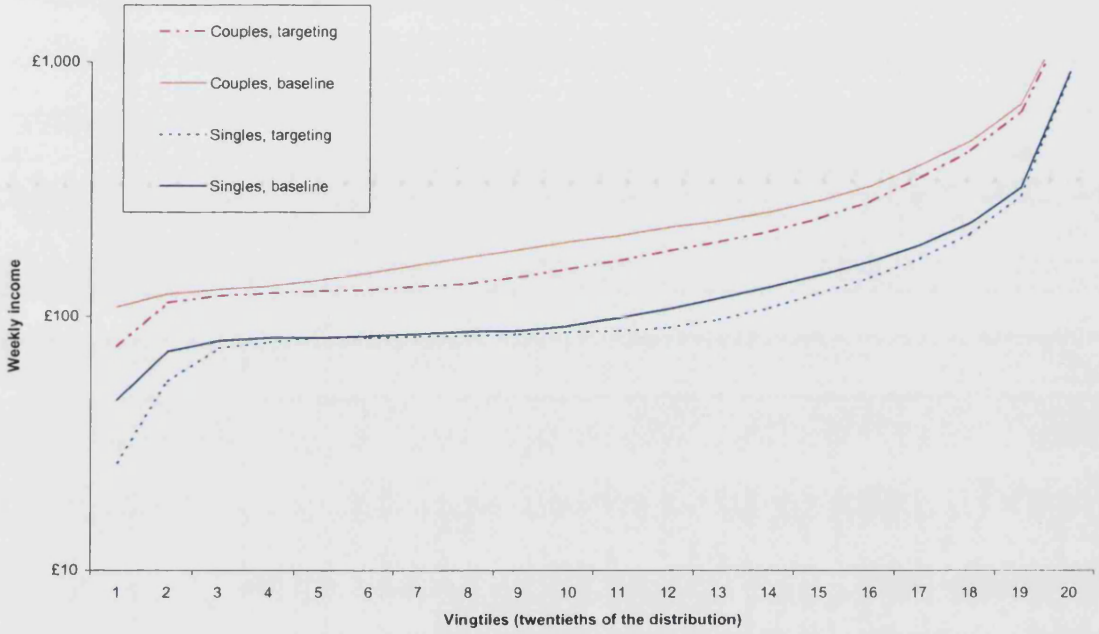
(£ per week, 1999 earnings terms)

	Mean weekly income: singles	Mean weekly income: couples	*Change from baseline: singles*	*Change from baseline: couples*
Income Support	17.7	11.8	*8.3*	*8.7*
Basic state pension	1.9	3.7	*-21.4*	*-41.7*
SERPS	19.2	36.7	*0.0*	*0.0*
Personal pensions	14.3	25.8	*0.0*	*0.0*
Occupational pensions	58.0	97.2	*0.0*	*0.0*
Total (inc. earnings and investment income)	148.0	277.1	*-13.1*	*-33.0*

As can be seen, the policy of holding the level of the basic pension fixed in nominal terms results in a substantial rise in Income Support payments relative to the baseline, with average receipt almost doubling among single pensioners and almost trebling among couples (the proportion of pensioners claiming Income Support is in Table 3.2). Even so, the reduction in the value of the basic pension means that total incomes fall considerably under this policy. Couples in particular will be worse-off; this reflects the fact that far fewer of them become eligible for Income Support (or increase their entitlement) and hence there is less of a compensating increase in means-tested payments. But even for single pensioners the rise in Income Support is considerably less than the fall in the basic pension; averaging between single and couple pensioners the increase in Income Support is around a quarter the decrease in the basic pension.

The distributional effect of the policy is illustrated in Figure 3.1, which shows the gross incomes in 2066 of single and couple pensioners under targeting and under baseline policy (so that the two distributions may be compared more easily). As with Figure 2.6 earlier a logarithmic scale is used to emphasise differences at the bottom end.

Figure 3.1
Distribution of pensioner incomes in 2066 under targeting
(1999 earnings terms, log scale)



The Figure shows that targeting will have somewhat unusual effects on the pensioner income distribution. It is easiest to discuss these effects by focussing solely on single pensioners. For the very poorest single pensioners (vingtiles 1-3) the policy results in substantial falls in income; as discussed in Section 2.3, the very low incomes estimated at the bottom of distribution are accounted for largely by incomplete take-up of Income Support, and the (practical) abolition of the basic pension under this policy option means that pensioners who fail to claim means-tested benefits now have further to fall. In contrast, targeting will have very little effect on the incomes of the next portion of the distribution (vingtiles 4-10), where the situation is very similar to baseline policy. These are single pensioners who were already eligible for and claiming Income Support under baseline policy, and hence who are unaffected by the reduced value of the basic pension (the only change being in the composition of their income). However, above

vingtile 11 individuals remain ineligible for Income Support, and hence the virtual abolition of the basic pension results in falls in their gross income. Because the loss is the same for all pensioners in absolute terms (practically everyone having full entitlement to the basic pension), proportionately losses are smaller at the top of the distribution. The pattern for couples is essentially the same, though the fact that reliance on Income Support was smaller under baseline policy means that the unchanged portion of the income distribution is narrower (vingtiles 2-4).

A number of summary statistics are presented in Table 3.2; for ease of comparison the difference with the summary estimates under baseline policy (Table 2.6) are in the last two columns. As can be seen, targeting significantly alters both the distribution and average level of pensioner incomes. Bearing in mind the fact that the analysis excludes any behavioural response to policy change, and hence probably under-estimates receipt of Income Support (see section 3.1), the main points arising from the Table are:

- mean and median income is projected to be lower than under baseline policy, particularly for couples;
- inequality is projected to be higher; very slightly so on the basis of the 90:10 ratio but by rather more if the Gini coefficient is used as a measure;
- the number of people claiming Income Support is projected to rise substantially, though remaining below 50% even in the case of single households;
- as measured by both the half mean and half median income standards, pensioner poverty is projected to rise.

Table 3.2

Summary statistics on income distribution in 2066 under targeting

	Singles	Couples	*Change from baseline: singles*	*Change from baseline: couples*
90:10 ratio	3.4	4.0	*+0.2*	*0.0*
Gini coefficient	0.37	0.38	*+0.02*	*+0.03*
% below half mean income	65%	55%	*+11%*	*+18%*
% below half median income	21%	37%	*+7%*	*+17%*
% claiming Income Support	44%	28%	*+10%*	*+15%*
Mean net income (per week, 1999 earnings)	£134	£242	*-£11*	*-£30*
Median net income (per week, 1999 earnings)	£91	£157	*-£6*	*-£40*

3.3 Basic Income: a Citizen's Pension

The targeting strategy discussed above can be contrasted with the basic income model for pension provision. This 'ideal type' moves in the opposite direction to targeting, strengthening flat-rate first tier provision in order to reduce (or eradicate) the need for means–tested benefits. Though there are currently considerable gaps in the coverage of the basic pension (see Section 1A.1), in the future this benefit will conform reasonably closely to a basic income as eligibility will approach 100% (Johnson and Stears, 1996)[91]. One way of thinking about the basic income model is therefore simply to equate it with linking the value of the basic pension to earnings. If the contribution side of National Insurance is ignored, which was wholly flat-rate until the late 1950s and mostly flat-rate for the following 15 years, this is more-or-less the policy operated in the UK between 1925 and 1975.

91 Johnson and Stear's conclusion is challenged by the fact that eligibility to the full basic pension among men has declined slightly in recent years. However, though the Government Actuary predicts that the mean basic pension award to men will fall from 98.5 % to 96.5% of the full rate, the predicted increase in awards to women, with the mean payment rising from 69% to 89% of the full rate, is the more important factor (see GAD, 1999, pp88/9).

Basic income-type policies have been advocated by a wide variety of authors, including Parker (1989, pp. 121-124, and 1996), Salter (1997, p. 10), Vinson (1998), Birch *et al* (1999, pp. 50-51) and Jordan *et al* (2000, pp. 83-89). The specific policy looked at here is the 'Citizen's Pension' proposal put forward by Sutherland (1998). She investigates a number of possible schemes: one variant ('An Adequate Citizen's Pension') envisages an immediate increase in the level of the basic pension to £90 a week, while another (an 'Age-Related Citizen's Pension') increases the basic pension to the level of Income Support (the immediate effects of which are analysed using POLIMOD in Section 8.4). However, the analysis here is confined to the least generous of Sutherland's options - a 'Minimal Citizen's Pension'. Under this variant the current value of the basic pension remains unchanged, i.e. the scheme does not attempt to close the existing gap between the level of the basic pension and Income Support (which in 1999 was about £10 a week at age 65, for a single person with full entitlement)[92]. It does though stop this gap from growing over time through linking the value of the basic pension to earnings (so that it increases at the same rate as Income Support). Moreover, it also eliminates the residual problem that, even in 2066, some people will not qualify for the basic pension in full. Rather than benefits being conditioned on individuals' National Insurance record (and hence to a certain extent on their employment history), under the basic income model entitlement is based solely on citizenship (or residence). Though Sutherland envisages that this move to full entitlement takes place immediately, in the analysis below the citizenship principle is introduced slowly through providing comprehensive credits for all future years.

The effects of this policy are outlined in Tables 3.3 and 3.4 and Figure 3.2. However, before this it is worth emphasising the fact that the analysis assumes second tier provision will be unchanged from the baseline. As argued in Jordan *et al* (2000, pp. 87-89), the move to a basic income system could in fact be accompanied by the abandonment of compulsory earnings-related provision, so that above the minimum provided by the basic pension individuals were free to decide for themselves how much to save for retirement. As well as the liberal arguments for this stance (as outlined by Beveridge, 1942), phasing-out second tier provision also offers an attractive source of

92 Note also that the scheme makes no attempt to alter the structure of the basic pension to reflect the

funds for meeting the substantial cost of increasing the basic pension with earnings. Indeed, depending on the precise nature of the scheme (a household basic income being considerably cheaper than the individualised scheme looked at here), such a policy might be self-financing as a package (see Section 8.5). Even so, this possibility is ignored – for greater comparability with the other options (and in accordance with Sutherland) second tier provision is left unchanged.

Table 3.3 provides PENSIM's estimates for the level and composition of mean pensioner incomes in 2066 under a basic income (in the same way as Table 3.1 earlier, earned/other income and investment income are only shown in the total income row). The Table shows that the basic income policy is projected to result in mean pensioner income rising substantially, though the increase is rather larger for couples than for singles. There are two reasons for this. First is the fact that widow(er)s inherit their spouses' entitlement to the basic pension (if it is higher than their entitlement), causing the problem of partial eligibility to be more prevalent amongst women in couples. Hence couples gain more from the move to a citizenship basis for eligibility. The second and more important reason for the relatively lower gain enjoyed by single households is the fact that they have higher eligibility for Income Support under baseline policy, and hence more of the additional income from the increased value of the basic pension is 'clawed back' through reductions in Income Support.

Table 3.3

Effect of a basic income on mean pensioner incomes in 2066 (£ per week, 1999 earnings terms)

	Mean weekly income: singles	Mean weekly income: couples	*Change from baseline: singles*	*Change from baseline: couples*
Income Support	0.4	0.0	*-9.0*	*-3.1*
Basic state pension	66.7	132.2	*43.4*	*86.9*
SERPS	19.2	36.7	*0.0*	*0.0*
Personal pensions	14.3	25.8	*0.0*	*0.0*
Occupational pensions	58.0	97.2	*0.0*	*0.0*
Total (inc. earnings and investment income)	195.5	393.8	*34.4*	*83.8*

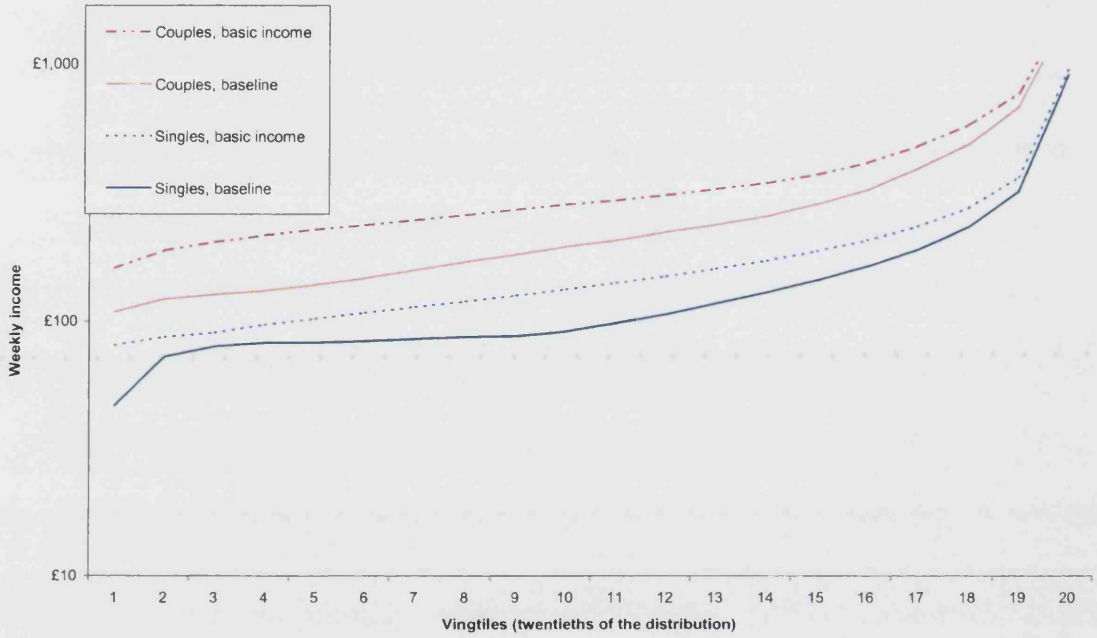
age increments in Income Support, e.g. the 25p increase at age 80 is not assumed to increase.

The distributional effect of the policy is illustrated in Figure 3.2, which shows the gross incomes in 2066 of single and couple pensioners under a basic income and under baseline policy. It reiterates the importance of the interaction between Income Support and the basic pension. For couples the policy results in all households receiving roughly the same absolute increase in income, so that proportionately those at the bottom of the income distribution do best while the increase at the top of the distribution is negligible. In contrast, for single households the gainers divide into two groups. The first group are those pensioners who fail to take-up their Income Support entitlement, or who are disqualified on asset grounds, where a basic income results in very large gains. The second group are those further up the income distribution who failed to qualify for Income Support under the baseline projection, and hence who similarly enjoy the full gain from the increase in the basic pension. In between these two groups are pensioners receiving Income Support under baseline policy, where increases in the basic pension are to a greater-or-lesser extent offset by reduced income from means-tested benefits. This effect is at its most acute for vingtiles 3 and 4, but more generally it accounts for the fact that the difference between a basic income and baseline policy widens between vingtiles 4 and 10 of the single pensioner distribution but narrows throughout the distribution for couples (remembering that the Figure uses a log scale on the vertical axis).

Figure 3.2

Distribution of pensioner incomes in 2066 under basic income

(1999 earnings terms, log scale)



Summary statistics on the effects of a basic income are presented in Table 3.4. It shows that under this policy:

- mean and median income is projected to be substantially higher, particularly for couples;
- reliance on Income Support is projected to be more-or-less eliminated;
- poverty is projected to fall dramatically, though a fifth of single pensioners are projected to remain below the half-mean income standard;
- inequality is projected to fall, particularly amongst couple pensioners.

Table 3.4

Summary statistics on income distribution in 2066 under basic income

	Singles	Couples	*Change from baseline: singles*	*Change from baseline: couples*
90:10 ratio	3.0	2.9	*-0.2*	*-1.1*
Gini coefficient	0.31	0.28	*-0.04*	*-0.08*
% below half mean income	22%	2%	*-32%*	*-35%*
% below half median income	1%	1%	*-13%*	*-19%*
% claiming Income Support	6%	0%	*-29%*	*-13%*
Mean net income (per week, 1999 earnings)	£175	£348	*+£30*	*+£76*
Median net income (per week, 1999 earnings)	£135	£277	*+£38*	*+£80*

3.4 Social Insurance: restoring the 1975 SERPS legislation

The next 'ideal type' is (earnings-related) social insurance. This model for pension provision was introduced in the UK in 1975 with the passage of the legislation establishing SERPS (prior to this date National Insurance benefits were flat-rate, excepting the minor additional benefits provided by the graduated pension scheme; see section 1A.2 and 5.2). However, large changes were made to the scheme during the 1979-1997 Conservative administration, reducing the benefits it provided and shifting provision towards the private sector (through introducing the facility to contract-out into personal pension schemes). As such, the SERPS scheme currently in operation is a scaled-down and partially-privatised version of its former self. Accordingly, this section looks at the effect of returning SERPS to its original incarnation. With minor variations this is the strategy put forward by Townsend and Walker (1995, pp. 20-25), Lynes (1996, pp.28-30), Davies (1993, pp. 86-88) and many others.

On its own modelling the effect of restoring SERPS would not, however, be sufficient to capture the full intent of the 1975 legislation. The then Labour government saw the

new scheme as part of a package, of which a central element was a commitment to increasing the basic pension with earnings (see Section 5.2)[93]. It was never intended that the benefits provided by SERPS would operate in conjunction with a price-linked basic pension as is currently the case. As well as restoring SERPS to its original formulation the analysis below also links the value of the basic pension to earnings (as in the last section, though with no move to full eligibility).

Modelling the effects of the original SERPS scheme is no easy matter. In particular, as PENSIM was constructed after the 1986 Pension Act was passed, there is no facility within the model for capturing the effect of the 20 best years formula contained in the 1975 legislation (see Section 1A.2). However, it is possible to mimic the effect of this simply through raising the accrual rate – though these provisions were intended to assist people with intermittent employment histories (mostly women), it is just as likely that higher earners with steeper earning trajectories over their careers would have benefited. The Government Actuary (1982, pp 36-37) estimated that the effect of the 20 best years rule would be to increase the average SERPS entitlement of men by 35% and of women by 65%. Hence rather than increasing the SERPS accrual rate from 20% to 25% (its 'headline' rate under the 1975 legislation), the original scheme was modelled through continuing to calculate benefits on the basis of average lifetime earnings but using an accrual rate of 35%. Note therefore that this assumption is on the low side – it assumes that the majority of SERPS benefits go to men and hence that the effect of the 20 best years formula is to increase benefits by 40% on average (25% x 1.4 = 35%). Other changes to SERPS' benefit formula are, however, not included[94].

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93 In fact the policy which the 1974-79 government eventually adopted, after the passing of the 'Rooker-Wise' amendment, was to uprate benefits in line with the higher of earnings or prices. However, though the macro-economic assumptions used in PENSIM mimic the business cycle through varying the rate of inflation (see Section 2.1), at no point do earnings grow slower than prices. Hence there is no way of modelling the effect of the 'higher of earnings or prices' formula. Moreover, it is unlikely that this formula would have been sustainable due to its (upward) ratchet effect on the value of benefits, and at some point a move to an alternative formula was in any case likely (see Bradshaw and Lynes, 1995, pp. 37-51, for a discussion of some possibilities).

94 Note in particular that provision for widows is unchanged from the baseline where, in accordance with the Conservatives' 1986 legislation, entitlement to a spouse's additional pension is halved from April 2000. Though the timing of the reform has since been altered, with introduction now expected in October 2002 (see DSS, 2000c, p2), the reform essentially remains in place and the computer code underlying the model has not been altered to reflect this small delay. No attempt has been made to change the code to look at the effect of returning to the level of generosity originally envisaged.

An additional change to SERPS was also made. Though the 1975 legislation included contracting-out this was restricted to defined-benefit occupational schemes (which could match SERPS' promise of guaranteed benefits). The analysis therefore assumes that under this reform contracting-out into personal pensions is abolished and, in consequence, the number of people contracted-in to SERPS rises.

Finally the earning limits need to be considered. Under the 1975 legislation the level of basic pension and the National Insurance earning limits were linked (see Section 1A.2), hence the change in policy to earnings-uprating the basic pension should mean the contribution limits also rising at this rate. But in the analysis in Sections 3.2 and 3.3 it was assumed that the earning limits were not affected by changes in the uprating basis for the basic pension. The main estimates of the effect of social insurance in Table 3.5 follow this convention. However, some proposals based on the social insurance model, e.g. the plan put forward by Lynes (1996, p. 19), explicitly envisage the LEL and UEL also being re-linked to earnings (indeed Lynes suggests that the UEL should be returned to its 1975 level of 150% of average earnings). So that the effect of the full earnings-link could be examined the policy was therefore run again with all parts of the National Insurance system rising with earnings. Results for this variant are in Table 3.6

Table 3.5

Effect of social insurance on mean pensioner incomes in 2066 (£ per week, 1999 earnings terms)

	Mean weekly income: singles	Mean weekly income: couples	*Change from baseline: singles*	*Change from baseline: couples*
Income Support	1.3	0.1	*-8.1*	*-3.0*
Basic state pension	63.2	123.7	*39.9*	*78.3*
SERPS	34.2	72.5	*15.0*	*35.8*
Personal pensions	8.0	13.7	*-6.3*	*-12.0*
Occupational pensions	76.8	127.8	*18.8*	*30.6*
Total (inc. earnings and investment income)	220.4	439.7	*59.3*	*129.7*

Table 3.6

Effect of social insurance plus earnings-linked LEL and UEL on mean pensioner incomes in 2066 (£ per week, 1999 earnings terms)

	Mean weekly income: singles	Mean weekly income: couples	*Change from price-linked UEL and LEL: singles*	*Change from price-linked UEL and LEL: couples*
Income Support	1.7	0.1	*0.4*	*0.0*
Basic state pension	62.1	120.9	*-1.1*	*-2.8*
SERPS	33.3	70.5	*-0.9*	*-2.0*
Personal pensions	8.0	13.7	*0.0*	*0.0*
Occupational pensions	92.2	150.1	*15.4*	*22.2*
Total (inc. earnings and investment income)	234.3	457.2	*13.9*	*17.5*

The Tables show that the effect of social insurance on first tier provision is similar to the basic income model looked at in the last section – income from the basic pension goes up (but not by quite as much as there is no increase in eligibility) and there is a compensating reduction in Income Support (though again not by quite as much in this case). It is also worth noting that when the full earnings-link is modelled (i.e. when the LEL and UEL are also linked to earnings) income from the basic pension is one step lower again, and the compensating reduction in Income Support is similarly slightly smaller. This reflects the effect of the qualifying conditions for the basic pension - people who do not qualify for credits but are earning less than the LEL miss out on entitlement.

The changes in income from SERPS, occupational and personal pensions shown in the Tables demonstrate how the split between public and private provision works in a rather different way under social insurance. Income from personal pensions declines dramatically, not only because contracted-out rebates are no longer paid into such schemes but also because it is impossible to model an increase in the number of people opted-in to SERPS without also assuming that these individuals give up their personal pensions[95]. However, this does not mean that overall income from private pensions

95 The reduction in income from personal pensions therefore reflects an implied fall in voluntary third-tier provision. It is impossible to know whether, in reality, individuals would continue contributing to personal pensions if they were no longer contracted-out.

falls, as the decline in personal pensions is more than outweighed by the growth in occupational pension income (reflecting the higher rebates individuals in these schemes now receive). Note also that occupational pension income goes up considerably when the earning limits rise with earnings (Table 3.6), reflecting the fact that most people with above average earnings are in such schemes.

The distributional effect of social insurance (with no change in the earning limits) is shown in Figure 3.3. The picture it presents is also similar to that described in the last section for a basic income (see Figure 3.5 later). The main difference is at the top of the income distribution, where the effects of the increase in second tier provision can be seen most clearly. This is illustrated again in Table 3.7, which presents summary statistics. It shows that under social insurance mean income will rise by more than median income, the inverse of the pattern under a basic income. Indeed, mean income for both singles and couples increases by around 50% more under social insurance than under a basic income, and the cost of this model is therefore equivalently larger (see Section 4.3). However, comparing Tables 3.7 and 3.4 shows that this extra spending produces almost no gain in terms of reduced reliance on Income Support or lower pensioner poverty, but does result in higher inequality amongst pensioners (though as with a basic income it should be noted that the effect of the higher taxes needed to finance benefits is ignored).

Figure 3.3

Distribution of pensioner incomes in 2066 under social insurance (with no change in the LEL and UEL)

(1999 earnings terms, log scale)

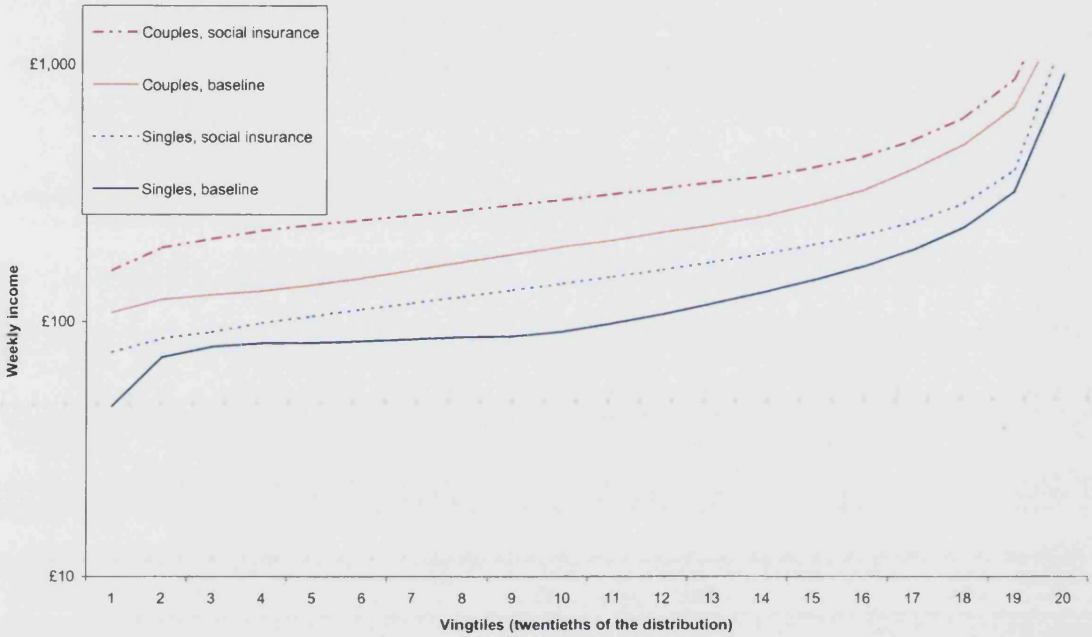

Table 3.7

Summary statistics on income distribution in 2066 under social insurance (with no change in the LEL and UEL)

	Singles	Couples	*Change from baseline: singles*	*Change from baseline: couples*
90:10 ratio	3.2	3.1	*0.0*	*-0.9*
Gini coefficient	0.31	0.35	*-0.04*	*-0.01*
% below half mean income	20%	3%	*-34%*	*-34%*
% below half median income	2%	1%	*-12%*	*-19%*
% claiming Income Support	7%	0%	*-27%*	*-13%*
Mean net income (per week, 1999 earnings)	£191	£376	*+£46*	*+£104*
Median net income (per week, 1999 earnings)	£142	£288	*+£45*	*+£91*

3. 5 Compulsory Saving: the Basic Pension Plus proposals

Just before losing office in May 1997 the outgoing Conservative government put forward radical proposals to fund the basic pension and to replace SERPS with a 5% compulsory contribution to a private pension scheme (see Lilley, 1997, for a full description of the proposals). This section looks at the effect of the plan to replace SERPS with compulsory saving (at the rate of 5%). Because the proposal to fund the basic pension was concerned solely with financing, its aim being to move the scheme onto a funded rather than a PAYG basis, there is no need to model this part of the proposals – we can simply assume that income from the basic pension remains the same as in the baseline[96].

These 'Basic Pension Plus' proposals are representative of the view that public pension schemes should be replaced by compulsory payments into individual accounts. The World Bank (1994, pp. 201-231) endorses a version of this approach, and it has also featured prominently in the US debate on pension reform (see, for instance, Feldstein, 1996, pp. 11-13). A key decision in such compulsory saving schemes is what level of mandatory contributions is appropriate. In many countries (e.g. the US) it is generally assumed that the object of the exercise is to replace the benefits provided by the existing state scheme, and the contribution rate therefore largely depends on what interest rate is assumed[97]. However, in the UK the debate has been framed without reference to a particular level of benefits to be achieved. Jupp (1998, pp. 16-17) investigates the effect of different levels of compulsory saving and, in particular, the extent to which higher rates of compulsion reduce reliance on means tested benefits. He finds that unless the compulsory saving rate is high (10% or over) there will still be continued reliance on means testing. This reflects the fact that the pensions produced

96 The proposal in the Conservative's September 2000 'pre-manifesto' to allow people to receive basic pension rebates bears some similarity to this element of the Basic Pension Plus. In the new plans, however, rather than everyone under a certain age being forced to opt-out of the basic pension individuals will be free to decide between public and private provision.

97 The reform plan put forward by Governor Bush as part of his 2000 election campaign well illustrates this point. Essentially the plan aims to maintain current benefits without increasing contributions through diverting 2% of the payroll tax to individual accounts. Economic opinion on whether this will work is divided: see Feldstein and Samwick (2000, p. 20) for a supporting view and Aaron, Blinder, Munnell and Orszag (2000, p.12) for a contrary view. However, the key point for the analysis here is that both sides take it as read that current benefits should be maintained.

by compulsory saving directly reflect individuals' lifetime earnings, as contributions are a fixed proportion of earnings, and hence low lifetime earners only receive small pension benefits.

The results in Table 3.8 broadly confirm Jupp's finding - there is very little reduction in Income Support as a result of the change to compulsory saving at a level of 5%. But even more noticeable is the fact that compulsory saving at this level has very little effect on overall incomes. In fact this is not surprising – as set out in Section 1A.2, contracted-out rebates under SERPS are currently equivalent to 4.6% of earnings, so the change in the size of second tier provision is small. The real effect of compulsory saving is therefore not on the level of pensioner incomes but on their composition. Income from SERPS will be very nearly zero by 2066 while income from personal pensions rises commensurately, reflecting the fact that from the year 2000 (the chosen reform date) everyone is assumed to be contracted out. The additional increase in income from personal pensions is accounted for by the increase in the compulsory contribution rate to 5%.

Table 3.8

Effect of compulsory saving on mean pensioner incomes in 2066 (£ per week, 1999 earnings terms)

	Mean weekly income: singles	Mean weekly income: couples	*Change from baseline: singles*	*Change from baseline: couples*
Income Support	7.6	2.2	*-1.8*	*-0.9*
Basic state pension	23.3	45.4	*0.0*	*0.0*
SERPS	3.3	3.9	*-15.9*	*-32.8*
Personal pensions	36.1	63.7	*21.9*	*38.0*
Occupational pensions	58.0	97.3	*0.0*	*0.0*
Total (inc. earnings and investment income)	165.3	314.5	*4.3*	*4.4*

The distributional effect of compulsory saving is shown in Figure 3.4 and Table 3.9. They show that there is very little difference between baseline policy and compulsory saving: mean and median income go up slightly while the proportion of pensioners claiming Income Support falls slightly, as does the proportion living below half mean income. The changes in inequality are too small to be significant. Overall the

conclusion is that this kind of reform is more concerned with altering the timing of public expenditure, bringing forward spending through ensuring that everyone is contracted-out, than with altering pensioner incomes (see Section 4.3).

Figure 3.4

Distribution of pensioner incomes in 2066 under compulsory saving (1999 earnings terms, log scale)

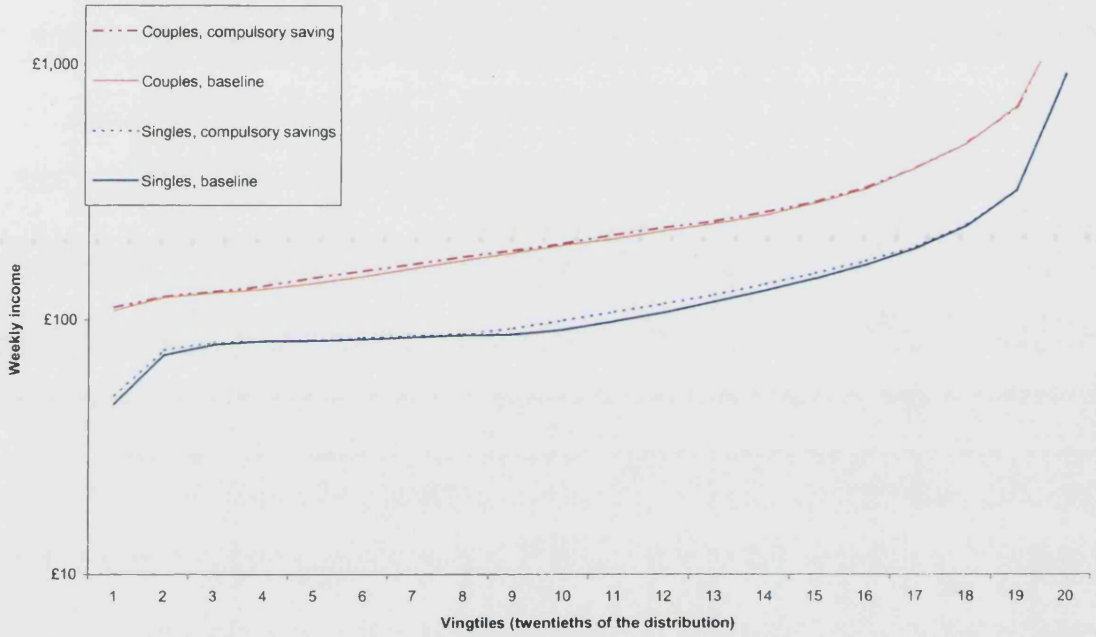

Table 3.9

Summary statistics on income distribution in 2066 under compulsory saving

	Singles	Couples	*Change from baseline: singles*	*Change from baseline: couples*
90:10 ratio	3.1	4.0	*-0.1*	*0.0*
Gini coefficient	0.35	0.35	*-0.01*	*-0.01*
% below half mean income	49%	34%	*-5%*	*-3%*
% below half median income	11%	16%	*-3%*	*-4%*
% claiming Income Support	29%	11%	*-5%*	*-2%*
Mean net income (per week, 1999 earnings)	£149	£276	*+£4*	*+£4*
Median net income (per week, 1999 earnings)	£104	£202	*+£7*	*+£4*

3.6 Conclusion

This section gathers together the information presented earlier so that the four options may be compared with each other. Results are in Tables 3.10 and 3.11 and Figure 3.5. In all cases estimates are shown separately for singles and couples and are for 2066.

Table 3.10

Components of mean pensioner income in 2066 under different options (£ per week, 1999 earnings terms)

Singles	*Baseline*	**Targeting**	**Basic income**	**Social insurance**	**Compulsory saving**
Earnings/other	*2.4*	2.4	2.4	2.4	2.4
Investment income	*34.5*	34.5	34.5	34.5	34.5
Occupational pensions	*58.0*	58.0	58.0	76.8	58.0
Personal pensions	*14.3*	14.3	14.3	8.0	36.1
SERPS	*19.2*	19.2	19.2	34.2	3.3
Basic state pension	*23.3*	1.9	66.7	63.2	23.3
Income Support	*9.4*	17.7	0.4	1.3	7.6
Gross income	***161.1***	**148.0**	**195.5**	**220.4**	**165.3**
Couples					
Earnings/other	*43.4*	43.4	43.4	43.4	43.4
Investment income	*58.5*	58.5	58.5	58.5	58.5
Personal pensions	*25.8*	25.8	25.8	13.7	63.7
Occupational pensions	*97.2*	97.2	97.2	127.8	97.2
SERPS	*36.7*	36.7	36.7	72.5	3.9
Basic state pension	*45.4*	3.7	132.2	123.7	45.4
Income Support	*3.1*	11.8	0.0	0.1	2.2
Gross income	***310.1***	**277.1**	**393.8**	**439.7**	**314.5**

Figure 3.5

Distributional effects of reform options

A. Single households

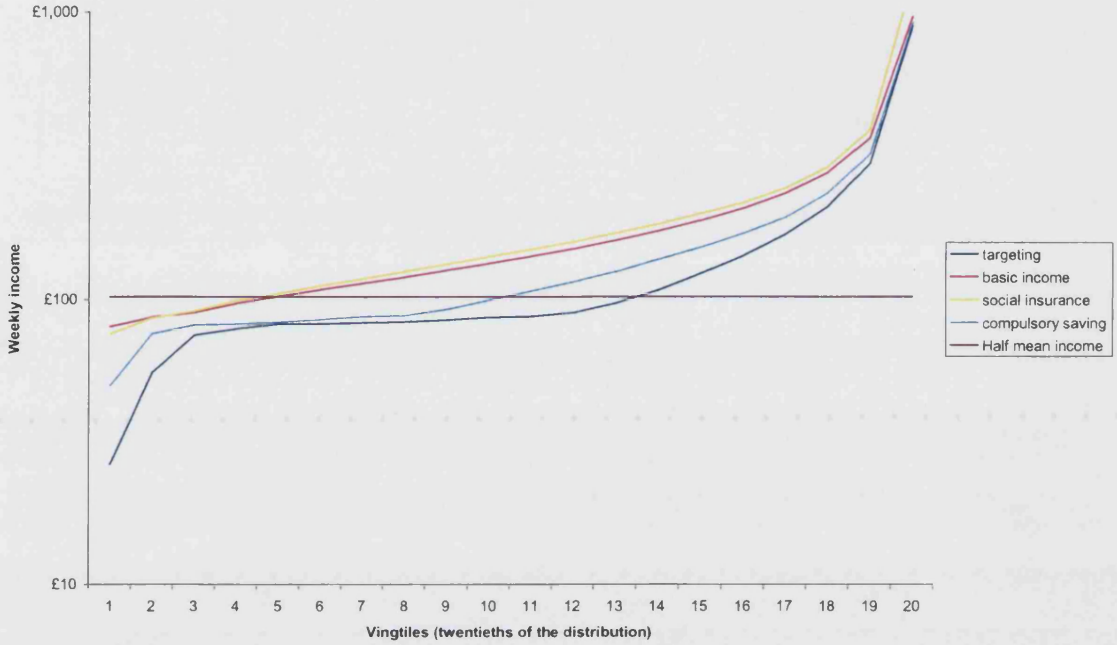

Figure 3.5 cont.

B. Couple households

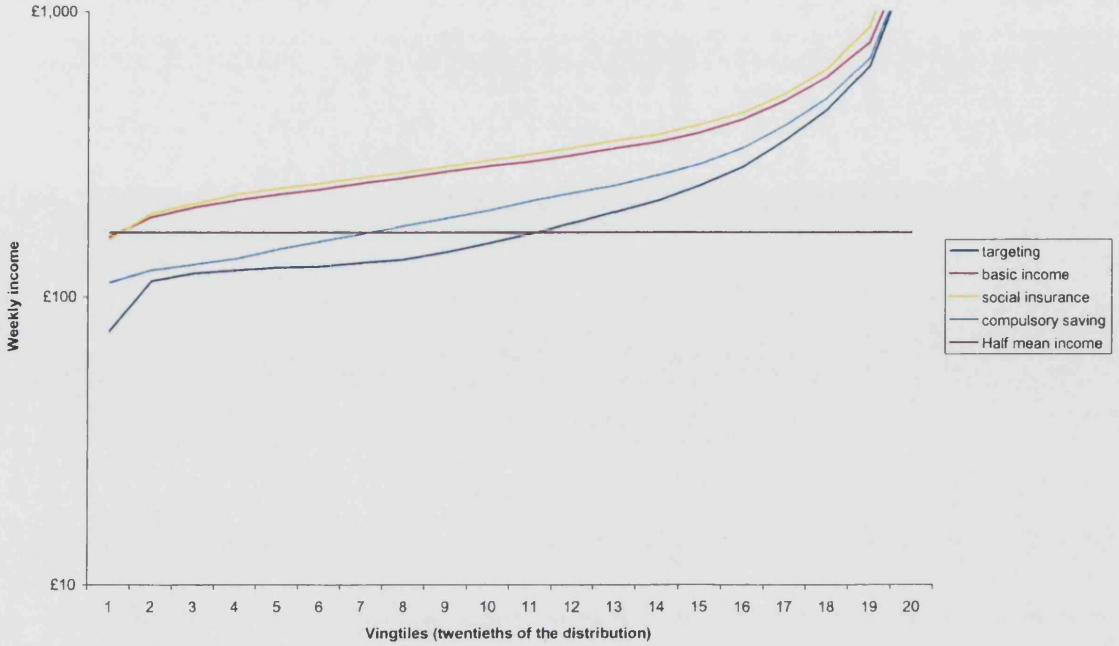

Table 3.11

Summary income distribution statistics in 2066 under different options

Singles	*Baseline*	Targeting	Basic income	Social insurance	Compulsory saving
90:10 ratio	*3.2*	3.4	3.0	3.2	3.1
Gini coefficient	*0.35*	0.37	0.31	0.31	0.35
% below half mean income	*54%*	65%	22%	20%	49%
% below half median income	*14%*	21%	1%	2%	11%
% claiming Income Support	*34%*	44%	6%	7%	29%
Mean net income (per week, 1999 earnings)	*£145*	£134	£175	£191	£149
Median net income (per week, 1999 earnings)	*£97*	£91	£135	£142	£104
Couples					
90:10 ratio	*4.0*	4.0	2.9	3.1	4.0
Gini coefficient	*0.36*	0.38	0.28	0.35	0.35
% below half mean income	*37%*	55%	2%	3%	34%
% below half median income	*20%*	37%	1%	1%	16%
% claiming Income Support	*13%*	28%	0%	0%	11%
Mean net income (per week, 1999 earnings)	*£272*	£242	£348	£376	£276
Median net income (per week, 1999 earnings)	*£197*	£157	£277	£288	£202

The effects of each policy have already been summarised in earlier sections. However, it is worth re-capping the main results in the light of the Tables above:

- Targeting significantly reduces mean pensioner income but protects the position of poorer pensioners claiming Income Support (though not the very poorest – those who fail to take up their entitlement to means-tested benefits).
- A basic income eradicates means testing, alleviates most pensioner poverty, and reduces inequality amongst pensioners to some extent (though failing to reverse completely the increase in inequality since 2000, see Table 2.6).

- Social insurance has similar effects to a basic income, through it gives more money to richer pensioners and hence results in a larger increase in mean income and a smaller reduction in inequality.
- Compulsory saving (at a rate of 5%) has a large effect on the composition of pensioner incomes (less income from SERPS and more from personal pensions) but very little effect on the overall level and distribution of gross incomes.

A final point on the various comparisons should also be made. This chapter has looked at the effect of policies on pensioner incomes; it has been an analysis of the distribution of benefits. However, it has not in any sense provided a cost-benefit analysis of the options. Indeed, cost has not even been mentioned. This means a skewed picture has been presented. For instance, targeting looks like the 'worst' option – it does least to limit pensioner poverty, reduce inequality etc. However, in terms of value-for-money it could be argued that targeting represents the best deal on offer – it costs very little (additional income from Income Support amounts to only a quarter of reduced income from the basic pension) but manages to ensure that almost all pensioners have an income at or above the minimum standard (the exception being those who fail to take up their entitlement to benefit). The converse of this is that, in value-for-money terms, the basic income and social insurance models are much less effective than they appear to be in the Tables. Though both achieve substantial reductions in pensioner poverty they only do so by 'throwing money at the problem'. Social insurance, in particular, is very expensive – it costs 50% more than the basic income model to achieve roughly the same fall in poverty and a smaller decrease in inequality.

Why, it might be asked, would governments choose to spend so much on pension provision when targeted benefits can more-or-less achieve their minimum income objective, and at far lower expense? One reason is that governments do not only aim to prevent poverty in retirement – they may also intervene in pension provision to protect individuals' accustomed living standards (see Section 1.3 and Chapter 7). Another is that though targeted benefits are cheap in public spending terms, they may have serious economic repercussions (see Section 8.1). A third is that while targeting may alleviate **most** poverty, the problem of incomplete take-up means that it still leaves pockets of extreme poverty. But perhaps most of all, though, pension reform is not a mechanistic,

technical process but a live political debate where ideologies, voter preferences, economics and social policy all mix (see Chapter 9). To give a better idea of the value-for-money of each option the next chapter therefore analyses the public finance effects of each option.

4. A generational accounting perspective

This chapter turns to the other aspect of pension reform evaluated in this thesis, namely how current and alternative pension policies affect the public finances. As the title of this chapter indicates, this question is closely related to the issue of how pensions affect the distribution of resources between generations (indeed, the estimates presented in this chapter are based on a technique known as 'generational accounting'). However, as Section 4.1 discusses, the idea that policy should attempt to achieve generational equality is problematic, and it is not clear why so much of the pension reform debate (particularly in the US) has taken a generational standpoint. Far more attractive is the idea that policy should be **sustainable**, in the sense that tax revenue should be sufficient to finance long term expenditure plans rather than rising (or falling) in line with spending. In contrast to generational equality, this policy goal may be justified on efficiency grounds, without appealing to equity concerns (see below for why). After Section 4.1 this chapter is therefore solely concerned with fiscal sustainability, and issues connected with the distribution of resources between generations are ignored.

As with the analysis of future pensioner incomes in Chapters 2 and 3, the starting point for looking at the public finance effects of pension reform options is to develop a baseline projection for current policy. This is the job of Section 4.2. Confirming the analyses of Hills (1997, Figure 3.6) and Ross (1998, p. 54), it shows that the current policy of linking the basic pension to prices will cause public spending on pensions to fall over the course of the next half century (as a proportion of GDP), despite the fact that the pensioner population will grow. However, this will be offset by the rising cost of health-care, so that taking into account all the costs of demographic change current tax rates are broadly in line with the 'sustainable tax burden' needed to balance the government's books in the long term. The baseline estimate against which the 'ideal type' policies can be measured is therefore that current fiscal policy is about right – if taxes are held constant there will be just enough revenue to meet expected future expenditure. Section 4.3 then turns to the public finance effects of the four 'ideal types': targeting, basic income, social insurance and compulsory saving[98].

98 As the object of interest here is one number – the sustainable tax burden – it is possible to look at all

However, as Section 4.4 discusses, there are numerous problems with generational accounting which suggest they should be "*handled with great care*", as Buiter (1995, abstract) puts it. For convenience these problems are arranged into eight sub-headings. Section 4.5 then turns to the policy issue with which generational accounting is most closely associated, namely whether public pay-as-you-go (PAYG) pensions should be moved onto a funded basis ('privatised'), with pension benefits being financed out of accumulated assets rather than by transfers from workers. It concludes that while there are arguments in favour of funded provision, it is not clear that the benefits of funding will be larger than alternative policy options (such as reducing public debt). A summary of the analysis in this chapter is in Section 4.6.

4. 1 What is generational accounting?

As first set out by Auerbach, Gokhale, and Kotlikoff (1991) and Kotlikoff (1992), generational accounting is a technique which allows analysts to measure the solvency of the public finances and the extent of redistribution between different generations. This chapter is based on the February 2000 version of the National Institute for Social and Economic Research's (NIESR) generational accounting model, the only such model for the UK, available at www.generationalaccounting.com and described in Cardarelli, Sefton and Kotlikoff (2000, pp. 550-561, CSK hereafter).

The model works through constructing a set of 'generational accounts', defined as the present value of net taxes (taxes paid minus transfer payments or services received) that different age cohorts are expected to pay over their remaining lifetimes[99]. These accounts can then be used to investigate the fiscal and generational effects of policy. As their name suggests, most obviously generational accounts can be used to investigate

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four options in one section; a lengthy discussion of their effects (as in Chapter 3) is not required.

99 The computational methods and data used in the model are described in full in CSK. However, in brief the model works through apportioning taxes and benefits by age on the basis of survey data, and then using demographic projections to calculate how much each cohort will pay in and receive back. These future flows of receipts and payments are then discounted to present value terms so that the position of each cohort can be compared (the importance of this discount rate assumption is highlighted in Section 4.4).

whether existing policy implies future generations will end up 'paying for' current generations, in the sense that they will face a higher lifetime net tax burden (in present value terms), or whether there is something closer to generational balance (i.e. equal net payments from each cohort). However, it should be noted that the issue in hand is not whether there is a cohort of 'winners' amongst currently alive generations[100]. Rather, the focus of attention is on the (complete) generational account of current new-borns and the (complete) accounts of future (yet-to-be-born) cohorts, the notional 'future new-born' representing the discounted accounts of infinite future generations. The difference between the accounts of current and future newborns is known as the **intergenerational balance gap** (IGG)[101].

Estimates of the generational effect of policy therefore rely on projections of future spending and revenue and on how both are apportioned by cohort. However, it is also possible to ignore the generational incidence of policy and focus solely on the estimates for aggregate spending and revenue, which can be combined to produce a measure of the fiscal sustainability of policy. In other words, instead of analysing generational (im)balance, the technique of generational accounting can be used to look at a rather different question: whether, at current tax rates, the government will be able to meet expected future spending demands. The object of attention in this instance is therefore the **intertemporal budget gap** (IBG), the present value of the difference between the government's expected revenue and spending streams. As shown below, this measure can usefully be expressed in terms of the immediate and permanent change in taxation necessary to close the gap, this being the smallest change in taxation needed for the state to remain solvent over the long term[102]. Under a set of fairly weak assumptions it

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100 For attempts to calculate the generational accounts of currently alive cohorts in the UK see Hills (1995, pp. 43-60) or, for a rather different kind of assessment, Johnson and Falkingham (1988, pp. 140-144). It should be noted that the concerns in these papers were rather different from those in Kotlikoff (1992) - the interest sprang from the desire to calculate whether there was a 'selfish generation' in the UK, in the same way as Thomson (1989, pp. 38-47) argues there is in New Zealand (the big winners being the cohorts born in the immediate post-war era). Both studies found little evidence that such a generation exists in the UK.

101 Formally, the intergenerational balance gap is defined by CSK (p. 553) as "*the difference between the government's bills and the present value of net taxes it would collect from current and future generations assuming that future generations are treated exactly like the current new-born*". Note, therefore, that this definition means policy could be such that future and current new-borns are in balance with each other (i.e. a zero IGG) but out of balance with generations alive today.

102 As shown in CSK, if action is delayed then the required increase in taxation needed to close any (positive) IBG will be larger. This simply reflects the fact that by delaying the point at which higher

can also be shown that moving immediately to this sustainable tax rate (i.e. the tax rate which just closes the IBG) is also the most efficient means for the government to finance any given expenditure stream, as it will minimise the labour-leisure distortions associated with raising revenue.

Nevertheless, in most exercises in generational accounting it is the IGG which is used as the main summary measure of 'the problem'. Implicitly, therefore, such analysis is based on the idea that governments have a duty to promote generational equality ('balance'), and hence should adopt policies which rectify the 'unfairness' of some generations making larger net contributions to the state than others. However, it is not clear that this objective is sensible.

Objections to the IGG

One objection to focusing on the IGG is philosophical: why should generational equality be favoured over some other distribution of resources between the generations? At one extreme it might be argued that, because in an era of economic growth later generations have more resources than earlier generations, it is fair for future generations to bear a larger burden of costs (proportionately, as well as absolutely)[103]. According to this point of view an imbalance in the generational accounts is therefore welfare-enhancing, and hence to be welcomed. Conversely, as Rawls (1972) points out, a utilitarian conception would lead to transfers from old to young, as maximising aggregate welfare over all generations requires maximising

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revenues start coming in more revenue must be raised in every post-reform year to pay for a given pattern of future spending. Procrastination therefore raises the required tax increase by shortening the number of years over which extra revenue can be raised.

103 This sort of reasoning is well illustrated by Labour's 1957 policy document *National Superannuation* (see Section 5.2, esp. quote). However, as highlighted by Disney (1996, pp. 41 and 60), there is clearly a danger here of creating a 'Ponzi game' (i.e. a pyramid banking scheme), where successive generations pass on an ever-growing burden of debt (in the form of PAYG pension promises). By definition, such games are unsustainable. Less dramatically, there is also a question of political sustainability. If it is possible for future generations to renege on pension promises (i.e. to cut benefits) then unfair generational contracts may be self-defeating, and it might be in the best interests of each generation to limit the burden they pass on to future generations (e.g. to the same level as they inherited from past generations). Hence it can be argued that generational equality is desirable because it is an optimal political strategy, even if there is no moral imperative to achieve such an outcome.

investment and hence demanding *"heavy sacrifices of the poorer generations for the sake of greater advantages for later ones that are far better off"* (Rawls 1972 p287)[104].

One difficulty with looking at the accounts in generational terms is therefore that generational equity cannot automatically be equated with generational equality. On top of this, however, there is also the problem that generations' life experiences vary, and hence discrimination in favour of particular cohorts might be justified as 'compensation' for other factors or events. For instance, in his analysis of the generational accounts of currently alive cohorts Hills (1995a, p61) comments:

> *"In the case of the British welfare state, those born in the early years of the century... end up as clear net gainers. Given that they lived through the Depression of the 1930s and were the generation who had to fight the Second World War, it might be thought churlish to begrudge them this gain; after all, inter-generational equity is not just about the welfare state."*

Admittedly, because by definition we cannot predict shocks (such as wars), this type of factor does not affect analysis of new-born and future cohorts, and hence does not affect the kind of generational accounts produced by CSK. But even so, the notion that generations are 'born equal' is inherently unprovable, and hence the IGG will always be a rather loaded measure. In particular, by putting the emphasis on differences in the treatment of generations it creates the false impression that generational equality is an accepted objective for policy, and/or accords with well-worn principles of distributional justice. Though generational equality may be one interpretation of Rawls's 'just savings' principle, it is far from being the only possible interpretation (Daniels, 1989, pp. 69-70). Moreover, intentionally or otherwise, focusing on the IGG shifts attention onto the extent of redistribution from young to old and away from the more obvious (and more important) issue of how policy affects redistribution between rich and poor[105].

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104 More generally Rawls questions the assertion that in making a decision to sacrifice current consumption for the benefit of future generations it is the financial wealth of society in the future, rather than the social or physical environment which they will inherit, which should be the focus of attention: *"The just savings principle can be regarded as an understanding between generations to carry their fair share of the burden of realising and preserving a just society.... Justice does not require that earlier generations save so that later ones are simply more wealthy"* (Rawls, 1972, pp. 289-290). See also Attias-Donfut and Arber (2000, pp. 11-16) and Daniels (1989).

105 Barr (2000, p17) raises a further objection to focusing on the IGG: *"a definition of equity based on generations rather than individuals opens an ambiguity; with generations of varying sizes, equal treatment of generations by definition means unequal treatment of individuals, and vice versa".*

Uses for the IBG

In contrast, there is a clear rationale for using the IBG to look at issues surrounding fiscal sustainability. On one level this simply reflects the fact if spending is going to rise in the future it is better to know about it now, either so that individuals and government's can become used to the idea that taxes will need to go up, or so that policy makers can take action to avoid increases (for instance through cutting benefits). In this sense therefore the purpose of calculating the IBG is to help planning, through providing a summary measure of how demographic change and other long-term trends will affect spending. However, as well as being a useful tool for describing policy, the IBG can also be used more directly in the formation of fiscal policy. In particular, it can be used to derive the 'sustainable tax burden' – the level of taxation which, if held constant, will just cover future expenditure demands. Hence the IBG not only shows how far taxes are below/ above their long run level, it also has a more direct message: to minimise the distortionary effects of raising revenue (equivalently, to optimise the welfare effects of policy) the tax burden should be set at the sustainable level immediately[106].

Explaining why this is so requires a quick digression onto optimal tax theory. Assume that all spending is financed from a tax on earnings, so that the effect of raising revenue is to alter the choice between labour and leisure, and that this wage tax is proportional to income (i.e. flat)[107]. As shown by Browning (1987, following Harberger, 1964), given standard assumptions about labour supply etc., the deadweight cost (D) of a wage tax may be computed by

$$D = 0.5\ \varepsilon\ (t^2/1\text{-}t)wL$$

106 Focussing on the sustainable tax rate also has the important analytical advantage of allowing the fiscal effects of alternative policies to be described through one number, rather than through a schedule of how costs and savings evolve over time. Moreover, it also reflects actuarial practice for describing the cost of alterations to funded or notionally funded pension schemes (see, e.g., Goss, 1997, Table 1).

107 This is in order to simplify the analysis; in fact the argument holds under the less restrictive assumption that the structure of taxation remains constant over time.

where ε represents the compensated elasticity of labour supply evaluated at the net-of-tax wage rate (w), and L is the amount of labour supplied at tax rate (t). If reliable estimates of L and (far more problematically) ε are available than this formula may be used to estimate the overall efficiency cost of taxation (see Atkinson and Stiglitz, 1980, pp. 454-456). However, for these purposes the important point is that the deadweight cost of taxation is related to the square of the tax rate, i.e. the distortion in the labour/leisure choice rises more than proportionately with increases in tax[108]. It follows, therefore, that the deadweight cost of meeting any particular spending stream through varying the tax rate over time (for instance, in line with spending patterns) will be greater than the deadweight cost associated with holding it constant at its sustainable level[109]. Accordingly, to minimise the deadweight cost of taxation (equivalently, to maximise the welfare-enhancing effects of policy) governments should seek to smooth tax rates by holding them constant at the sustainable rate and using changes in public debt (and hence in the future cost of debt interest payments) to compensate for variations in spending around this level (Barro, 1979, p. 944; Flemming, 1987, pp. 380-384).

Figure 4.1 illustrates how such an optimal policy would work. It shows a stylised pattern for future public expenditure where in period one (the next 20 years) spending remains constant, in period 2 (the following 30 years) there is a large rise in spending, and in period 3 (50 years hence and beyond) a steady-state is reached. The revenue streams associated with two alternative frameworks for fiscal policy are illustrated: a 'sustainable tax' regime where revenue is constant throughout, and a 'PAYG' regime where revenue follows spending[110]. Though both of these keep the state solvent, the argument here is that the sustainable tax regime is to be preferred because, measured across the entire period, it minimises the overall deadweight cost of raising revenue[111].

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108 By way of example, if ε =1 and WL =200, then for values of t of 0.3, 0.4, 0.5 and 0.6, D =13, 27, 50 and 90; i.e. D rises more than proportionately with increases in t.

109 Intuitively, this is because the additional deadweight cost associated with the period when taxes are above the sustainable rate is greater than the gain during the period in which they are below it.

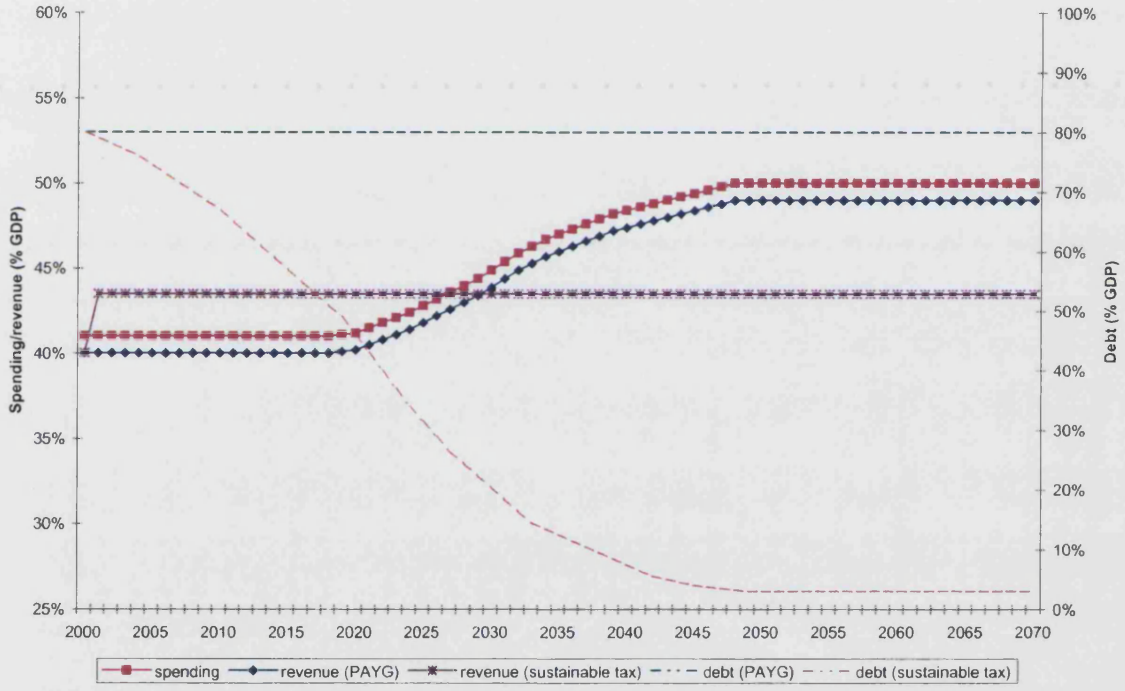
110 Note that in order for debt to be a constant proportion of GDP tax revenue need not equal spending – because of GDP growth operating a balanced-budget reduces the relative size of the public debt over time, and hence a constant debt/GDP ratio implies continued (modest) borrowing.

111 This is a slight simplification. Holding tax revenue constant over time will only be the optimal

However, as can be seen, in order for this to be possible very large changes in the stock of public debt are required, with debt falling from 80% to just 3% of GDP under the stylised example shown in the Figure. This will in turn mean that the cost of debt interest payments is reduced to close to zero, thereby offsetting demographically-induced increases in spending on benefits and services. The next section goes on to look at whether the prognosis for the UK accords with the Figure.

Figure 4.1

Stylised comparison of optimal tax policy and PAYG policy



4.2 Baseline results

The only existing analysis of the UK's generational accounts is provided by CSK, and the baseline assumptions used here are identical to those adopted in their exercise, save in three respects. By far and away the most important of these exceptions relates to the

policy if the size of the tax base and structure of taxation are fixed – the analysis of optimal taxation relates to tax rates, not revenue. The fact that, in reality, demographic change also affects the tax system, and hence constant tax rate implies variations in tax revenue, is illustrated in the next section when the sustainable tax burden for the UK is calculated.

way in which future revenue is estimated – it is assumed here that revenue from National Insurance Contributions (NICs) will grow at the same rate as income tax (i.e. in line with GDP)[112], while CSK assume that revenue from NICs will grow in line with benefit spending. The reasons behind this change are discussed further below. Before this, though, the two other changes should be set out. Both of these are relatively minor and only affect the way the model analyses the pension system.

Spending

The first change is that the analysis here is based on the assumption that Income Support for pensioners will be uprated in line with earnings (as in the baseline described in Section 2.2), while CSK's baseline assumed that all benefits would be uprated with prices. Accordingly, the projection for spending on Income Support here is rather higher than that incorporated in CSK's analysis. However, it should also be noted that CSK's projection for Income Support is itself slightly different from the one used in an earlier version of their paper (Cardarelli, Sefton and Kotlikoff, 1998). This reflects the fact that the more recent version of CSK's paper uses PENSIM to calculate spending on this benefit[113], rather than the standard technique where estimates are generated from within the model (on the basis of predicted changes in demography, profiles for spending by age and an assumed rate of growth in spending per capita). Because the interaction between entitlement to Income Support and pensioner incomes is complex, the results produced by PENSIM should (at least in theory) be a more accurate way of forecasting spending on this benefit. Though this has little effect on the overall results which CSK report in their earlier and later papers (spending on Income Support for pensioners is a small proportion of total public spending), this link between dynamic microsimulation and generational accounting shows that there is some synergy between the two types of analysis used in this thesis[114].

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112 In fact this is tautological; CSK's estimates for future GDP have been derived by assuming that GDP grows in line with income tax revenue.

113 The method used to derive an estimate for aggregate spending is the same as that described in Section 2.4 in relation to SERPS: PENSIM's estimates for mean receipt of Income Support were averaged between single and couple households and grossed-up using population projections. For consistency with the other estimates in CSK the results were then scaled to official estimates for expenditure on Income Support for pensioners in 2000. The discrepancy between the two estimates is largely accounted for by the fact that the DSS include payments to people in residential care while such individuals are ignored in PENSIM (see Agulnik, Cardarelli and Sefton, 2000, Section A.III).

114 A contribution of this thesis has been to make this link. Bonnet and Mahieu's (1998) work on France

The second change relates to the way the model treats contracted-out rebates paid to people who have opted-out of SERPS into personal or occupational pension schemes. At present the model follows public accounting conventions in counting rebates as a reduction in tax rather than as a transfer payment (and hence part of public spending). Rebates are therefore excluded from both the spending and revenue sides of the model. However, as argued by (amongst others) Surrey (1973), Howard (1997) and Kvist and Sinfield (1996), this distinction between 'tax expenditure' and public expenditure is not helpful, as it does not reflect any fundamental economic difference between the two, and often leads to tax-based programmes being favoured over direct public spending for little reason other than labelling. Moreover, in analysing pension reform it is helpful to model changes in rebates alongside changes in SERPS, so that the entirety of second tier provision is captured in the same way. The modelling here therefore includes rebates in both the spending and revenue sides of the model.

Figure 4.2 shows the projections for state pension spending used in the model. All the four main components of public provision set out in Chapter 1A are included: Income Support and the basic pension (first tier) and SERPS benefit payments and rebates (second tier). Future spending is shown as a proportion of projected GDP, so that like the earnings-deflated estimates used in Chapter 2, the estimates show what these levels of expenditure will 'feel like' in the future. However, it is important to realise that the assumed rate of GDP growth has an enormous impact on the shape of the spending lines. This reflects the fact that expenditure on each item is not computed from within the model (using the relevant assumptions) but is super-imposed on it from outside sources, PENSIM in the case of Income Support and the Government Actuary's estimates in the case of National Insurance benefits (the basic pension and SERPS) and rebates[115]. Hence changes in the growth assumption do not automatically feed through

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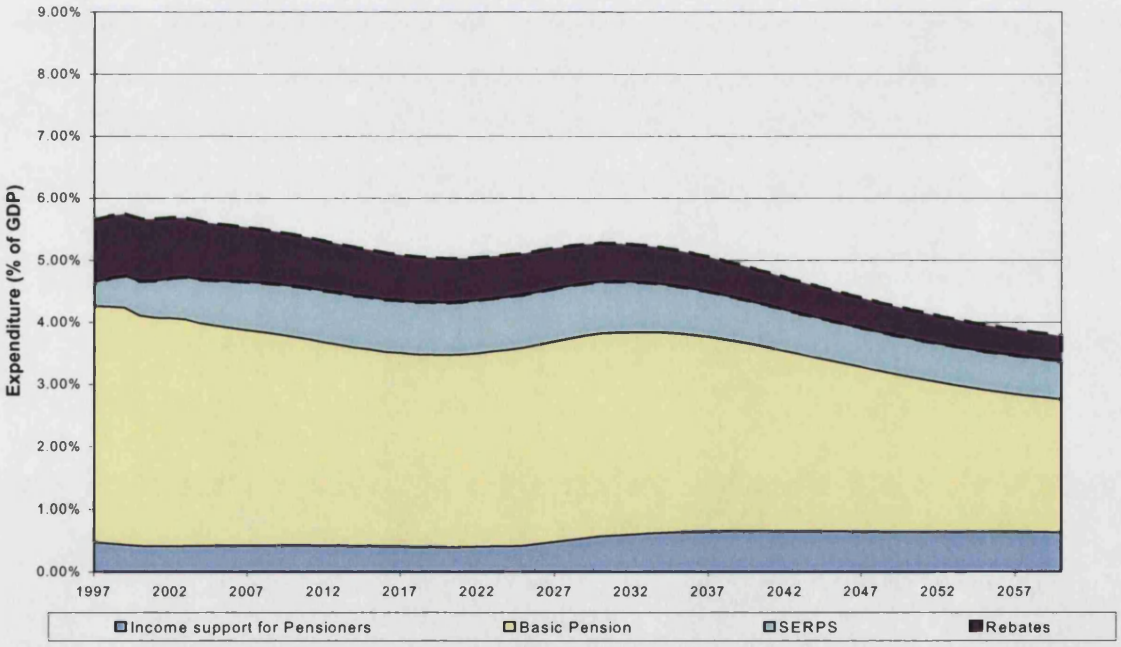
shows how the generational accounts and future pensioner incomes may be calculated simultaneously through microsimulation techniques.

115 It would in fact have been possible to use PENSIM's estimates to calculate all four elements of spending. However, as shown in Section 2.4, there is a very large discrepancy between PENSIM's estimates for SERPS and those of the Government Actuary. More generally, the Government Actuary's estimates are the common currency in most analyses of UK pensions, and it is these estimates which are used by CSK. Accordingly PENSIM is only used where there are no other projections available, as is the case for Income Support.

into the numerator (spending), as is the case with health for instance, but do affect the denominator (the size of future GDP). This is particularly relevant given that the model (and the Figure) assume earnings will grow at roughly 2% per year until 2003 (in line with Treasury projections) and in line with income tax revenues thereafter (i.e. at roughly 1.75% per year, though with some variation due to demographic change; see below). This is different from the Government Actuary, the main source of long term spending estimates, who assumes 1.5% earnings growth in all future years[116]. The estimates in Figure 4.2 are therefore not comparable with the Government Actuary's estimates for the cost of National Insurance benefits, not only because Income Support spending and rebates are included (and other non- pension contributory benefits are excluded), but also because the earnings/GDP growth assumptions are different.

Figure 4.2

Expenditure on first and second tier pensions under baseline policy; % GDP



116 The effect of changing assumptions can be analysed using the electronic version of the model, available at www.generationalaccounting.com. While it would have been possible to run the model here using an assumption of 1.5% earnings growth, thus making the baseline assumptions fully consistent with those used in relation to PENSIM (see Section 2.2), it was decided that making as few changes as possible to CSK's work was the more important analytical imperative. Moreover, the Treasury's analysis of public spending trends over the next 30 years also uses an assumption of 1.75% GDP growth (see HMT 2000, Annex A), and this can equally be thought of as an 'official' estimate.

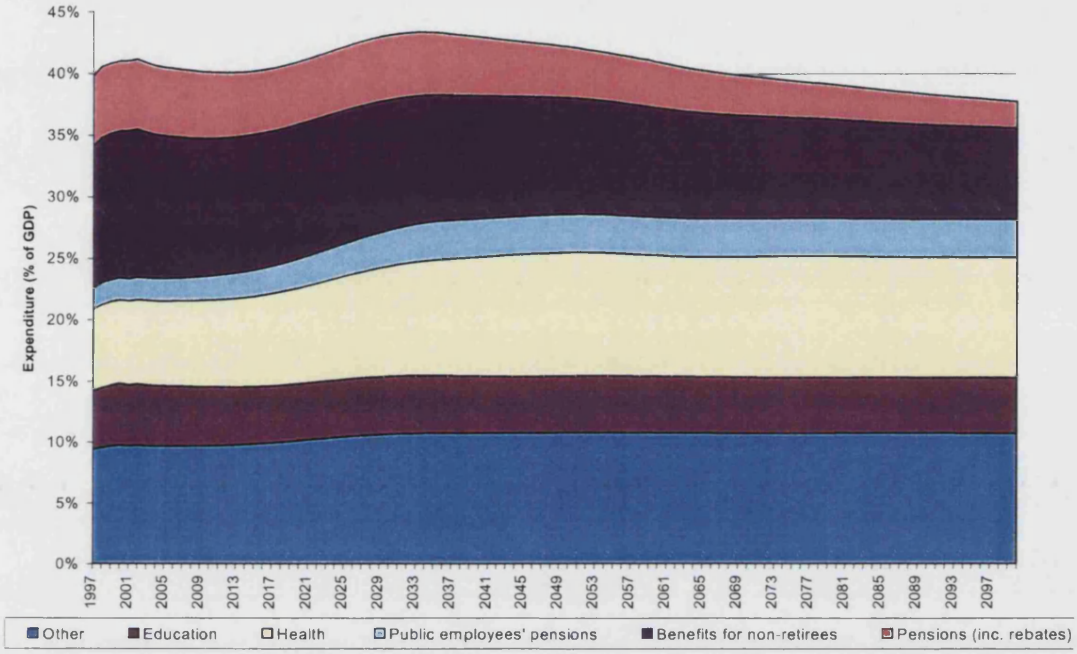
The Figure shows that, in terms of pension spending, the UK does not face an 'old age crisis', as the World Bank (1994, Title) describes the fate which awaits many other countries. Indeed, under current polices pension spending in the UK will fall quite dramatically over the next sixty years, in spite of the increasing number of pensioners (see Figure 9.2). However, generational accounting is not concerned exclusively with the pension system, and these estimates need to be put into the context of other long term trends in public spending. In particular, the effect of demographic change on health-care spending must be taken into account; because per capita spending rises with age (see Le Grand and Vizard, 1998, pp. 90-94) the greying of the population also has large implications for expenditure on the NHS. This is illustrated in Figure 4.3, which shows the baseline projection for total public spending (as a proportion of GDP) broken down into pensions (taken from Figure 4.2), social security benefits for non-retirees, public employees' unfunded occupational pensions, health, education and 'other' expenditure on pure public goods (e.g. defence)[117]. As can be seen, spending on pensions and other personal transfers is expected to fall dramatically under baseline policy (due to the policy of price indexing most benefits)[118], while aggregate health spending will grow considerably until 2050 before stabilising at around 10% of GDP. Total spending is therefore expected to remain fairly constant over the next 20 years before rising between 2020 and 2030 and falling after this date.

117 The baseline projection assumes that per capita spending will rise in line with earnings growth (1.75%), except in the case of social security for non-retirees where it is assumed that per capita spending growth will be zero (reflecting the policy of price-uprating benefits), and in the case of pension spending where estimates are superimposed (see above). Spending for the period 1998-2001 is based on the July 1998 Comprehensive Spending Review - the results of the 2001-2004 spending review (announced in July 2000) have not been incorporated and spending in these years is projected internally by the model.

118 The projections for pensions and social security for non-retirees may be combined and compared with the estimates for total social security spending produced for the government's long-term (30 year) expenditure forecasting exercise (see HMT, 2000, Annex A, and DSS, 2000d, Ch. 4). The government's central estimate is that social security spending will rise at an average rate of 1.3% a year in real terms between 2000 and 2030, and hence on the basis of the earnings growth assumption used here (1.75%) this implies social security spending will fall as a proportion of GDP by about one and half percentage points. This is almost exactly the same fall as presented in Figure 4.3, suggesting the two estimates are reasonably consistent.

Figure 4.3

Total public expenditure by component under baseline policy; % GDP



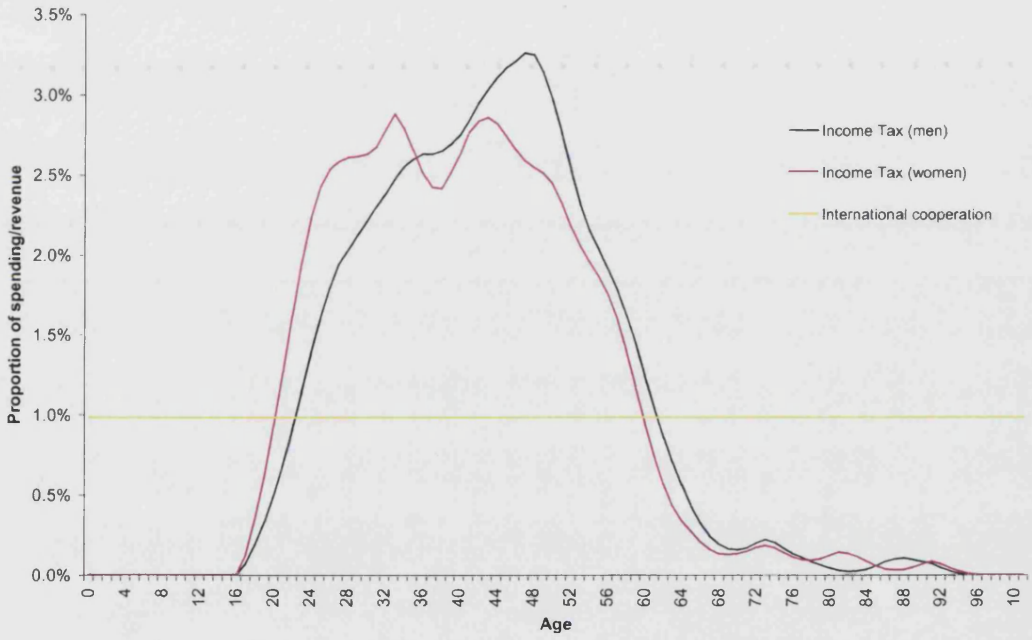
The projections for individual components of spending require some explanation. In particular, at first sight it is surprising that 'other' spending (on pure public goods and other non-allocable expenditure) is predicted to rise: because such spending is unrelated to age a flat spending projection might have been expected. However, this does not take into account the way in which the NIESR model goes about its task. As discussed more fully in CSK, the model is based on profiles for how the various components of spending and revenue vary by age (derived by analysing survey data, principally the Family Resources Survey), from which projections are produced on the basis of demographic forecasts and an assumption for growth in average per capita spending. The distribution of receipts/payments by age is therefore a key variable in determining the model's projections.

The issue is illustrated in Figure 4.4, which compares the age profiles of income tax (and hence GDP) and of international co-operation (i.e. spending on aid programmes), which forms part of the 'other' category of spending in Figure 4.3. As can be seen, the age-incidence of income tax (estimated from survey data) is hump-shaped around prime earning years (which are shown as occurring rather earlier for women than for

men, though see the criticisms in Banks, Disney and Smith, 2000, pp. 584-590). In contrast, the age profile for international co-operation is flat – it is not possible to apportion spending by age and hence a uniform distribution is assumed. Consequently the projections for spending on international co-operation and GDP (income tax revenue) are different; in spite of the fact that the same assumption for growth in per capita spending is used (1.75%), their different age-profiles mean they are affected by demographic change in different ways.

Figure 4.4

Age profiles of income tax/GDP and international co-operation



Revenue

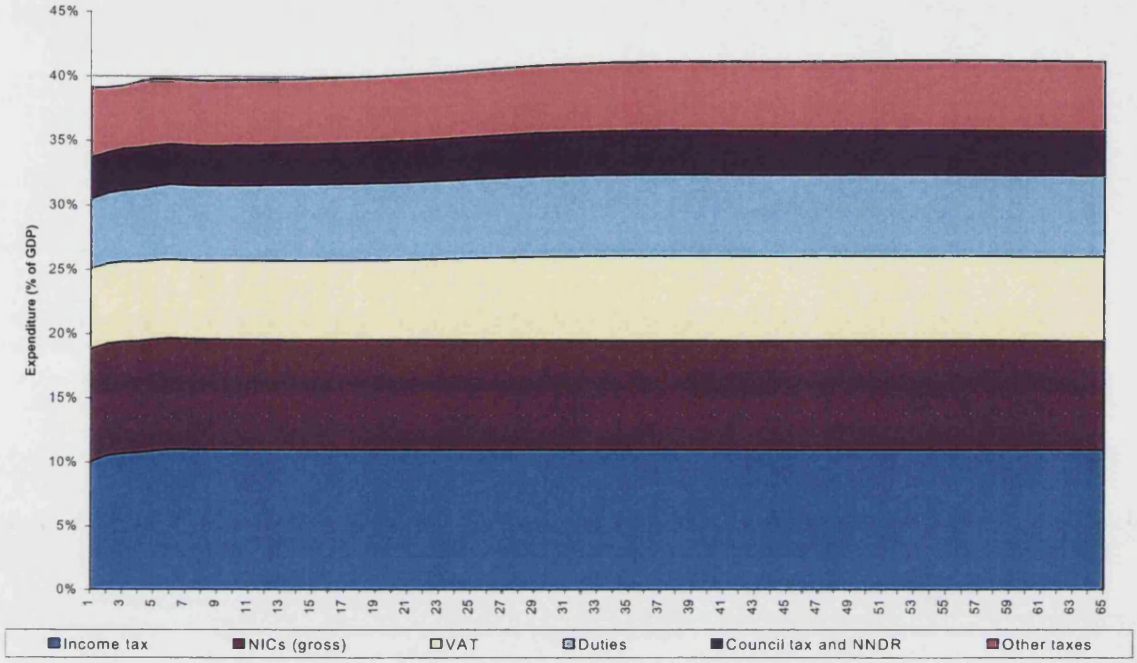
The next stage in the process is then to derive an equivalent projection for future revenue. This is where the most fundamental change to the assumptions used in CSK is made. As highlighted by Banks, Disney and Smith (2000, p. 580), revenue to the National Insurance Fund can be projected as the amount necessary to balance spending on a PAYG basis or as a constant per capita take from each member of the population (i.e. in the same way as income tax revenue is modelled). CSK use the first assumption, reflecting the fact that, without changes in legislation, this would automatically occur under current policy. This means, though, that they project a substantial reduction in

revenue from NICs, reflecting the declining cost of National Insurance benefits (see Figure 4.2). The analysis here therefore uses the second assumption; this is equivalent to assuming that henceforth NIC rates are fixed at their current level and that the LEL and UEL rise in line with earnings.

The model's projection for tax revenue from various sources is shown in Figure 4.5. Again, despite the fact that all components are assumed to grow at the same per capita rate (1.75%), only income tax and NICs grow precisely in line with GDP (after 2005). The reason is the same as that just given for 'other' spending - differences in the age-profile of revenue from each source mean that demographic change impacts on them differently. For instance, relative to income tax the age-profile of VAT receipts is more heavily tilted towards older ages, causing the projection to be more influenced by the greying of the population. Hence, because GDP is assumed to grow at the same rate as income tax, VAT is predicted to yield more revenue in the future relative to GDP even if there is no change in the rate and structure of the tax (as is implicitly assumed here). Seen in this light, therefore, the rise in VAT shown in Figure 4.5 is not so surprising – just as spending will be affected by demographic change, so too will revenue. Note though that this means total tax revenue (the tax burden) will rise in the future even if tax rates are held constant; conversely, holding tax revenue at a constant proportion of GDP (such as 40%) implies that there will be scope in the future for reducing tax rates.

Figure 4.5

Total tax revenue by component under baseline policy; % GDP



The information in Figures 4.3 and 4.5 can now be used to calculate whether, overall, future revenue will be sufficient to meet future spending, i.e. whether under baseline policy there is an intertemporal budget gap (IBG). This can be done through discounting the estimates for revenue and spending in each future year to present value terms; in keeping with CSK's analysis the discount rate used here is 5% (in real terms)[119]. These discounted payment and revenue streams can then be added to an estimate of government debt to give a complete picture of the government's intertemporal liabilities (i.e. the IBG). Results for the analysis described above and the results reported by CSK are in Table 4.1. The first column shows the IBG (as a proportion of GDP) under the two exercises, while the following three columns express the IBG in terms of the immediate and permanent change in tax needed to close it. In other words, columns 2-4 show the difference between current tax revenue and the sustainable tax burden. To avoid any danger of presentational bias the required change

119 As highlighted in Section 4.4, it is not entirely clear how the assumption for the discount rate should be derived, and this uncertainty is one of the main reasons why the results of generational accounting models will always be open to challenge. In particular, contrary to CSK's method, there is a strong intuitive argument for using identical assumptions for GDP growth and for the discount rate. Indeed, unless this is the case the generational effect of policy may appear excessively adverse simply because benefits (received at the end of life) have a lower present value than taxes (paid predominantly during working years).

in taxation is shown on a number of bases: column three shows the change in absolute terms, column four shows the change as a proportion of GDP and column five shows the change as a proportion of income tax revenue (the measure preferred by CSK).

Table 4.1

Intertemporal budget gap and required change in taxes under baseline policy

	Intertemporal Budget Gap; % of GDP	**Change in annual tax revenue needed to close the IBG**		
		Absolute terms; £ billion	*% GDP*	*% Income Tax revenue*
This analysis (see text)	-11.4%	-2.3	-0.3%	-3.2%
Cardarelli, Sefton and Kotlikoff (2000, Table 6)	20.2%	4.1	0.5%	5.7%

As can be seen, CSK's exercise concluded that under baseline policy the deficit in the IBG was equivalent to 20% of GDP, hence they estimated that an increase in tax revenue of around £4 billion (0.5% of GDP or 6% of income tax revenue) was required to ensure long term fiscal solvency. In contrast, the analysis here suggests there is a slight surplus in the IBG, and hence that taxes should be modestly reduced (or spending increased) to avoid the government building-up an ever-growing surplus[120]. These rather different conclusions reflect the different assumptions used in the two exercises, most importantly the fact that the analysis here assumes revenue from NICs will be constant (or a constant per capita take by age) while CSK assume that NIC revenue will fall as a proportion of GDP (reflecting the declining projection for benefit spending). This is acknowledged by CSK (p. 571), who note that "*under the baseline scenario... the income tax rise approximately compensates for the fall in forecasted NIC payments, leaving the overall tax burden roughly constant*".

Whether more broadly the results produced by generational accounting models should be believed is discussed in Section 4.4. However, first the NIESR model will be used to

120 For all intents and purposes this modest surplus can be ignored – given the inaccuracies in the model (see Section 4.4) it is simplest to interpret this estimate as a zero IBG.

look at the public finance effects of the four 'ideal type' policies described in Section 1.3.

4. 3 Results under four 'ideal type' pension systems

Just as Chapter 3 used PENSIM to look at the effect of the four 'ideal type' pension systems on pensioners incomes, this section uses the NIESR generational accounting model to look at the effects of each reform on the public finances. As (naturally enough) these options only affect the pension system, all other parts of the model are left the same as in the baseline, i.e. the changes in the IBG reported below all reflect changes in the shape of Figure 4.2. The analysis below looks first at the effect of the targeting, basic income and social insurance options, where the model's results are fairly obvious (though the fact that the cost of each policy is now quantified is helpful), before turning to the more interesting case of compulsory saving.

In each case the expenditure projections for Income Support are based on the estimates from PENSIM presented in Chapter 3, and use the grossing-up method described for the baseline. In the case of National Insurance benefits (SERPS and the basic pension) PENSIM's estimates have not been used directly but instead have been used to scale up or down the Government Actuary projection used in the baseline (see last section). The estimates in Tables 3.1, 3.3, 3.5 and 3.8 therefore do not simply feed through to this chapter; rather, it is the comparison between these Tables and the baseline estimates in Tables 2.4 and 2.5 which is important. A similar technique has been used for projecting the cost of contracted-out rebates, with Government Actuary estimates being scaled as appropriate to each option. However, under the targeting and basic income ideal types it is assumed that second tier SERPS benefits and rebates are the same as in the baseline, and hence in these cases differences are accounted for wholly by changes in first tier provision.

Targeting, basic income and social insurance

The effects of the basic income and targeting options on the future cost of public pension provision are shown in Figure 4.6 and 4.7, using the estimates from Tables 3.1 and 3.3 respectively. Unsurprisingly, the total cost of such provision declines

dramatically under the targeting option but rises broadly in line with demographics under a basic income (i.e. in line with the change in the number of pensioners shown in Figure 9.2). Note though that the composition of spending under the two options is radically different. Under targeting most expenditure comes in the form of Income Support by the end of the period, and the cost of the basic pension by 2066 is negligible (due to the assumed policy of freezing its cash value). In contrast under a basic income the situation is reversed, with the basic pension accounting for the vast majority of spending and Income Support being wiped-out. The effect of both policies on the IBG, and on the tax change needed to close the IBG (the sustainable tax burden), is shown later in Table 4.2 alongside the other options.

Figure 4.6

Expenditure on first and second tier pensions under targeting; % GDP

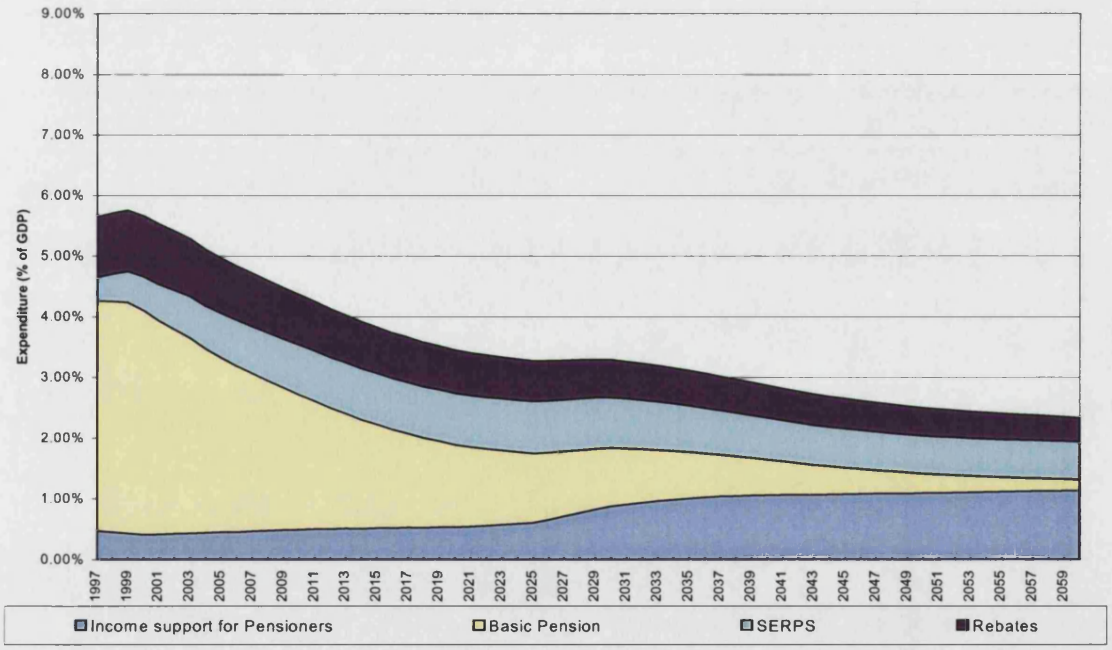
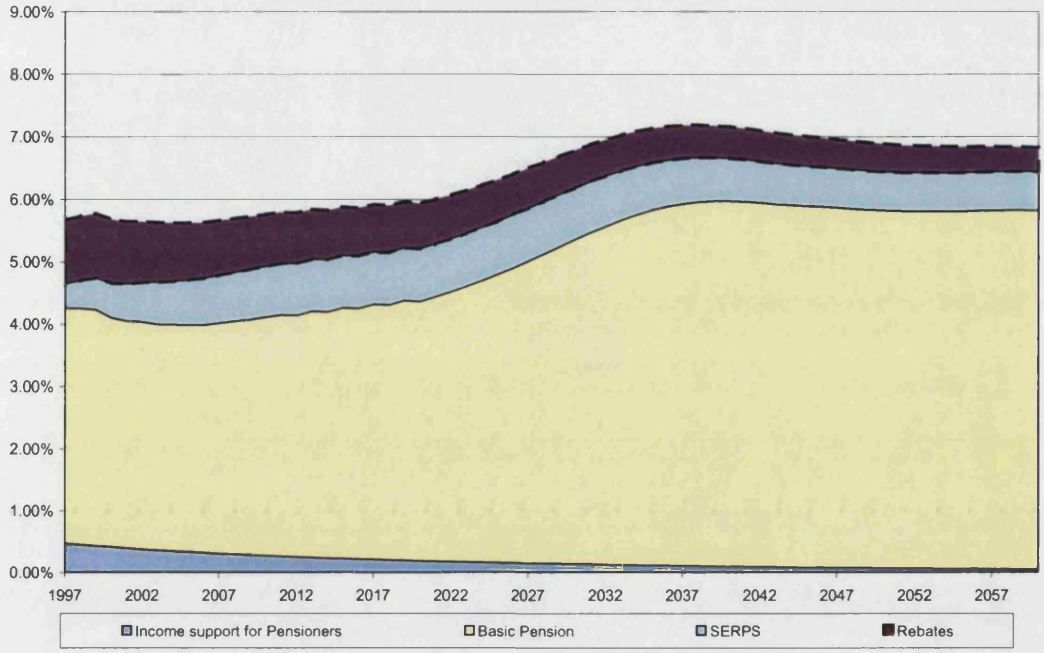


Figure 4.7

Expenditure on first and second tier pensions under basic income; % GDP

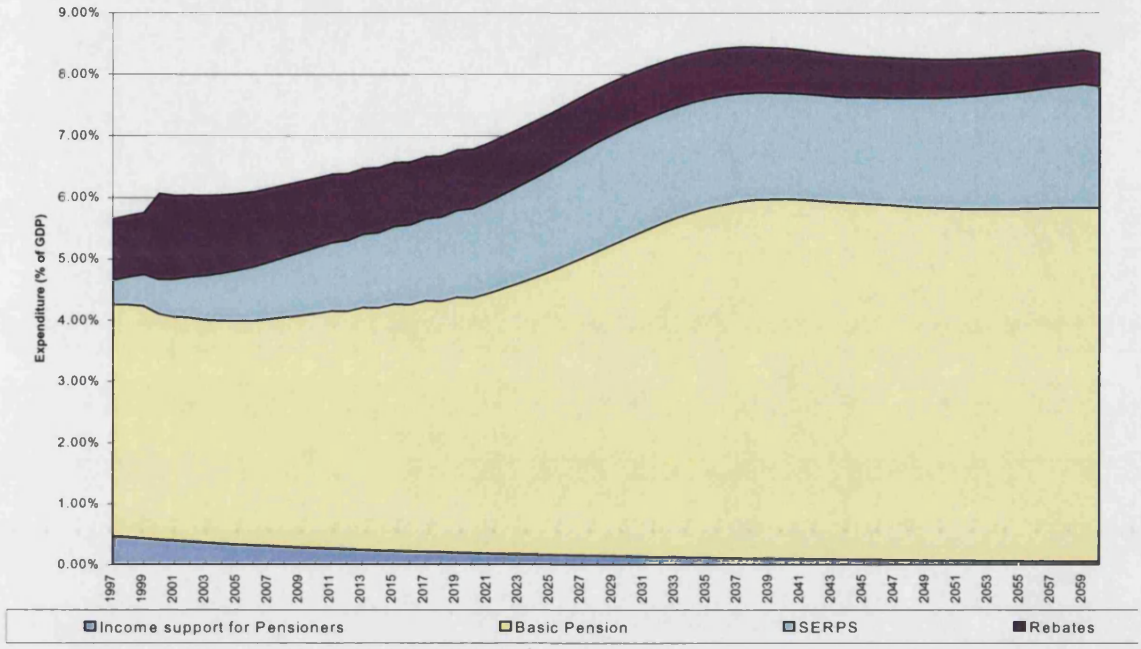


The expenditure effects of social insurance are set out in Figure 4.8. As can be seen, the effects of this ideal type are more complex than the previous two models, as the cost of both first and second tier provision alters. The changes in first tier provision are essentially the same as under a basic income, though the cost of the basic pension is fractionally smaller due to the fact that it is not quite universal under this option (due to the retention of contribution conditions). Similarly, spending on Income Support is fractionally higher than under a basic income (see Table 3.10), though still not very far from zero. However, the real difference between this policy and a basic income relates to the changes social insurance would bring about in second tier provision, with both benefit payments and rebates rising substantially[121]. The effect of this policy on the IBG and on the sustainable tax burden is again shown in Table 4.2 later.

121 Note that the reform is assumed to take place in the year 2000, and hence the cost of rebates jumps upwards in this year in Figure 4.9.

Figure 4.8

Expenditure on first and second tier pensions under social insurance; % GDP



It is worth briefly setting out why the Figure shows the cost of both elements of second tier provision increasing. As discussed in Section 3.4, returning to the original structure of SERPS (i.e. the 1975 legislation) will have two major effects. First it will increase gross SERPS entitlements; this was modelled through increasing the accrual rate from 20% (of earnings between the limits) under the current scheme to 35% under social insurance. Second, returning to the 1975 legislation will affect the split between public and private provision, as under this option contracted-out rebates will only be payable to members of occupational schemes, and people who are currently opted-out via personal pensions will no longer have this choice. The cost of the state scheme will therefore rise for two reasons: a) gross SERPS entitlements will be higher, and b) a larger proportion of total benefits will be provided by the state. However, perhaps more surprisingly, the cost of rebates will also rise, reflecting the fact that the increase in the value of rebates paid to occupational schemes (from 20 to 35% of earnings between the limits) outweighs the reduction (to zero) in rebates paid to personal pensions.

Under PAYG finance a move in the direction of social insurance would therefore not only increase spending (and hence contributions) in the future but would also reduce net revenue from NICs from the moment it is introduced. Accordingly, a return to the

1975 legislation would be accompanied by an increase in the contribution rate even at the outset[122]. However, the key point is that this increase is far smaller than necessary to bring revenue into line with the sustainable tax burden associated with this policy (see Table 4.2). In other words, though SERPS is partially funded via contracting-out, this does not come close to fully offsetting the increase in contributions necessary to finance increased benefits. In contrast, the compulsory saving option discussed below illustrates how changes in benefits feed through directly and immediately to contributions in funded pension schemes.

Compulsory saving

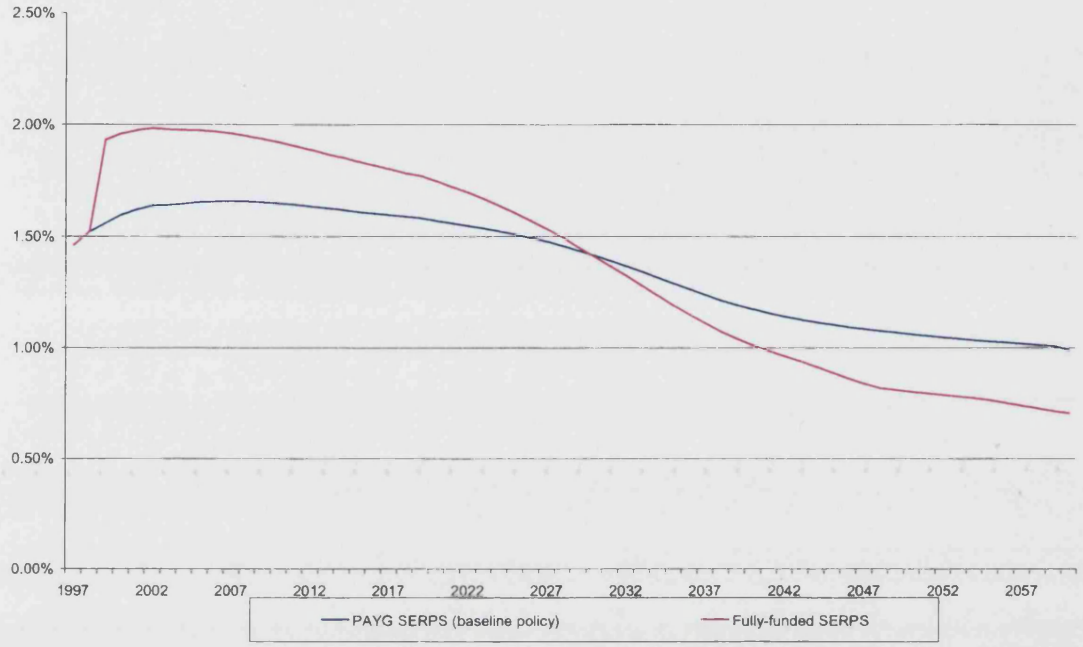
It is helpful to look at compulsory saving by considering first the effect of fully funding SERPS without any increase in the compulsory contribution rate. The current SERPS scheme could be moved onto a funded basis by extending contracted-out rebates to all employees, so that the option of accruing future benefits via the state was no longer available[123]. As already-accrued benefits under SERPS ran-out this would cause the direct cost of SERPS benefit payments to gradually decline towards zero. However, in the short-term this policy would cause the cost of rebates to jump upwards, as everyone previously in SERPS would now be in a personal pension and hence receiving rebates. Figure 4.9 illustrates, showing the total cost of second tier provision (i.e. SERPS benefit payments and contracted-out rebates) under the current SERPS scheme and under full funding.

122 This sort of effect was precisely what occurred when SERPS was first introduced, with the (contracted-in) NIC rate rising to compensate for the introduction of contracting-out.

123 As noted in Section 1A.2, the level of rebate is calculated with reference to SERPS's benefit formula, so that contracted-out schemes receive just sufficient money to pay individuals exactly the same pension as they would have got from the state scheme (given the Government Actuary's assumptions about interest rates, investment returns, etc.).

Figure 4.9

Expenditure on second tier provision (benefit payments and rebates) under baseline policy and under a fully-funded SERPS scheme; % GDP



The Figure shows that when the move to a fully-funded system takes place (by assumption in 2000) the overall cost of second tier provision will rise by about 0.4% of GDP (£3.2bn) to pay for both previously-accrued SERPS benefits (on a PAYG basis) and for the increase in rebates[124]. However, as pension entitlements accrued before the change become less important this 'double-funding' burden will decline, with the combined cost of rebates and benefit payments falling below those expected under baseline policy in 2030 or thereabouts.

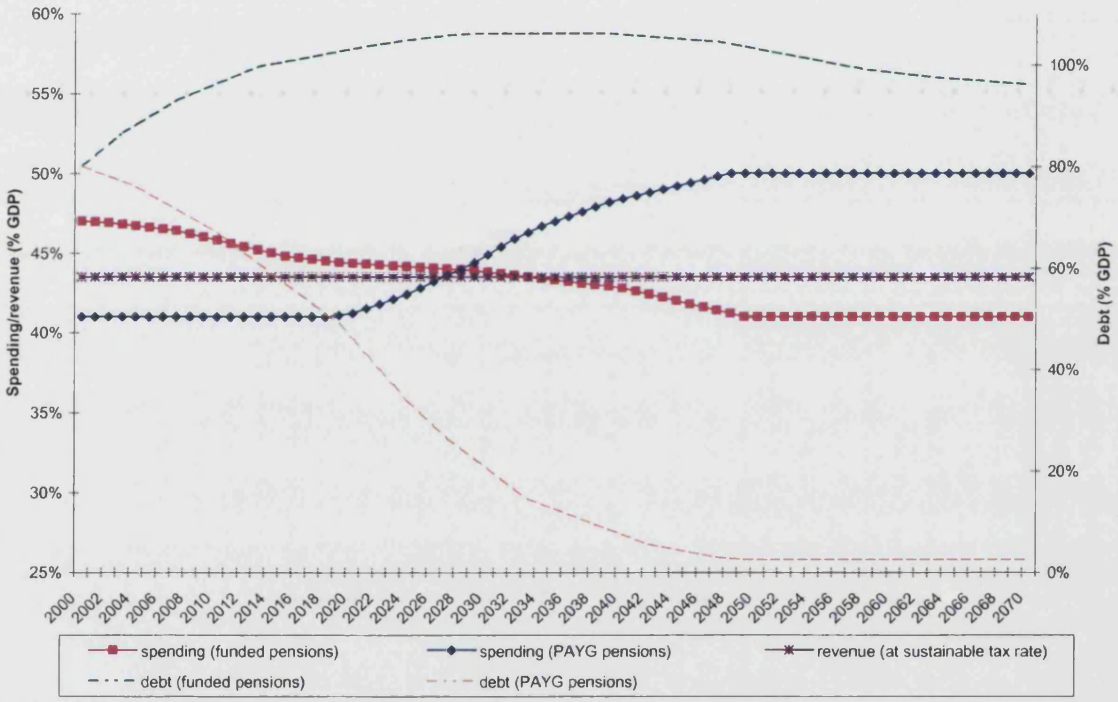
Funding all second tier pension provision therefore results in higher costs in the short-run but lower costs in the long run, and if contributions are set so as to equal spending (i.e. on a PAYG basis) it is not clear whether such a policy should be interpreted as increasing or decreasing the cost of pensioning. However, under the sustainable tax framework adopted here - where it is in any case assumed that NIC revenue rises in line with income tax (i.e. with GDP) - the effect of fully-funding SERPS becomes more

124 This estimate for the cost of full contracting-out has been derived by the author from GAD (1999, Table 7.3) by comparing column 1 (current policy) and column 4 (all members of SERPS contract-out into a personal pension scheme).

transparent. In itself funding does not affect the IBG (benefits are the same as under current policy) but because it brings forward expenditure the relationship between current spending and the sustainable tax rate alters, causing the optimal debt profile to alter in turn. Figure 4.10 illustrates, using the example set out at the end of Section 4.1 to show the effect of fully-funding all compulsory pension provision (i.e. both first and second tier pensions). For the sake of illustration it is assumed that moving onto a fully-funded basis would initially cost 6% of GDP.

Figure 4.10

Stylised effect of funding pensions under a sustainable tax regime



The Figure shows that, assuming rebates are actuarially-fair, funding does not alter the sustainable tax burden. Rather, its effect is to change the shape of spending, in the example shown reversing the previous low-to-high trend. In turn this means that, in this example, when the full-funding policy is implemented current spending (including rebates) is above the sustainable tax rate, and hence in the short-term the government will need to borrow in order to hold taxes at the sustainable level. Consequently the optimal policy is now to increase public debt rather than rapidly reducing it (as was

optimal when there was a PAYG pension system, see Figure 4.1)[125]. The arguments for and against such a such a 'borrow and fund' policy are discussed in Section 4.5.

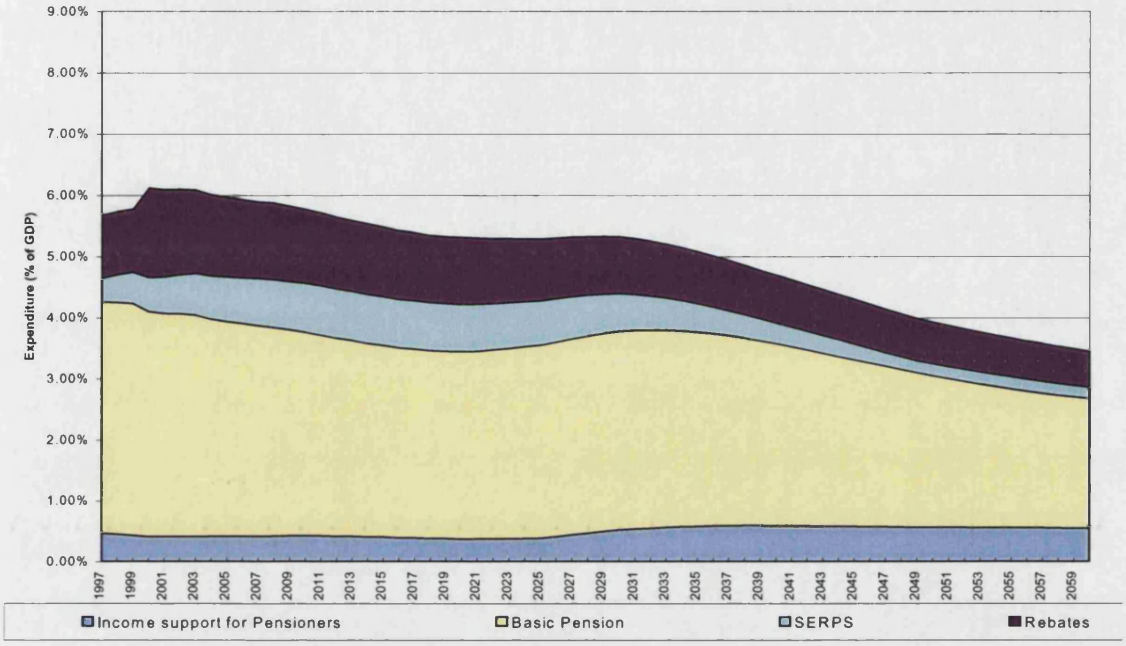
The effect of the Basic Pension Plus proposals put forward by the Conservative Party in the run-up to the 1997 election (see Lilley, 1997 and Section 3.5) is set out in Figure 4.11. Under this policy, as well as everyone receiving rebates (i.e. full contracting-out), the value of rebates is increased to 5% of earnings[126]. The policy therefore results in an increase in the compulsory pension benefits paid to retirees and hence in their total cost (i.e. the sustainable tax burden is higher than under baseline policy; see Table 4.2). The Figure shows that, in accordance with the analysis above, because the scheme is fully funded these additional costs are weighted towards the near future, when there is little (or no in the first year) reduction in SERPS payments to compensate for the extra cost of rebates. Note also that, because rebates are larger under this option (as well as more numerous), the 'break-even' point is now more like 2040, as opposed to around 2030 when benefits are left unchanged (see Figure 4.9).

125 In a similar vein, Belan and Pestieau (1999, p. 118) comment that *"privatisation which involves moving from an unfunded to a fully funded scheme is neutral if public borrowing is used to finance the retirement of the transition generation. In other words, a pension privatisation that leaves the mandatory contribution rate equal to the payroll tax of the former public system, and that does not alter the terms of eligibility or magnitude of retirement benefits under the old system, will have no impact on the disposable income and wealth of individuals who move from the old system to the new.... In effect, the privatisation simply converts an implicit government obligation to future retirees into explicit debt".*

126 As set out in Section 1A.2, under SERPS the effective compulsory contribution rate is currently 4.6%, though this is steadily falling to 3.5% as the scheme matures. Note also that as originally set out the Basic Pension Plus envisaged moving the basic pension on to a funded basis; as in Section 3.5 this part of the plans is ignored here.

Figure 4.11

Expenditure on first and second tier pensions under compulsory saving; % GDP



Finally, the effect of each of the four ideal types on the intertemporal budget gap (IBG) is set out in Table 4.2. As with Table 4.1 earlier, the IBG under each option is expressed in terms of the immediate and permanent change in tax needed to close it on a number of different bases. The Table complements Table 3.11 at the end of the last chapter, which summarised the distributional effects of the four options. In effect together the two Tables create something like a 'menu with prices' for pension policy, PENSIM's analysis providing a description of what is being bought and generational accounting putting a price to each dish. The arguments for and against each policy are discussed further in Section 9.4.

Table 4.2

Intertemporal budget gap and required change in taxes under 'ideal type' policies

	Intertemporal Budget Gap; % of GDP	**Change in annual tax revenue needed to close IBG**		
		Absolute terms; £ billion	*% GDP*	*% Income Tax revenue*
Baseline (see Table 4.1)	-11%	-2	-0.3%	-3%
Targeting	-43%	-10	-1%	-11%
Basic income	39%	6	1%	10%
Social insurance	62%	11	1.6%	16%
Compulsory saving	3%	1	0.1%	1%

Focusing on the absolute cost of closing the IBG (column 3), and accepting the analysis in Section 4.2 that under current policy there is a slight surplus (i.e. tax revenues are just above the sustainable tax burden), the Table may be summarised as follows:

- under targeting taxes could be cut or spending increased by £10 billion;
- under a basic income taxes should be increased (or spending reduced) by £6 billion and under social insurance by £11 billion;
- under compulsory saving a small increase of £1 billion in the overall level of tax and contributions is required, but if compulsory pension payments are seen as being distinct from general taxation then this will appear as a reduction in tax combined with a more than offsetting increase in compulsory pension contributions.

4.4 How reliable are the results?

As with all forecasts of the distant future CSK's projections are based on numerous assumptions, changes in which would significantly alter the results. Moreover, though their exercise is already data-intensive, arguably it should be even more all-encompassing in terms of the elements of public spending and tax revenue modelled. Listed below are some of the most important problems with generational accounting in general, and with the NIESR model in particular.

1. Generational accounting models are only as good as the demographic projections on which they are based. Though the official population forecasts for the UK produced by the Government Actuary provide point estimates for the population in future years, they are in fact subject to a high degree of uncertainty[127]. This reflects the fact that population projections are based on a range of assumptions about demographic variables (such as mortality, fertility and migration) which inevitably we cannot know with any great precision. By way of example, the mid-1996 population projections used in GAD (1999) are based on the assumption that net immigration to the UK will cause the population to grow by 68,500 people a year (see GAD, 1999, p29); in fact net immigration in 1998 was 178,000 (though this may reflect temporary factors such as the break-up of former Yugoslavia). More important, however, are the fertility and mortality assumptions, which are particularly difficult to forecast accurately. For instance, the mid-1996 estimates are based throughout on the current fertility rate of 1.8 children per female, rather below the replacement rate of 2.1 and substantially below the fertility rates experienced during the immediate post-war years and in the 1960s (see Falkingham, 1997, pp. 18-19). The projection would look very different if it was assumed that fertility eventually returns to replacement rates or, alternatively, if a trend decline towards very low rates (as seen in, e.g., Italy) were assumed.

2. Projections of the future cost of public services are subject to wide uncertainty about the relationship between demography and spending, and projections are therefore subject to an expanding 'funnel of doubt' as they attempt to forecast ever more distant periods (Richards, Wilsdon and Lyons, 1996, Ch. 3). This issue is particularly important in relation to forecasting health spending, where there is great uncertainty about whether the increased years of life brought about through improved medical technology and nutrition will be healthy or unhealthy. One view holds that better health-care will lead to a compression of morbidity, with death being preceded by less years of disability or ill-health (on average). Against this it is argued that the main effect of modern health-care is to keep unhealthy people alive, prolonging the years in which state health services must be provided for them. The jury is still out on this issue. However, it should be noted that the NIESR model tends towards the latter view – it

127 The discrepancy between the Government Actuary's 1994 and 1999 projections for spending on SERPS shown in Table 2.8 earlier also demonstrates the fallibility of actuarial estimates.

assumes that the age-profile of spending on health-care will be the same in the future as it is today, despite the fact that the life expectancy will be greater.

Nevertheless, even with this pessimistic assumption, the baseline results suggest that health spending will rise at an average real rate of only 2.7% per year from 2000 to 2030 (i.e. just under one percentage point higher than earnings growth). This significantly underestimates increases in spending over the past two decades: as shown by Le Grand and Vizard (1998, p. 86), health spending in fact grew at an annual real rate of 3.3% pa between 1978/9 and 1995/6 (throughout which time Conservative governments were in power)[128]. It is also far lower than the 5% real annual increases provided under the July 2000 Comprehensive Spending Review (see HMT, 2000a, Ch. 8). Given this there is a strong argument for using CSK's 'looser policy' scenario, which envisages health spending rising from 6.8% to 8% of GDP by 2005 (in line with the Prime Minister's announcement in January 2000 that UK health spending would rise to the European average), and growing at 0.25% faster than earnings after this date[129]. Under this scenario CSK's estimate for the IBG jumps from 20% to nearly 60% of GDP, and this change would certainly be sufficient to put the baseline estimate firmly into the red (see Table 4.1).

3. It is difficult to be sure that the data used in generational accounting models are genuinely complete. Public spending programmes are enormously complex, and obtaining estimates for some areas may involve using data which is difficult to obtain or beset with definitional problems. For instance, the NIESR model makes no attempt to model the inter-temporal effects of the student loans scheme, where part of today's outlays (recorded in the model) will be matched by repayments in future years (not recorded). Similarly, the effects of the Private Finance Initiative are not included in the model, despite the fact that the cost of payments to private contractors will grow in the

128 Harrison's (1998) analysis of health spending since the inception of the NHS in 1948 compares more favourably with CSK's baseline estimates. He suggests (slide 2) that the trend (average) increase in the proportion of GDP devoted to the NHS is 0.062% per year, so that we might expect the NHS to grow by 1.86% of GDP over the next 30 years and 3.1% of GDP over the next 50 years; CSK project growth of 2.1 and 3.3% of GDP over these periods.

129 In fact this increase in health spending is only one half of CSK's 'looser' policy scenario, which also envisages that after 2004 all benefits will be indexed in line with earnings. A break-down of the additional costs is provided in Table 6 of CSK.

future[130]. However, these problems are at least potentially resolvable (at least if sufficient resources are devoted to the modelling process). More difficult are the 'implicit liabilities' of the government, for instance to protect individuals in the case of major financial scandals (such as the collapse of Saving and Loans institutions in the US). Casey (1998, pp. 64-69) argues that in the case of private pension provision these implicit liabilities are substantial. Putting a precise cost on them is, though, an extremely difficult (if not impossible) task.

4. More generally, generational accounting models do not look at whether tax revenue is used to pay for consumption or investment. For instance, the model does not attempt to include asset depreciation, though if deprecation is constant this omission may not make a big difference to the results. The key point though is that generational accounting models are far better at analysing flows than stocks. This can create difficulties when (for instance) the government has the choice between auctioning property rights (as occurred with mobile phones) or granting licences and then taxing profits (as occurs under the North Sea Oil regime). The revenue effects of privatisation similarly illustrate the problem. As discussed in Hills (1989, pp. 79-83), an alternative, and potentially preferable, way of looking at the government's fiscal position is through compiling a balance sheet of its assets and liabilities, from which an estimate of its net worth can be deduced. Such a framework therefore avoids the problem that, in selling assets (such as nationalised industries or council houses), the state is essentially swapping equity for cash.

5. On the revenue side, generational accounting models do not at present deal adequately with tax reliefs. As Banks and Emmerson (2000, Table 5) show, the gross cost of tax expenditures related to pensions is nearly half the direct cost of state provision[131]. Moreover, as occupational and (particularly) personal pension schemes

130 The private finance initiative in fact well illustrates the problem which generational accounts are meant to tackle. A quote from a Treasury mandarin captures the issue: *"We are building up liabilities [under the private finance initiative] and, assuming ministers want a given level of tax, projects in the future will have to be displaced"* (Lipsey, 2000, p201).

131 Presenting estimates in this way can be criticised for ignoring the tax paid on benefit payments (i.e. for being 'gross' rather than 'net'). However, in fact the official estimates understate the true cost of tax reliefs, as they ignore NIC relief (on employers' contributions; see Section 1A.3). The estimates in Agulnik (1999a, p. 4) suggest that, in aggregate, these under-and over-estimates may roughly balance.

are still maturing, the cost of these tax reliefs is likely to grow further in the future, as the size of funds grows pushing up the cost of relief on the capital gains they realise. While the changes to the treatment of dividend income introduced in July 1997 will attenuate these gains (see Section 1A.3), given the falling cost of state pension provision it is not inconceivable that tax expenditures related to pensions will one day exceed the cost of direct provision (particularly if Individual Saving Accounts are bracketed with pensions as retirement saving vehicles). If such an event came to pass the usefulness of generational accounts which excluded tax expenditures would have to be seriously doubted[132].

6. It is very difficult to pin-down what assumptions should be made for earnings (and hence GDP) growth and, even more problematically, for the discount rate (Haveman, 1994, pp. 101-104). The earnings growth assumption might be derived from averaging past growth rates, or from official assumptions about trend rates of increase. While CSK's specific assumption of 1.75% productivity growth might be objected to, the range of disagreement is relatively narrow; somewhere between 1.5 and 2.5 percent would seem reasonable to most people. However, more problematic is the discount rate assumption needed to calculate the present value of future payments and receipts. In particular, Hills (1995a, p. 37) argues that the discount rate should be identical to the growth rate as, without this equivalence, in a steady-state future benefits will always be valued less than current taxes, causing an automatic loss for current generations[133]. Nevertheless, CSK use a discount rate of 5%.

7. The NIESR model does not include any allowance for future environmental costs. The notion of cost here has (at least) two interpretations. First there is the direct public expenditure cost of, for instance, nuclear decommissioning or building sea walls to protect against rising sea levels. Second, there are resource depletion costs, in the sense

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132 The role of tax reliefs in the arguments put forward in the 1950s debate on pension reform is highlighted in Chapter 5. As shown by Titmuss (1955, p. 73), the (gross) cost of tax expenditures at that time was substantially greater than the cost to the Exchequer of grants to the National Insurance Fund.

133 While the 5% assumption is also important in relation to the IBG, the effect of having a discount rate assumption which is higher than the assumed rate of earnings growth is less problematic, as it does not create any systematic bias. Instead, the effect of the discount rate being 5% rather than some smaller figure is that the importance of future years is lower than would otherwise be the case, so that changes in the balance between speeding and revenue in the immediate future are particularly important in determining the size of the IBG.

that finite resources are being used up which, as they become more scarce, will tend to rise in price. Neither of these effects are included in the generational accounts. More generally, the numerical techniques employed in generational accounting make no attempt to assess the true legacy which current generations are leaving for their heirs in terms of progress towards a just and environmentally-sustainable society (see Rawls, 1972, pp. 284-293 or Beckerman, 1997, pp. 403-404).

8. Last, like PENSIM it is possible that the NIESR generational accounting model suffers from computational errors ('bugs'), though none were found in the course of this analysis.

4.5 The funding debate

Section 4.2 showed that under the baseline policy assumptions used in this thesis, and in particular under the assumption that NIC revenue will grow at the same rate as income tax revenue, the IBG is more-or-less zero (i.e. as modelled, existing policy is sustainable). However, as noted in the last section, the assumptions on which this conclusion is based are (at the very least) open to question. Suppose therefore that there is in fact a deficit in the IBG, for instance because health spending is assumed to grow more quickly than in the baseline projection (the 'looser policy' scenario). What then would be the available policy options? Essentially they may be divided into two broad strategies. Under one strategy future spending would be reduced, for instance by increasing state pension age[134]. Alternatively, spending might be kept the same but advance action taken to offset increases in other ways. The first policy therefore levels-down public spending, so that taxes can be held constant at existing levels, while the other policy brings forward spending, so that the tax burden is 'levelled-up' to a point between present and projected levels.

One way of implementing the latter strategy is to fund pension provision, i.e. to move from PAYG (as under social insurance) to an asset-based strategy (as under

134 Note that this will save money irrespective of whether people actually retire later. As only a minority of households are entitled to benefits on the basis of having a low income or being disabled, increases in expenditure on benefits for working-age people will be less than the saving on pension benefits.

compulsory saving). As funding does not in itself affect benefit levels this policy may be bracketed with other 'levelling-up' strategies. Consider the following three alternative 'levelling-up' policies: reducing the national debt, funding public employees' pension provision, or investing in public infrastructure. The first of these can be thought of as the default policy for achieving the sustainable tax burden, as illustrated by Figure 4.1. However, the other two policies are equally valid ways of closing a deficit in the IBG – they both improve fiscal sustainability by 'spending to save'. Moreover, a case can be made for each in its own right:

- Reducing public debt could help to boost confidence in the government's ability to sustain economic growth in the face of demographic change or an unexpected shock.
- Funding the pensions of public employees may promote a more transparent remuneration structure for such workers, and might make it easier to compare value-for-money in the public and private sectors.
- Improvements in public infra-structure, such as school buildings, hospitals and railways, may have macro-economic and social benefits.

Given these alternatives, the question is whether analogous advantages can be claimed for a move towards funding. The below examines the two main arguments for this form of provision – that rates of return in funded systems are higher (and hence contributions lower) and that funding pensions boosts economic growth. A fuller discussion of the various issues is in Barr (2000, pp. 7-31), and in (amongst others) Aaron (1982, Ch. 4), Thompson (1998, Ch.s 3 and 4), Orszag and Stiglitz (1999, pp. 9-23), Feldstein (1996, pp. 5-11), Gale (1998, pp. 719-721), Mackenzie, Gerson and Cuevas (1997, pp.26-34) and Agulnik and Barr (2000, pp. 70-74).

Funding and rates of return

One argument used by advocates of funding is that, for any given level of pension benefits, contributions will be lower under a funded regime than under PAYG finance (i.e. funded pensions are better because they are cheaper). As shown by Samuelson (1958, pp. 471-474), the long-run (steady-state) rate of return in a mature PAYG pension system is equal to the rate of growth of the contribution base (i.e. earnings

growth plus any population increase). In other words, even if any net inter-generational transfers within the system have worked their way through, in countries with steady populations workers will earn a real rate of return on their social security contributions of between 1 and 3%, depending on the rate of earnings/productivity growth. This may be compared to rates of return in funded pension schemes, which most evidence suggests have been consistently higher since 1945 (if not before). Feldstein (1996, p3) puts the argument as follows:

> *"In contrast to the 2.6-percent equilibrium return on Social Security contributions, the real pre-tax return on non-financial corporate capital averaged 9.3 percent...* [As a result] *forcing individuals to use the unfunded system dramatically increases their cost of buying retirement income".*

However, picking a number for the private rate of return (9.3% according to Feldstein) is a hazardous business, as the different risk characteristics of PAYG and funded schemes must also be taken into account (if returns are higher but more variable then the risk-adjusted return may be the same – see Daniels, 1989, pp. 62-64 for a discussion of the case for risk-pooling via social insurance). Moreover, Feldstein's assumption excludes administrative costs. However, most important is the fact that a simple comparison between long-run rates of return ignores the costs of the transition from PAYG to funding. Even if it were proven that long-run real rates of return to funded schemes are higher than those which PAYG systems can attain (after adjusting for risk and administration costs), the assertion that this automatically means state pension schemes should move to a funded basis is incorrect. Diamond (1999, p.10) puts the argument as follows:

> *"there is a transition cost in order to generate funding. Once one includes the cost of financing the funding, then a funded system overall does not have a higher rate of return. What is true is that eventually there can be a higher rate of return, but that comes at a cost of a lower rate of return while the funding is being built up. So one must consider both the cost of funding and the return from funding. It is wrong to consider just the return without considering the cost".*

A different way of thinking about this issue is to consider whether a Pareto-improving reform of a PAYG pension system is possible. If rates of return to funded and PAYG pensions differ then, it would appear, there is a possibility of creating a self-funding reform through borrowing during a transition phase. In other words, a policy of

'borrow and fund' could be Pareto-improving. However the adverse knock-on consequences of expanding debt may exceed the benefits of a more efficient contribution system. It is for this reason that Miles (1998) argues that it may not be possible to design a reform which would be Pareto improving, in that any reform which fully compensated losing generations would have such adverse consequences that all of the economic gains from funding would be cancelled out. In a similar vein, Chand and Jaeger (1996, pp. 32-3) comment that:

> *" ... the fiscal costs of undertaking such a shift* [to a fully funded scheme] *may be very high, and ... meeting those costs may require, in many cases, an amount of fiscal adjustment that is substantially higher than what would be needed to fix the PAYG system".*

This 'equivalence proposition' (as Barr, 2000, p. 27, terms it) therefore means that differences in rates of return are not, on their own, sufficient to justify moving from PAYG to funded pensions systems (see also Belan and Pestieau, 1999, pp. 123-127, and Geanakoplos, Mitchell and Zeldes, 1999, Section 3).

Funding and growth

The other main argument for funding is that it will raise the capital stock and hence economic growth rates. In order for this to be the case two conditions must hold. First, expanding private pension provision must increase national saving and, second, such increases must lead to higher investment.

It is the first of these propositions which is generally more contentious; as discussed in Section 3.1, the effect of changes in first and second tier pensions on voluntary third tier provision is contentious and, similarly, estimates of the extent of 'offset' between funded and unfunded provision vary widely[135]. However, many economists also dispute whether the second proposition is as axiomatic as politicians and others often assume. For instance, Atkinson (1995, pp. 41-45) questions whether higher saving will always lead to higher investment, arguing that in some instances higher saving will reduce consumer demand and cause firms to scale-back investment as their expectations

135 Barr (2000, p14) sums up the evidence as follows: "though there is some empirical evidence that funding contributes to higher savings in the US, there is no robust evidence of a similar effect elsewhere".

become more pessimistic. This 'paradox of thrift' means that, in certain circumstances, higher saving can reduce growth (Keynes, 1936, pp. 211-213).

A further argument is also relevant to many European countries. In small, open economies (such as the UK) there is no direct connection between the amount saved and the amount invested - any paucity or superfluity of savings relative to investment will be reflected in international capital flows. Therefore, in an open economy the effect of increased saving on investment is indirect, with higher savings reducing interest rates and hence inducing firms to invest more. But where interest rates are not determined domestically, for instance because of monetary union with other countries, or as a result of fixed exchange rates, then an increase in savings will not affect the cost of borrowing. Accordingly, in such economies saving rates will have no effect on investment (Ruggeri and Fougere, 1997, pp. 39-40).

Other arguments for funding

The two main arguments in favour of funding pensions are therefore highly controversial. However, there are also a number of other arguments which should be considered. One is that funded pensions are better-insulated from political pressures, i.e. that such a policy severely restricts governments' ability to renege on earlier commitments to provide a certain level of state pension. Ultimately this is an empirical question: it can equally plausibly be argued that funded schemes are **more** vulnerable because they face a greater range of non-transparent assault, e.g. withdrawal of tax privileges such as the change in ACT introduced in June 1997 (see Section 1A.3).

Another argument is that multiple modes of finance diversify the risks facing pensioners. For instance, Holzmann (2000, p. 21) argues that "*the principal advantage of a multi-pillar pension scheme lies in risk diversification. Not all of the population's retirement portfolio will be held hostage to political and demographic risk*". However, this is only true if the risks associated with public and private pensions are negatively correlated or, at a minimum, unrelated. While it may be the case that political risk and investment/management risk are independent, again this is ultimately an empirical question.

Finally there is a practical argument for funding, which may be relevant if swings in government expenditure are too large to be absorbed wholly by changes in public debt. For instance, if public spending is projected to grow rapidly in the future (perhaps because of a decision to link the basic pension to earnings) then the sustainable tax burden might be so far above current revenue that all public debt would quickly be paid off. At this point some kind of national trust fund (as recently created in Ireland, for example, and as proposed by Al Gore in the run-up to the November 2000 US elections), would need to be created to allow tax rates to be smoothed. However, this is rather more problematic than paying off debt, as it requires a new institutional framework to be established, and potentially runs the risk of state interference in investment decisions (Greenspan, 1999). In this case funding part of the state's pension obligations may be seen as a way to offset some of the necessary reduction in public debt, thus avoiding the need to create a public fund invested in equities. In the UK this is perhaps the strongest argument for funding pensions - by bringing forward this part of public spending funding will create room for increases in spending on other benefits or, if 5% real increases are kept up in perpetuity, in spending on the NHS.

4.6 Conclusion

Banks, Disney and Smith's (2000, p. 595) analysis of the lessons which can be drawn from generational accounting concluded that "*generational accounts are at best a first order approximation of the object of interest – contemporaneous and lifetime living standards*". Though this criticism is perhaps too harsh - generational accounting does not claim to be a way of analysing living standards - it does point towards the lack of clarity about why policy should be looked at in this way. What generational accounting is not, and can never be, is a measure of 'generational equity'. If the concept means anything at all it should surely take into account wider considerations such as environmental damage, resource depletion, etc. The real role for generational accounting is therefore as a means of calculating whether existing tax revenue will be sufficient to cover future bills – it is the 'inter-temporal budget gap' (as CSK call it) which should be the focus for attention.

However, even on this level the generational accounts miss out important influences on the government's fiscal position; for instance, no account is taken of the effects of changes in the level of public investment or the implicit debts accumulated under the private finance initiative. Nevertheless, with the advent of resource accounting, and if sufficient time is invested in constructing models, there is some hope that such techniques will offer a useful way of assessing the state of the public finances. In particular, if models become sufficiently sophisticated, the inter-temporal budget gap might replace the 'golden rule' as a guide to whether fiscal policy is sustainable in the long run, and hence what level of public borrowing (debt repayment) is optimal. In other words, generational accounts may provide the compass through which tax rates can be smoothed over time, thus minimising the distortionary effects of taxation (Barro, 1979, p. 944). But continuing this metaphor, no matter how much generational accounts are improved there will inevitably be a need for 'in-flight' corrections: looking into the future is an enormously difficult business, and small changes in assumptions can make a large difference to final estimates.

Some 'down-side' risks in relation to health spending were discussed in Section 4.4, suggesting that the estimates presented in Section 4.2 were too optimistic. However, there are also significant 'up-side' risks to future public spending. In terms of health-care, it is possible that improved technology will result in a compression of morbidity (i.e. people will live relatively healthy lives before dying suddenly in very old age), so that changes in demography overstate future demands on the NHS. At the extreme, advances in genetic engineering could result in (for instance) a cure for cancer, with dramatic reductions in health costs ensuing. Moreover, the projection for productivity growth used in the generational accounts (1.75%) may prove to be too cautious. Though economic analysis has traditionally suggested that productivity improvements slow down as societies grow richer (due to diminishing marginal returns from capital accumulation), commentators such as Castells (2000) point to the potential for information technology to transform productivity and economic growth rates.

If the government is successful in its aims to increase the UK's long run rate of productivity growth then the UK generational accounts would record a very substantial surplus. The best guess, however, is that this position has not been reached. Moreover,

as Part B discusses, the problems facing the UK pension system in any case imply that future public spending will probably need to rise. Hence even if the baseline assumptions and projection outlined earlier are accepted, a modest fiscal tightening would then be required.

Part B. Pension reform in practice: the State Second Pension

This part looks at one specific pension reform: the proposal to replace SERPS with a new State Second Pension outlined in the Green Paper 'A New Contract for Welfare: Partnership in Pensions' (DSS, 1998, Ch. 6). Chapter 5 sets out the background to the reform by providing a brief history of pension policy in the UK, focusing in particular on the origins of SERPS (the pension reform introduced by the 1974-1979 Labour administration), and by outlining the rationale for the new scheme. Chapter 6 then describes the reform in detail and analyses its effects on pensioner incomes and on the public finances.

5. The origins of the State Second Pension: a brief history of state pension provision in the UK

This Chapter and Chapter 6 look at one particular pension reform: the replacement of SERPS by the State Second Pension (S2P) legislated for in the 2000 Child Support, Pensions and Social Security Act (and first set out in the Green Paper *A new contract for welfare: Partnership in Pensions,* DSS, 1998, pp. Ch. 6)[136]. The details of the reform are in Chapter 6, which also sets out its effect on pensioner incomes and on the public finances. However, this chapter first describes the historical background to the introduction of the S2P, tracing the development of pension provision in the UK from its inception in 1908 through to the present day (Sections 5.1 – 5.3), and the rationale for the new scheme (Section 5.4).

The historical analysis concentrates on the period after 1955, and, after this date, on the policy debate within the Labour Party (rather than in government or in Parliament). As we shall see, the roots of Labour's current pension policies lie in the document *National Superannuation*, which was approved at the Party's 1957 conference. The introduction of SERPS over twenty years later stems directly from the policies adopted then, and, in turn, the introduction of the S2P can be seen as a pragmatic response to the inherent flaws in SERPS. Understanding the S2P therefore requires an explanation of why 'Old' Labour came to enthuse about earnings-related social insurance, in spite its lack of clear redistributive qualities, and in the face of the more progressive ideas put forward (at least initially) by Richard Titmuss. This is the job of Section 5.2. However, before looking at Labour's Damascene conversion to the principle of

136 At the time of writing the government's plan is to introduce the S2P in April 2002, though there is some doubt as to whether the necessary administrative changes can be made by this date. The move to the full 'stage 2' scheme (see Section 6.3) would then take place some five years later, i.e. not until 2006 or 2007. It should also be noted that two other changes were included in the Green Paper. First, is the move to linking the level of Income Support for pensioners to earnings rather than prices (the policy of the previous Conservative government), and to re-brand it as a 'minimum income guarantee'. However, this change was in fact announced in the March 1998 Budget, six months before the Green Paper, and hence is included in baseline policy here (see Section 2.2). Second, the Green Paper heralded the introduction of 'Stakeholder' pensions, a new form of personal pension for low and moderate earners. Though this reform will have some implications for pensioner incomes, through reducing costs and charges and hence leaving a bigger sum to be annuitised on retirement, these effects are not sufficiently large to be considered in the analysis in this thesis. This element of Labour's reforms is therefore ignored.

earnings-relation, it is first necessary to describe the development of pensions in the UK in the years prior to *National Superannuation.*

5.1 From the Poor Law to flat-rate social insurance

The earliest form of state pension provision in the UK was the means tested scheme introduced in 1908 by the Liberal government of H. H. Asquith. As set out comprehensively in Macnicol (1998, esp. Parts I and II), from which the analysis in this section is largely drawn, the 1908 scheme grew out of the system of outdoor relief which had developed under the Poor Law, whereby assistance payments were made to the 'deserving' elderly poor without them being forced to endure the harsh conditions of the workhouse. In both structure and purpose the 1908 scheme was therefore similar to the means-tested assistance provided through Income Support – it was a mechanism for keeping older people out of extreme poverty (and thereby out of the reach of the Poor Law; see Gilbert, 1966, pp. 228-230). As such, from its earliest beginnings the UK's pension system differed markedly from the kind of comprehensive social insurance systems which, following Bismarck's landmark legislation of 1889, came to dominate pension provision in continental Europe.

Moreover, the reason for the introduction of state pensions in the UK was quite different from that in Germany and elsewhere. While Bismarck had seen his scheme as a means of tying-in workers to the market economy through enlarging the social functions of the state, the development of public pension provision in the UK cannot be seen simply as an attempt to 'buy off' the proletariat. Macnicol suggests that a number of factors were at work. One, certainly, was the prospect that the newly enfranchised working classes would vote for more radically redistributive programmes, as espoused by the Independent Labour Party and other socialist groups, unless their interests were accommodated (see Gilbert, 1966, pp. 202-203, for evidence of the effect of Labour's growing parliamentary representation on the Liberal government's post-1906 programme). But more prosaic factors were as, if not more, important in persuading Asquith's government of the need to introduce state pensions. Macnicol (Ch. 2) highlights in particular the arguments of industrial efficiency which favoured such a reform: state pensions might promote a shake-out of older workers and boost

productivity; they would relieve firms of their (moral) duty to look after 'worn-out' workers; by reducing Poor Law expenditure on the elderly a national pension scheme would reduce the burden of local taxes on business (who were obliged to finance local poverty relief); and, by removing the oldest from the Poor Law, pensions would help to maintain the tough benefit conditionality applied to the working-age population, thus (in their terms) improving the operation of the labour market.

That some form of state pension provision should have been introduced at the start of the twentieth century is therefore unsurprising. However, the fact that the 1908 scheme was tax-financed and means-tested is more of a puzzle. The first of these meant that the effect of the scheme was to redistribute income directly from the rich to the (older) poor (Gilbert, 1966, p. 159); as the vast majority of manual workers had insufficient earnings to pay tax, the benefits provided by the scheme were paid for by the professional and upper classes. Arguably, rather than satiating demands for broader redistributive measures, the scheme therefore acted as the thin edge of a highly-populist wedge (Thane, 1982, p. 84). Moreover, the fact that the scheme was means-tested gave those calling for universal tax-financed pensions a further argument for expanding state provision. As documented by Macnicol (pp. 171-175), and by Hannah (1986, p. 29), under the 1908 legislation large sections of the working classes had little or no incentive to save for old age: the means test applied to the state pension meant that if they contributed to a savings scheme (as many trade unions and friendly societies had started to run), or if their employer set up an occupational pension scheme, consumption during their working lives would be reduced for little or no gain in terms of an enhanced income later in life[137]. Hence, given the consensus that self-provision by the working class should be encouraged, and the adverse effect of the means test on the development of voluntary pensions (including occupational schemes), some move towards a more universal basis for entitlement was probably inevitable.

The key question which post-1908 reformers faced was therefore whether universal (or near-universal) pensions should be tax-financed or 'contributory', i.e. on a social

137 This is the problem of moral hazard discussed in detail in Section 7.1. For examples of the practical effect of means testing on the development of private pensions in the UK at the start of the twentieth century see Hannah (1986, Ch.s 2 and 3). Walley (1972, pp. 132-134) also highlights the problem of additions to means-tested benefits to cover housing costs, arguing that the gap between the basic pension and Supplementary Benefit (now Income Support) was a key issue for reformers in the 1960s and 1970s.

insurance basis. With heavy backing from the Treasury, the latter view won the day, and in 1925 Neville Chamberlain introduced a new Act to extend National Insurance from sickness and unemployment to provision for old age. The UK's peculiar system of flat-rate social insurance, variations on which were in operation throughout the following half-century, originates with this legislation.

In essence the new scheme obliged manual workers (and others earning below £250 a year) to pay a weekly flat-rate insurance 'stamp', in return for which they would receive flat-rate pension benefits in retirement. Even though this meant take-home pay was reduced, the benefits offered by the scheme were sufficient to overcome objections from the labour movement. For one, employers also paid the stamp and, together with the Exchequer contribution, this meant that employees met less than half the cost of the scheme[138]. And in contrast to the means-tested scheme, which applied only to people over the age of 70, contributors would become eligible for the National Insurance pension at 65, and women would qualify for pensions in their own right (see Thane, 1982, p. 198, for a detailed description of the scheme). But the most important factor in securing popular support for the new scheme was that the level of benefits it promised would be significantly above existing benefit levels under the 1908 scheme. Hence, from the labour movement's point-of-view, not only did the scheme appear to be a good deal (due to the Exchequer and employer contributions), it also lent support to voluntary savings schemes and to the growing number of occupational pension schemes (which were concentrated in highly unionised industries).

However, in practice the scheme failed to live up to the hopes of its supporters. In particular, the pensions it produced failed to keep up with rising expectations about the level of income which should be provided for the poorest, and increasingly during the 1930s local Poor Law authorities paid supplements to those who relied wholly on their National Insurance pension (Hannah, 1986, p. 53). While materially such payments

138 While in general it is a fallacy that employee, employer and Exchequer contributions are economically distinct (in that they are all ultimately paid by individuals), the distributional incidence of each type of contribution can vary significantly. In the pre-war era, when employee contributions were flat-rate, and when highly progressive income and estate taxes accounted for a greater proportion of government revenue, the Exchequer contribution effectively redistributed income from richer taxpayers to poorer National Insurance contributors and benefit recipients. It was therefore an important redistributive element within the scheme.

were minor, they cut to the heart of the problem with the scheme: unless benefits were set high enough, and were adjusted to take account of rising prosperity, the scheme would fail to relegate means tested benefits to a subsidiary role. But increasing the level of benefits would mean higher contributions from employees, unless the balance of contributions was altered. Given the straitened economic circumstances of the 1930s reducing take-home pay was not seen as feasible, and the government was also unwilling or unable to increase its own contribution, or that of employers. Hence contribution income, and therefore benefit levels, were severely constrained.

The failings of the existing social insurance scheme were set out explicitly by Beveridge (1942, paragraph 237). However, his proposals for reforming the system did not fundamentally alter Chamberlain's scheme[139]. Flat-rate contributions for flat-rate benefits remained a central feature of National Insurance, though a somewhat larger Exchequer contribution was envisaged[140]. Perhaps unsurprisingly, the constraining effect of flat-rate contributions on the level of benefits once again soon became apparent. Almost immediately after the new scheme was introduced benefit levels fell in relation to average wages, and in fact the level of benefits it provided never greatly exceeded that of assistance benefits. Given that such benefits also made provision for meeting housing costs, the extent of means testing among pensioners remained substantial. Hence the scheme achieved neither its objective of alleviating poverty among the elderly without recourse to a means test, nor of encouraging voluntary saving amongst all those of working age (Evans and Glennerster, 1993, pp. 60-62; Lowe, 1994, pp. 120-122). The Beveridge report does not therefore mark a fundamental turning point in the history of UK pension provision (though the same could not be said of social policy more generally); its proposals built on existing policies and did relatively little to tackle the underlying problems with flat-rate social

139 The essential continuity between his proposals for financing social security and earlier schemes is acknowledged in paragraph 277 of the Report. Ellis (1989, paragraph 5) similarly comments that "*Beveridge's proposals for pensions largely retained the structure of the 1925 scheme*".

140 The increasing proportion of costs to be borne by the Exchequer are discussed in paragraphs 287 to 293 of the Report. However, though his long run aim was to increase the proportion of expenditure met through taxation, in the short run Beveridge proposed that most of the immediate cost of his scheme should be met by employees and employers (due to the other burdens which would face the government in the aftermath of the war). In fact, as discussed by Titmuss (1955, pp. 65-66), by 1955 the Exchequer bore a smaller proportion of the cost of social insurance than it had under the pre-war scheme. For a detailed description of how this came about see Labour Party (1957, p59).

insurance which had already surfaced (Thane, 1982, p. 254). More important in terms of understanding the development of the UK's social insurance system, and the move to earnings-relation in particular, is the policy document *National Superannuation* (Labour Party 1957).

5.2 Unpicking Beveridge: the move to earnings-related social insurance

The ideas in *National Superannuation* were largely based on the arguments of three LSE academics: Richard Titmuss, Brian Abel-Smith and Peter Townsend. Indeed, somewhat over half of the document is taken up by a memorandum by the three who, reporting as a 'technical sub-committee', set out how an earnings-related pension scheme might work in practice, and its financial effects on individuals and the Exchequer. Along with the writings of Richard Crossman, the politician most associated with the scheme at its outset, and the one who first sought to see it implemented in 1969, it is the analyses of these three authors which provides the best guide to why flat-rate social insurance was abandoned.

The first important attack on the existing model came in a 1955 Fabian pamphlet by Abel-Smith and Townsend. Rather than tinkering with the flat-rate benefit/flat-rate contribution model of Chamberlain and Beveridge, they argued that far more radical change was needed, proposing instead that both pensions and contributions should be related to earnings. Their reasons were fourfold. First, they noted the regressive effect of flat-rate contributions, which acted as a 'poll tax' and discouraged part-time work. They suggested that proportionate contributions could raise more revenue while reducing the cost of National Insurance Contributions for low-paid workers. Second, they argued that Beveridge's insistence on flat-rate benefits was ill-suited to the growing prosperity of the post-war years, and that true security in the modern era must take account of the "*habits and standards of life to which people have become accustomed*"(Abel-Smith and Townsend 1955, p. 5). Third, they saw earnings-related pensions as the only way to ensure that National Insurance benefit scales (and indeed other benefit rates) could be 'dynamised', so that their value kept up with increases in

national prosperity/earnings[141]. Last, they suggested that it was only if the flat-rate pension kept pace with increases in earnings that reliance on means tested assistance could be reduced, and that, even then, compulsory additional pension provision might play a further important part in minimising the number of pensioners on assistance benefits. In sum, earnings-related benefits would simultaneously reduce reliance on means tested benefits (through additional pensions forming a wedge between the basic pension and National Assistance), dynamise the flat-rate pension so that annual increases occurred automatically, and ease the path to earnings-related contributions. Moreover, in their analysis the provision of earnings-related pensions was right in principle, and was a necessary part of any modern conception of 'social security'.

Though writing in the same year as Abel-Smith and Townsend, Titmuss (1955, pp. 68-73)[142] offered a rather different perspective on the problems with existing arrangements. For him the real issue was the way that private pensions were organised and, in effect, subsidised by the state via tax relief (see Section 1A.3). In terms of social policy it was the way this 'division of welfare' was determined which was important, not the structure of National Insurance *per se*. Titmuss's analysis was largely based on two official reports produced in 1954 – the Millard Tucker committee's inquiry into the tax treatment of pensions (Cm. 9063) and the more general report of the Phillips committee (Cm. 9333) – which had highlighted the extent to which private pension provision was supported by tax reliefs. According to the latter report the cost of such reliefs was around £100 million, rather more than the £45 million cost of the Exchequer contribution to the National Insurance Fund and the additional £34 million lost through exempting NI contributions from income tax[143]. Though both reports argued in favour of retaining, or even extending, the tax privileges given to private pension schemes,

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141 As discussed by Gründger (1994, pp. 149-150), the concept of dynamisation was "decisive" in the concurrent debate in Germany on pension reform, and Abel-Smith and Townsend may have benefited from contact with German colleagues in 1953.

142 In order to show the course of the debate during the 1950s Titmuss's contribution, in the form of his essay *Pension Systems and Population Change*, is attributed to 1955, the year it was first published in the form of an article. However, references here are in fact to the third (1976) edition of *Essays on the Welfare State*, the collection it was subsequently published in.

143 All figures taken from Titmuss (1955, p. 69). Note that the estimated cost of tax reliefs shows the gross loss of revenue resulting from exempting pension contributions and pension scheme revenue from the tax base. As discussed in Agulnik and Le Grand (1998, pp. 407-408), the more relevant figure is the net cost of tax (and National Insurance) relief. Nevertheless, Titmuss's argument that the cost of such reliefs was substantial, and their impact highly regressive, holds true.

Titmuss concluded that a radical re-balancing of priorities was required. Tax reliefs on private pension schemes should be reduced or abolished, thus simultaneously widening the tax base and making it more progressive, while the "*long term and foreseeable dependencies of old age should be shouldered by general taxation just as the long term dependencies of children are*" (Titmuss, 1955, p.67). While stopping short of recommending a wholly non-contributory scheme, the thrust of Titmuss's proposals was clear: increases in employee contributions should be minimised, more of the burden of paying for higher flat-rate pensions should come from the Exchequer, and some if not all of the additional revenue needed to pay for this contribution should come from curtailing tax reliefs provided to private pensions.

Titmuss's highlighting of the cost of tax relief was not simply a device to persuade workers that better pensions could be paid for without hitting their pay packet. Rather, he saw a reduction in state support for private pensions as part and parcel of a deliberate attempt to diminish their extent and influence[144]. He had two principal objections to occupational provision. First, the fact that (at that time) people changing jobs had to forfeit all employers' contributions was grossly unfair to contributors and, by limiting labour mobility, would lead to "*a gradual hardening in the economic arteries of the nation*" (Titmuss, 1955, p.73). Second, he thought that the existence of occupational pensions would tend to exacerbate inequalities in later life, arguing that "*the outlines of a dangerous social schism are clear, and they are enlarging... Already it is possible to see two nations in old age*" (Titmuss, 1955, pp.73-74).

While many of Titmuss's criticisms were shared by Abel-Smith and Townsend, who similarly devoted a good deal of attention to the cost of tax reliefs, it would have been possible for their analyses to lead in different directions. Titmuss did not attack the principle of flat-rate benefits[145], nor indeed of flat-rate contributions, but argued that if

144 Hannah (1986, p.51) concurs with Titmuss in suggesting that the post-war growth in occupational pension provision was largely driven by the tax advantages they were afforded.

145 In a later piece, *The Social Division of Welfare*,Titmuss does though comment that if (as he suggests) the role of 'occupational welfare' is reduced, there naturally arises a question as to "*whether and to what extent social service dependency benefits should be proportionately related to occupational and income achievement*" (Titmuss 1957, p52/3). He does not answer his rhetorical question, but this does at least indicate that he saw room for disagreement with Beveridge's dictum that: '*in establishing a national minimum, it* (the state) *should leave room and encouragement for voluntary action by each individual to provide more than the minimum for himself and his family*" (Beveridge 1942, p 6/7).

the value of benefits was to be improved then higher Exchequer contributions were needed. The 'two nations in old age' which he forecast could just as easily have been averted through reducing earnings-related (i.e. occupational) provision and bolstering the finances of the NI scheme.

In contrast, Abel-Smith and Townsend argued that earnings-related provision was right in principle, but that the structure of the labour market was such that many people were excluded from occupational provision, and that, moreover, many of these schemes had undesirable features (such as the lack of preserved rights for leavers and the problems surrounding inflation-proofing). As described by Crossman (1972, p.10), in place of the 'levelling-down' strategy which might logically follow from Titmuss's analysis, they believed that the state should set itself the more ambitious objective of ensuring that *"what is now the privilege of a small minority... shall become the rule"*. It was this latter course which the Labour Party was to pursue, first in opposition and then in government.

The proposals in *National Superannuation* therefore set out a radically different agenda for pension policy. Beveridge's scheme, which Labour had legislated for only a decade earlier, was to be ditched. In place of the earlier emphasis on securing a universal subsistence income without recourse to the means test, Labour now proposed that 'half pay on retirement' should be the nation's goal. Beveridge's flat-rate benefits and contributions were to be largely replaced by earnings-related pensions and earnings-related contributions. The scheme, as outlined in 1957, was to work as follows. Everyone not in an 'approved' occupational scheme was to become a member of the new social insurance scheme, into which contributions proportionate to their income would be paid. To avoid very high earners accruing extremely large pension entitlements there would be a ceiling on the amount payable, as well as a floor below which no contributions were required. All workers would earn entitlement to a flat-rate pension, at a rather higher level than the existing basic pension, and to an earnings-related additional pension. The latter component would be calculated on the basis of an individual's earnings in each year, revalued in line with changes in average earnings, and the number of years that they had contributed for over their lifetime. A rather complicated formula (which varied accrual rates with the age of the worker) was

designed to ensure an earnings-replacement rate of around 30% so that, in combination with the basic pension, a worker on average earnings throughout life would retire on a pension equivalent to half pay. Poorer workers would enjoy a rather higher replacement rate (due to the flat-rate element) and richer workers would see a somewhat larger drop in their income on retirement. Widows would inherit full rights to the basic pension (unless they qualified on the basis of their own contribution) and half rights to the additional pension.

But for the existence of occupational schemes, the proposals in *National Superannuation* would have largely replicated the social insurance systems operated in other countries. However, the spread of occupational provision, and the importance within the Labour Party of unions with members in such schemes, made it politically impossible to simply impose a national scheme and expect occupational pensions to amend their benefits accordingly. The 1957 plans therefore contained an important development from Abel-Smith and Townsend's earlier work: members of occupational schemes would not be obliged to join the new scheme so long as their schemes afforded at least equivalent pension benefits. Instead, in a new addition to the pensions' vocabulary, members of such schemes would be able to 'contract-out', paying less into the state scheme and receiving less back in return. Though the authors may not have appreciated it at the time, by ceding this principle they had effectively placed a straitjacket on any ambitions to use the new scheme as an instrument of redistribution (see next section).

It is also worth noting two points which were left out of Labour's new proposals. First Titmuss's suggestion that the burden of the NI scheme borne by the Exchequer should be increased was explicitly rejected. Mimicking the sentiments expressed by Beveridge (1942, pp 107/8), *National Superannuation* put the argument as follows:

> *"If pensions became non-contributory and were financed directly by the Exchequer, a Labour Chancellor would be theoretically free to raise the pension scale immediately to a real subsistence level. In fact, however, this change might well make it more difficult to achieve a subsistence pension. There is a very real limit to the amount which the taxpayer – and that includes the working-class taxpayer – is prepared to pay in taxes...Moreover,...there is a legitimate fear among trade unionists that, if the State took over the whole responsibility for financing social security benefits, then the State might one day*

slash those benefits in order to weather an economic storm. As long as benefits are 'earned' by payment of contribution and financed out of an Insurance Fund, they are felt to be something which the worker receives as of right and which no politician can take away from him." (Labour Party, 1957, pp 9/10)

Second, though the inequity of the tax relief system is discussed in National Superannuation (pp 15/16), no mention is made of any new restrictions which Labour would impose on the availability of such reliefs. Titmuss's escape route for the flat-rate scheme – whereby increased benefits would be paid for through reduced tax reliefs – had fallen by the wayside in the rush to develop and popularise the new 'dynamic' pension scheme.

Opposition within the Labour Party to this radical change in policy was muted. Though, as Hannah (1986, p56) records, "*Aneurin Bevan and others on the left were less than enthusiastic about a scheme which appeared to perpetuate inequalities from working life into old age*", raising benefit levels through increasing the flat-rate contribution would have been even more inegalitarian and, as noted above, Titmuss's ideas for increasing the Exchequer contribution were seen as a political non-starter. And while the union movement was initially sceptical (Glennerster, 1995, p.105), trade unionists eventually became the enthusiastic backers of the plan (though Fawcett, 1999, pp. 167-168, suggests that Jack Jones and other trade unionists remained more committed to flat-rate pensions, leading to a dilution of Labour's final plans for SERPS). By offering contracting-out and new rights for people without access to occupational schemes the proposals in *National Superannuation* seemed to provide something for everyone. Existing pension schemes would be protected while the new scheme would provide equivalent benefits for those outside such provision. Because the shift to proportionate contributions was progressive the initial impact of the scheme was redistributive and, moreover, the change to proportionate contributions would simultaneously boost revenue so that higher benefits for today's pensioners could be afforded. Though, on the document's own admission, the initial contribution rates would need to be increased in the future, it was generally felt that "*if a small increase in contributions is needed in the nineteen-eighties, it is likely to be well within the earning capacity of the individual to pay at that date*" (Labour Party, 1957, p60)[146].

146 Note that this meant future workers were expected to be willing to pay higher proportionate contributions, not just higher absolute contributions. In other words, though (in these original plans) the

How the 1957 policy paper finally came to be enacted, nearly two decades later, is described in detail in Ellis (1989) and in Fawcett (1999), as well as in Glennerster (1995, pp. 105-115), Walley (1972, pp. 168-176) and Timmins (1995, pp. 347-350) [147]. Though between its adoption and implementation the scheme proposed by Titmuss, Abel-Smith and Townsend changed significantly, the State Earnings-Related Pension Scheme (SERPS) which was finally enacted in 1975 (with a start date of April 1978) bears many similarities to the proposals in *National Superannuation*[148]. Indeed, the vicissitudes of the policy development process were such that the legislation introduced by Barbara Castle (following on from the 1974 'Better Pensions for All' White Paper) was rather closer to the original 1957 blue-print than either Labour's 1969 proposals or the Conservatives' subsequent attempt to establish a 'national reserve pension' scheme. However it should be noted that two of the changes commonly attributed to the Castle scheme were in fact introduced prior to that legislation. First, the move to fully earnings-related contributions had been completed by the 1973 Pensions Act which, but for the fall of the Heath government in 1974, would have brought in the Conservative's preferred pension scheme. The incoming Labour government merely retained this element of the legislation while abandoning the rest (Fawcett, 1999, p. 177). Second,

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move to earnings-relation was to be partially funded (i.e. initial contribution rates would be above those implied by pure PAYG finance), a funding gap would still remain in the future. As it turned out, NIC rates in the 1980s were much higher than *National Superannuation* envisaged, though this was due mostly to the decline in Exchequer contributions.

147 The existence of the 'graduated pension' scheme, which operated between 1961 and 1975, should particularly be noted. Superficially, this scheme might be seen to mark the beginning of earnings-related social insurance in the UK. However, the system had no mechanism for uprating the value of benefits which people earned, so that, in an era of high inflation, the real value of the pensions produced by the scheme were very low, and most people saw it largely as a means of justifying the addition of a graduated element to NICs (over and above the flat-rate 'stamp' which continued in existence).

148 The most significant modifications to Labour's earlier plans were as follows. First, rather then letting the scheme mature naturally over a 50-year period (as envisaged under the original proposals), 'accelerated accrual' provisions meant that people could start drawing full benefits after only 20 years. Second, rather than pensions being calculated on the basis of average lifetime earnings, with accrual rates varying by age, benefits were to be calculated by reference to an individual's best 20 years of employment. Third, the abolition of the retirement condition for the basic pension, which had been anticipated in *National Superannuation,* was not pursued. Fourth, provision for widows, and indeed widowers, was further improved, with both the additional and basic elements of the pension being transferred in full to a surviving spouse. Fifth, the self-employed would continue to only qualify for the basic pension, paying lower contributions in return for the lack of earnings-related provision. Last, the objective of providing half pay on retirement for the average worker was slightly downgraded, the final scheme providing a basic pension of around a fifth of average earnings with an earnings-related supplement which, for someone with a full contribution record, would provide a pension of a quarter of their earnings.

the link between the basic pension and earnings in fact already formed part of the government's programme and, arguably, the 'dynamisation' of this element of provision was not reliant on the creation of SERPS (see Fawcett, 1999, pp.173-175, for a discussion of how, through the abandonment of 'crediting-in', SERPS became uncoupled from increases in the basic pension). Hence two of the major problems which had led Labour to abandon flat-rate benefits two decades earlier had, apparently, been solved without the ornate structure of an earnings-related pension scheme.

5.3 The failure of SERPS and pension policy under the Conservatives

The history of SERPS since its introduction in 1978 has not been a happy one. Not only has it been cut back twice, under the Conservative's Pension Acts of 1986 and 1995, the Party responsible for its birth has now seen fit to abolish it altogether. Rather than restoring the Conservative's cuts and rebuilding SERPS (as proposed most notably by Townsend and Walker, 1995), the Labour government elected in May 1997 instead chose to replace the scheme with the S2P. The structure of the new scheme is discussed in more detail in Chapter 6. It is useful first, however, to look at the elements within SERPS which made its ultimate demise unsurprising, and, *inter-alia*, at the reasons why state pension provision has failed to gain the same kind of status in the UK as in the US or continental Europe[149].

Two structural features of earnings-related social insurance in the UK are particularly important. First is the fact that people with occupational pensions (joined after 1988 by people with personal pensions) are allowed to contract-out of SERPS, a feature of the scheme which, as discussed in the last section, was made almost inevitable by its late introduction. Therefore, unlike most other countries where the state scheme provides pensions for all, SERPS splits earnings-related provision between the public and private sectors. Wholly predictably, this means SERPS provides pensions predominantly for low earners and (often synonymously) women, while higher earners are catered for by private schemes. A broad political constituency supporting the

149 Arguably, the National Health Service occupies the same position in the political firmament of the UK as social insurance pension schemes do in other countries.

scheme has therefore failed to emerge, as witnessed by the comparative ease with which the Conservatives implemented cuts to the scheme.

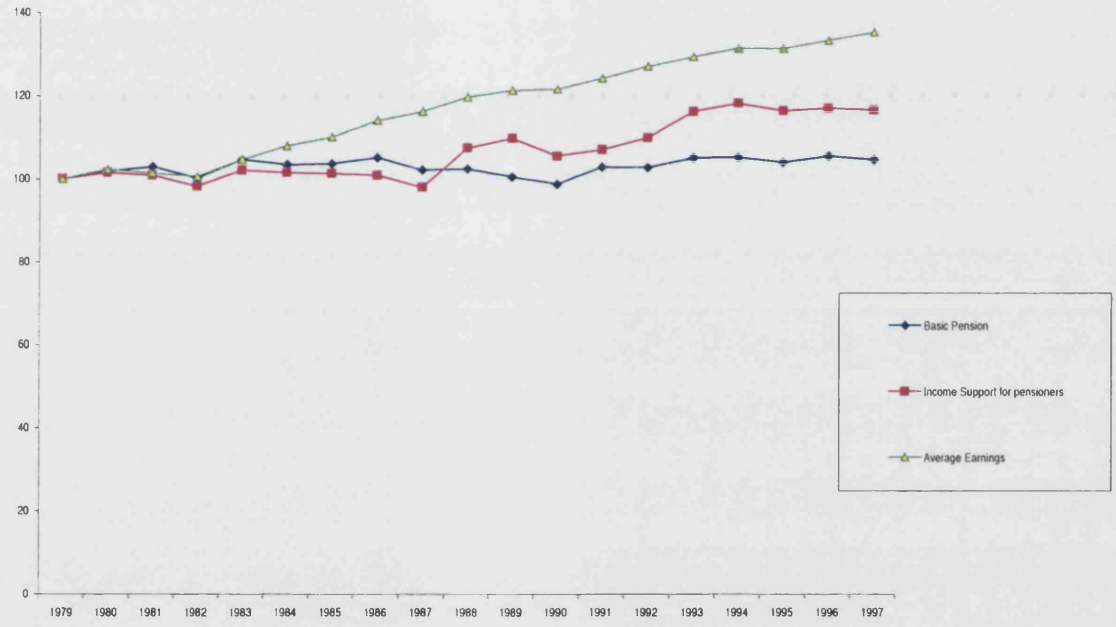
Second, and more important in explaining the weakness of state pensions as a whole in the UK, is the fact that earnings-related provision was introduced alongside the older flat-rate scheme, so that a clear dividing line between the minimum income and accustomed living standards objectives of policy was built into the scheme. As such, there was no synergy between SERPS and the basic pension, most importantly in terms of 'dynamising' the level of the minimum (Fawcett, 1999, p. 180). This, in turn, meant that it was technically feasible for the Conservatives to announce (in 1980) that the basic pension would no longer automatically increase in line with earnings, something that could only have been implemented through lengthy legislation in a fully-integrated social insurance scheme. Particularly as prices were rising faster than earnings at the time the announcement was made, this meant that rallying opposition to the 'cut' (in and out of parliament) proved difficult. By the time that real earnings started rising again the policy had become firmly established (alongside Mrs Thatcher's premiership).

The subsequent history of pension policy in the UK therefore lends some support to Abel-Smith and Townsend's assertion that earnings-related social insurance is the best way of protecting the living standards of poorer pensioners. In the absence of any mechanism for linking benefits to earnings, consecutive Conservative governments adopted a policy of uprating **all** benefits in line with prices, so that their real level remained constant. This is illustrated in Figure 5.1, which shows how the real level of the basic pension, Income Support for pensioners and average earnings altered between 1979 and 1997, setting the value of each in 1979 equal to 100. As can be seen, the policy of price uprating was not rigidly adhered to, and the real value of Income Support for pensioners increased by around 17% between 1979 and 1997 (in comparison the real value of the basic pension increased by only 2.5% over this period). However, changes in the structure of benefits brought in under the 'Fowler reforms' of the late 1980s explain much of the increase. Though these reforms increased the real value of Income Support for pensioners they also reduced eligibility to special payments for, e.g., large heating costs or to cover 'lumpy' expenditures on

necessities such as cookers. The effect of such payments is not captured in the analysis of headline benefit rates presented in Figure 5.1, and hence it does not provide an entirely accurate picture (Evans, Piachaud and Sutherland, 1994, pp. 10-17). In any event, whether or not allowance is made for changes in the micro-structure of support, overall benefit rates clearly failed to keep pace with average earnings, which increased by nearly 40% between 1979 and 1997.

Figure 5.1

Real levels of benefits and earnings 1979-1997



The Figure shows that the Conservatives did not pursue a policy of targeting state transfers. Though there was some increase in the (headline) rate of means-tested assistance, the far more important trend was the decline in the level of benefits relative to average earnings. The result was that, as shown by Evans (1998, Table 7.15), the number of households over retirement age claiming means-tested benefits fell under the Conservatives (from 1.7 to 1.6 million between 1979 and 1994), in contrast to the working population and despite the increase in the pensioner population. Though both the Thatcher and Major governments frequently espoused the rhetoric of targeting to defend their policies, in practical terms any desire to target resources on the poorest was subsumed by their concurrent attempts to re-define poverty as an absolute rather

than a relative standard. Parsimony was achieved through reducing the value of all benefits (relative to earnings), rather than through targeting benefits on the most needy via means testing.

Nevertheless, in some ways the Conservative years can be seen as marking a period of unprecedented prosperity for pensioners in the UK. In spite of the fact that benefit rates were linked to prices, average pensioner incomes increased by 64% in real terms between 1979 and 1997/8 (averaging between single and couple households and after tax), nearly twice as fast as the 38% real growth in average earnings (DSS, 2000a, p22). Consequently the gap between pensioners' and workers' living standards narrowed, with average pensioner income rising from 49 to 57% of average earnings over this period. At the same time, the proportion of the poorest quintile of the population accounted for by pensioners fell from 37% in 1979 to 20% in 1998/9, so that in the most recent estimates pensioners are only barely over-represented among the poorest (DSS, 1995 and 2000b, Table D1 BHC including the self-employed). The link between old age and poverty described by Rowntree (1902, Ch. 5) and Booth (1894) would, on the basis of these figures, appear to have been broken.

Such an interpretation of the Conservative years would, however, be rather Panglossian - the benign picture painted above only tells part of the story. Increased prosperity did not benefit all pensioners equally. As shown by Johnson and Stears (1995, pp. 79-81) and DSS (2000a, pp. 24-25), income inequality among pensioners grew rapidly during the 1980s and 1990s, even more so than amongst the non-pensioner population. And the fact that pensioners now make up a smaller fraction of the poorest members of society largely reflects the declining fortunes of other household types, in particular lone parents and workless households under pension age. If half mean income is taken as a measure of poverty there were over one-and-a-half times as many poor pensioners in 1998/9 as in 1979, the proportion of single and couple pensioners with incomes below this threshold growing from 16% in both cases in 1979 to 26% and 25% respectively in 1998/9 (DSS, 1995 and 2000b, Table F1 BHC including the self-employed). On this reading of the figures, therefore, the increased average prosperity of pensioners since 1979 has been associated with increased pensioner inequality, deepening pensioner poverty (relative to the half mean income standard), and, due to

the policy of price-uprating benefits, reduced (or downward) income mobility during retirement.

5.4 Conclusion: rationale for the S2P

The situation facing the new (or 'New') Labour government which took office in May 1997 was mixed. In terms of pensioner incomes there were three dominant themes:

- increased average incomes (relative to the working population),
- increased inequality,
- increased poverty (relative to the half mean income standard).

However these trends in inequality and poverty need to be put into context. The 1980s and 1990s saw remarkable changes in the UK income distribution, with inequality among the working population growing rapidly (see amongst others, Hills, 1998, Ch. 1, or Goodman, Johnson and Webb, 1997, pp. 91-105). This meant that though the percentage of pensioners under half mean income grew substantially under the Conservatives, by 1997 pensioners were no longer predominantly poor, in the sense that they now had a better-than-evens chance of not being in the bottom quintile of the entire population. Hence, seen from the point of view of maximising poverty alleviation, the case for increasing universal/categorical benefits for pensioners was weak.

Nevertheless, there was also clearly a need to 'stop the rot' in the living standards of the poorest pensioners. It is therefore in relation to the level of the minimum income standard that Labour makes its most significant break with pension policy under the Conservatives. While the basic pension will remain tied to prices, the government has declared that its *"long term aim is that the new minimum income guarantee* [Income Support for pensioners] *should rise in line with earnings"* (DSS, 1998, p4)[150]. New Labour therefore shares one of the main ambitions of earlier reformers such as Abel-

150 As discussed in Ross (1998, p.102) such a change may in any case have been inevitable – it is difficult to believe that the living standards of the poorest pensioners would have been allowed to constantly decline relative to the rest of the population.

Smith, Townsend and Titmuss - to protect the living standards of the poorest - but envisages a quite different means for achieving these ends. Rather than the minimum income being provided automatically to (nearly) everyone through the basic pension, Labour now places its faith in the ability of means-tested benefits to effectively relieve poverty.

However, there are numerous objections to relying on such benefits. These are discussed at greater length in Sections 8.1 and 8.2 but, in brief, the main arguments against means-tested benefits are that they:

- do not secure a minimum income for all pensioners as, possibly due to social stigma, take-up is less than complete;
- may have an adverse effect in terms of horizontal equity – they are 'unfair' to people who, having worked and saved in earlier life, might expect a higher retirement income than more spendthrift peers;
- reduce the incentive for individuals to save voluntarily (the same criticism as was levelled against Asquith's 1908 scheme).

In terms of the importance the government attaches to each problem this list is probably in the correct order. It is clear that the government are either blasé about the first problem or, more charitably, are confident that stigma can be reduced and take-up increased through administrative reforms - as in other areas of policy (see Jordan *et al,* 2000, p. 91), the government is confident that new technology and/or bureaucratic incentives can overcome problems of benefit administration. Similarly, as indicated by its reforms for other client groups (e.g. the move towards targeting benefits for sick and disabled people, widows and, to a lesser extent, children), the government are also little concerned with horizontal (as opposed to vertical) equity. Neither pensioner poverty *per se*, nor equity, are the real reasons for the introduction of the S2P. Instead, it is the last problem – the potential effect of means testing (or the prospect of means testing) on saving behaviour during individuals' working lives – which is the chief motivation for the replacement of SERPS with the S2P.

The role of the new scheme is therefore fundamentally different to SERPS, in that rather than protecting accustomed livings standards its objective is to bridge the gap between the basic pension (rising with prices) and Income Support (rising with earnings). SERPS is essentially a means for individuals to redistribute resources across their lifecycle - it does not, by and large, redistribute between members of the same cohort. Consequently, it is of little help in achieving the government's minimum income objective; as the Green Paper (DSS, 1998, p. 2) puts it: "*SERPS, being earnings-related, gives least to those in greatest need*"[151]. In contrast, the benefits provided by the S2P will not be proportional to lifetime earnings but will be partially flat-rate (see next chapter).

In conclusion, the S2P marks a partial return to Beveridge's principle that the state should only concern itself with minimum (as opposed to accustomed) living standards. However, because the proposals do not envisage an equivalent return to flat-rate contributions (as in the pre-1975 National Insurance scheme) they mark a break from the insurance/actuarial principle that benefits should reflect contributions. What has not been abandoned, however is the idea that benefit rights must be earned. While some non-workers will receive S2P rights for periods spent out of employment (e.g. for time spent caring for a child under six), eligibility for S2P credits will be tightly drawn in comparison to the rules surrounding the basic pension (see Section 6.2). As such, the introduction of the scheme marks a movement not only **away** from the principle that benefits should be related to earnings, but also **towards** the principle that benefit rights should be conditioned on people working if they are able to. Despite the fact that the main effect of such eligibility conditions is to exclude precisely those groups who are most likely to be affected by saving disincentives, it appears that the political arguments which persuaded Labour to drop its opposition to social insurance remain as strong today as ever (see Macnicol, 1998, pp. 301-308, and Section 7.4).

151 The Green Paper's real criticism of SERPS is therefore not that it doesn't do what it set out to, but that what it set out to do is not worth doing. Note also that, as well as being an inefficient way of securing a minimum retirement income, in a revenue-neutral reform raising flat-rate benefits would be more redistributive than improving earnings-related benefits (Creedy, Disney and Whitehouse, 1993; Schluter,1997, pp. 61-69).

6. The effects of the State Second Pension

According to Tony Blair's introduction to the Green Paper *A new contract for welfare: Partnership in Pensions* (DSS, 1998), the government's aim for pension policy is to ensure *"a secure and decent income in retirement for all"*. As discussed at the end of the last chapter, in the short term this is to be achieved through increasing the level of Income Support for pensioners (the 'minimum income guarantee') with earnings, so that all pensioners have an entitlement to a "decent" minimum income. However, the government recognise that there are problems with this strategy, in particular with its effect on saving incentives. In the longer term the strategy is therefore to boost the second tier pension entitlements of low earners through the introduction of the State Second Pension (S2P). According to the Green Paper (pp. 2-3) this will reduce reliance on Income Support by providing *"dramatically better pension provision for those earning less than £9,000 a year"*, as well as providing *"extra help to those on middle incomes (£9,000 - £18,500 a year)"*. Nevertheless, though the S2P will increase expenditure on benefits and on contracted-out rebates (see Section 6.4), even after the reform the government expect that *"public spending on pensions will decline as a share of GDP"* (DSS, 1998, p. 8). Overall, therefore, the government claim that their proposals will create a pension system which is *"both fair and affordable"* (DSS, 1998, p. 8).

This chapter assesses whether the government's claims for the S2P are justified by analysing the distributional and fiscal effects of the new scheme. Section 6.1 starts by setting out how the benefits provided by the S2P differ from SERPS and how, at least in theory, it should ensure that people have automatic pension rights above the level of Income Support. The analysis shows that in 2051 (when the scheme first becomes fully mature) someone with a full working life will receive first and second tier pension benefits worth slightly more than the minimum standard, at least at the point of retirement. Hence the S2P appears to provide extra benefits which are just sufficient to achieve its objective of keeping people off Income Support. However, as Section 6.2 discusses, this kind of analysis is too simplistic and misses out a number of factors, such as income dynamics in retirement and household structure, which affect eligibility

for means-tested assistance. Accordingly, microsimulation techniques are needed to assess the effectiveness of the S2P in practice, and Section 6.3 uses PENSIM to analyse its distributional effects. Section 6.4 then turns to the effect of the S2P on the public finances, using the NIESR generational accounting model described in Chapter 4 to see how the S2P affects the 'sustainable tax burden'. Section 6.5 concludes through looking at the policy implications of this analysis.

6.1 Benefits under the S2P

As set out in Section 1A.2, the benefits provided by SERPS are proportional to earnings – following the reforms in the Conservative's 1986 and 1995 Pension Acts the scheme provides all employees with a second pension worth 20% of their average lifetime earnings between the LEL and UEL. The key innovation in the S2P is to move away from this proportionate structure to one which is tilted in favour of low earners (reflecting the fact that the objective of the new scheme is to reduce reliance on Income Support rather than to protect accustomed living standards). It will do this through altering the structure of SERPS in four ways.

First, the S2P introduces a new lower threshold (set at £9,500 a year in 1999/2000), below which an individual's actual earnings will be discounted for the purposes of calculating benefits, i.e. anyone earning below the lower threshold (but above the LEL) in any year will be treated **as if** they had earnings in that year at the threshold. This will provide a huge boost to the pension entitlements of people who spend much of their working life with earnings just above the LEL and, indeed, anyone who has a year of low earnings, however transitory[152]. Table 6.1 illustrates, showing the 'reckonable earnings' (i.e. the earnings on which benefits are calculated) under SERPS and under the S2P. For illustrative purposes the Table uses the LEL in 1999/2000 of £67 a week (£3480 a year); how the earnings limits and thresholds will alter in future years is discussed further below.

152 Note that the scheme affects benefit entitlements earned in a year – it works on an annual rather than a lifetime basis. The S2P is therefore different from the minimum pension guarantee systems outlined by Atkinson (1995b, pp. 317-323), Hills (1997a) and Falkingham and Johnson (1995, pp. 207-213), all of which in effect create a 'lifetime means-test' (see Section 8.3).

Table 6.1

'Reckonable earnings' under SERPS and the S2P for people earning less than the lower threshold (in 1999/2000)

Earnings	Earnings above the LEL	'Reckonable earnings' under SERPS	'Reckonable earnings' under the S2P	Increase in 'reckonable earnings'
£3500	£20	£20	£6020	£6000
£6500	£3020	£3020	£6020	£3000
£9500	£6020	£6020	£6020	0

The second difference between SERPS and the S2P relates to the relationship between benefits and earnings (the 'accrual structure' of the scheme). In place of SERPS' uniform accrual rate of 20%, benefits under the S2P will accrue at different rates on different bands of earnings. Between the LEL and a lower threshold benefits will accrue at 40%, so that someone earning £9,500 a year (in 1999/2000) would qualify for twice the level of benefits they would have got under SERPS[153]. However, this extra generosity for lower earners will be tapered-away through reducing the **marginal** rate of accrual on the next tranche of earnings to 10%, half the rate of SERPS. It follows that the **average** rate of accrual for people earning more than the lower threshold will therefore gradually fall from 40%, as more and more of their earnings only count for benefit at the 10% rate. Eventually, though, this would result in the average rate falling below 20%, causing higher earners to receive lower benefits than they would have got under SERPS. To prevent this happening the accrual rate on earnings above an upper threshold therefore remains the same as under SERPS, (i.e. 20%)[154]. Accordingly the

153 Note that people earning less than £9,500 but more than the LEL will see their benefits more than doubled because, in addition, under the S2P they are treated as if they had earnings at the lower threshold. In effect, therefore, low earners do not face a marginal accrual rate of 40% despite the way the scheme is structured, as they receive the same pension benefits whatever their earnings (so long as they do not cross the lower threshold). Their marginal accrual rate is therefore zero (see Figure 6.1).

154 Presumably the government have decided to have a higher marginal accrual rate for people earning more than the upper threshold in order to ensure that there are no losers from the reform (see Figure 6.2). However, it is not quite true that this structure ensures everyone gets at least the same pension benefits as under SERPS - some women will lose out through missing the entitlements they would have got under Home Responsibilities Protection (see later in this section). Moreover, it should also be appreciated that such a 'no losers' reform is an arithmetical impossibility (resources must come from somewhere), and under the National Insurance system the cost of additional benefits is met directly by additional contributions. Hence higher earners will ultimately end up losing from the scheme as they will pay the

upper threshold is set at the point where the gain from doubling the accrual rate on the first tranche of earnings equals the loss from the 10% accrual band; in 1999/2000 this point was £21,6000.

Table 6.2 illustrates, showing the marginal and average accrual rate facing individuals with earnings above the lower threshold ('moderate and high earners' according to the Green Paper). Figure 6.1 then presents a diagrammatic representation of marginal and average accrual rates under the S2P, including the first change (treating low earners as if they earned at the lower threshold), as well as the change to a 40/10/20 accrual structure. Note that the 40% band is shown by a dashed line to indicate that while people earning more than £9,500 will accrue benefits at the rate of 40% on this portion of their earnings, people with earnings below this amount in fact face a zero marginal accrual rate as they get the same pension benefit whatever their true level of earnings.

Table 6.2

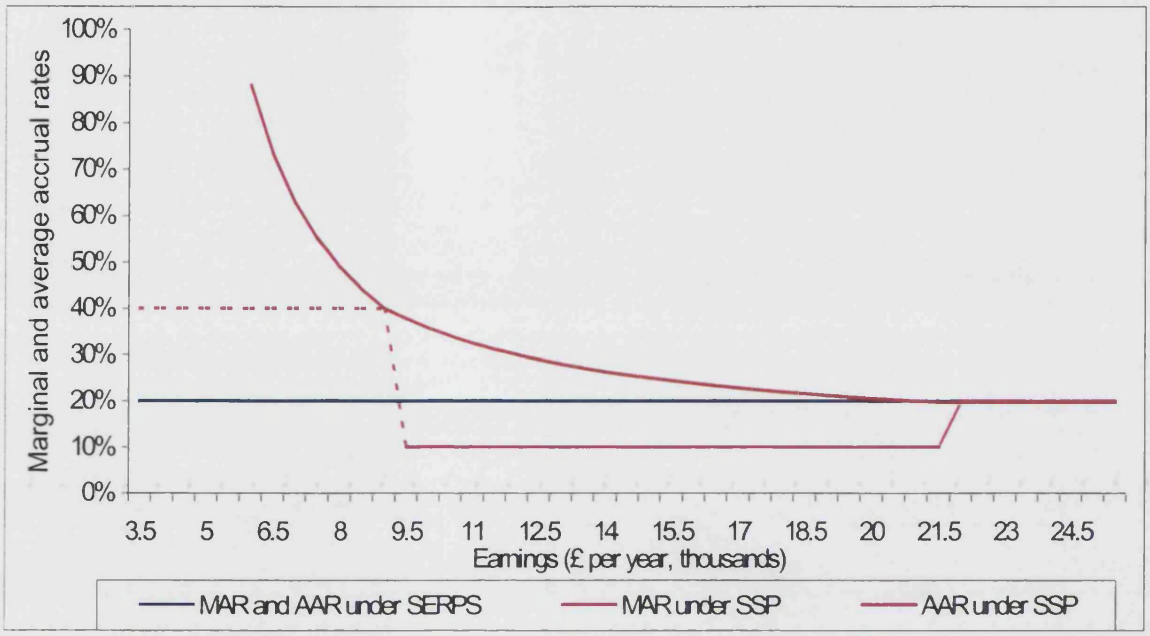
Marginal and average accrual rates under the S2P for moderate and high earners (under 1999/2000 thresholds)

Earnings	Marginal and average accrual rate under SERPS	Marginal accrual rate under the S2P	Average accrual rate under the S2P
£9,500	20	10	40
£12,500	20	10	35
£15,500	20	10	30
£18,500	20	10	25
£21,600	20	20	20
£24,600	20	20	20
£26,000 (UEL)	20	20	20

majority of extra contributions for relatively few additional pension benefits (see Agulnik, 1999b, p. 419).

Figure 6.1

Marginal and average accrual rates under the S2P (under 1999/2000 earnings thresholds)



MAR = Marginal accrual rate
AAR = Average accrual rate

The third change under the S2P is that the new three-band accrual structure will be partially dynamised. As set out in Sections 1A.2 and 2.2, under current (baseline) policy the National Insurance earning limits are linked to prices, and hence are falling relative to earnings. The S2P will not affect this prognosis for the LEL and UEL – the total band of earnings on which second tier benefits accrue will continue to shrink. However, it will compensate for this by increasing the newly created lower and upper thresholds (£9,500 and 21,600 in 1999/2000) in line with earnings. This means that over time the band of earnings with a 40% accrual rate will widen, as the gap between the LEL (rising with prices) and the lower threshold (rising with earnings) becomes bigger. Moreover, the decline in the UEL relative to the upper threshold means that beyond 2011 (or thereabouts) the upper threshold will only increase with prices (i.e. the UEL takes precedence), and hence the gain from the 40% accrual band will not be fully clawed-back. In other words, after 2011 the average accrual rate for people earning at the UEL will exceed 20%. The result is that in years beyond this date everyone, including people earning more than the UEL, will gain a little relative to their

entitlements under SERPS (with the exception of people who care full-time for school-age children.

Last, the S2P expands the system of credits for people who are not in employment (under SERPS such credits are provided by 'home responsibilities protection', HRP). It does this in two ways. First, and most important, the value of credits will be larger under the S2P than under SERPS, as for the purposes of calculating benefits individuals with a qualifying year of credits will be treated as if they had earnings equivalent to the lower threshold (see above)[155]. Second, more people will qualify for credits under the S2P than would have been the case under SERPS. However, the importance of this change should not be over-stated. Though the Green Paper (p. 43) boasts that *"at least 4 million people, mostly women, will gain from this aspect of the State Second Pension"*, it fails to mention that around three million people would have qualified for HRP under SERPS (DSS, 1998a). Ignoring the get-out clause that the regulations to implement HRP were never in fact introduced (see Section 2.2), the net gain from the S2P relative to SERPS is therefore that around one million extra people will qualify for credits[156].

Figure 6.2 illustrates the combined effect of all four of these changes using LIFEPEN, one of the dynamic hypothetical models discussed in Section 1.4. It shows the value of the pension provided by the S2P and SERPS for people with different lifetime earnings and how this relates to the level of Income Support for a single 65 year old. More specifically, the Figure shows the first and second tier pension benefits received in 2051[157] by individuals with complete (49 year) work histories and constant earnings

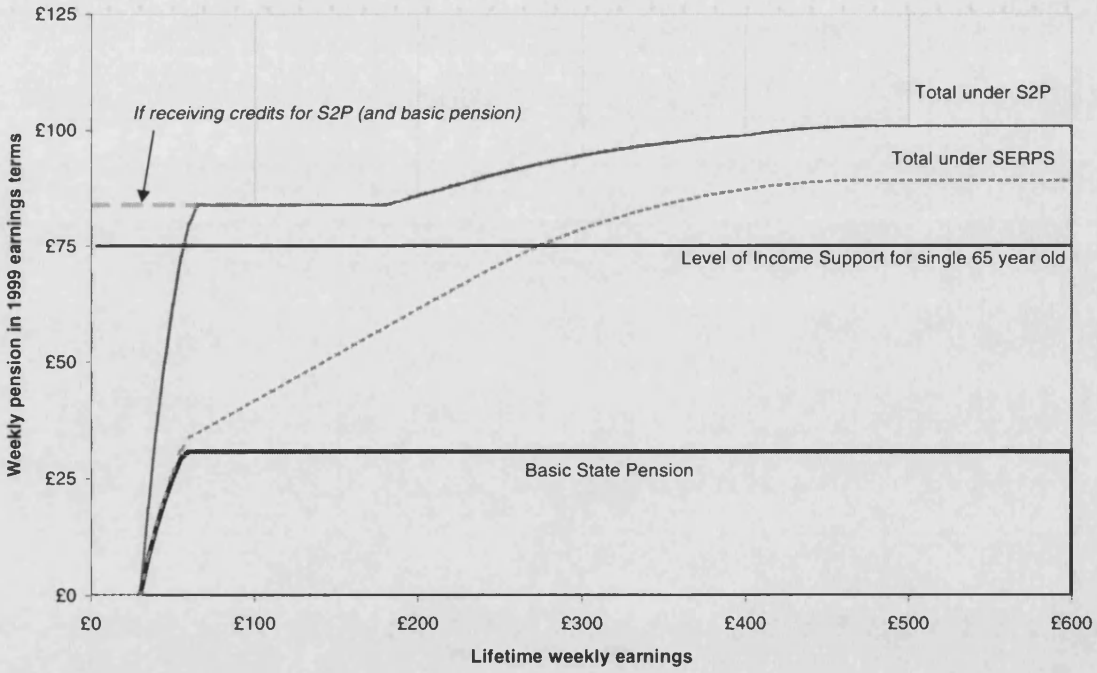
155 A precise comparison of the value of credits under the S2P and under SERPS is not possible; while S2P credits work on an annual basis the effect of HRP can only be calculated at the end of an individual's working life. This reflects the fact that HRP works through reducing the denominator of the pension formula (the number of years an individual has worked) rather than increasing the numerator (lifetime reckonable earnings).

156 Note in particular that people caring for children aged six or over will lose relative to SERPS as, unlike HRP, credits under the S2P will only be payable in respect of periods spent caring for pre-school-age children. However, the numbers losing from this restriction will be less than the numbers gaining from the extension of credits to long-term disabled people (who have worked for at least 10% of their working life).

157 As the S2P will be introduced in 2002, the first cohort to have spent a full 49-year working life under it will retire in 2051.

throughout life (as a percentage of the average). Hence the effect of earnings mobility, interruptions in earnings and household-status are ignored – the Figure is very simplified. Note also that though the Figure is in 1999 earnings terms (as used in Chapters 2 and 3), it would look slightly different under alternative assumptions for average earnings growth. In particular, if earnings grew faster than the 1.5% annual increase assumed here (in line with the Government Actuary's main assumption) then the level of the basic pension in relation to earnings would be even lower than shown in the Figure.

Figure 6.2
Expected first and second tier pension in 2051 under the S2P and SERPS, by lifetime weekly earnings (1999 earnings terms)



Source: LIFEPEN

The Figure shows that benefits under the S2P will be higher for all employees than would have been the case under SERPS[158]. However, as can be seen, low earners - particularly those earning just above the LEL - will receive a much larger boost than people further up the earnings distribution. The Figure also shows that the S2P fills the

158 Note therefore that, in contrast to the impression given by Figure 6.1, people earning more than the upper threshold will gain from the S2P. This reflects the fact that after 2011 (or so) the upper threshold will only rise in line with prices, so that all workers will have an average accrual rate of more than 20% after this time.

gap between the basic pension and Income Support much more effectively than SERPS. Indeed, it suggests that under the S2P everyone will retire with a state pension above the level of the minimum income. As such the scheme appears to meet the government's objective that *"people who work all their lives should not have to rely on means-tested benefits when they retire"* (DSS, 1998, p. 29). However, as the next section shows in theory, and Section 6.3 shows in practice, this conclusion is not robust to changes in the assumptions underlying the Figure.

6.2 The S2P and reliance on Income Support

The analysis of the S2P presented in Figure 6.2 is very simplified, being based on the assumption that all individuals work for a full 49-year working life at a constant wage relative to the average. Moreover, it only illustrates the income individuals can expect on retirement, and applies only to the cohort retiring in 2051. In effect, therefore, the Figure provides a stylised illustration of the effects of the S2P. A more accurate picture should be provided by dynamic microsimulation (at least potentially), and estimates from PENSIM are presented in the next section. However, this section first sets out the theoretical reasons why the S2P will have a more varied effect on retirement incomes (and their adequacy relative to the minimum standard) than indicated in Figure 6.2.

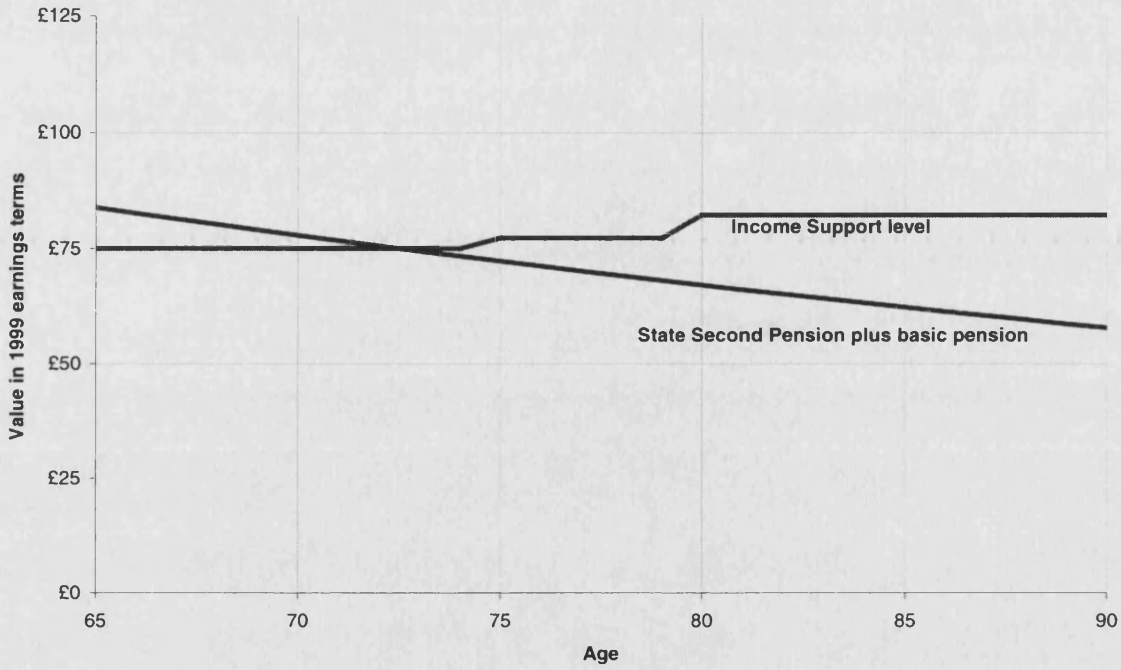
First, it is worth thinking about income dynamics during retirement and, in particular, the fact that while Income Support increases each year in line with earnings S2P benefits rise with prices once in payment. Hence after retirement pension benefits lose value relative to Income Support[159]. Moreover, on top of this effect the value of Income Support increases at age 75 and at age 80, while there are no age increments in the S2P and an addition of only 25p in the basic pension (at age 80). As discussed in Section 1.1, the result is that even if an individual retires with an income above the level of Income Support they may become eligible for means-tested assistance during retirement. Figure 6.3 illustrates, showing the income during retirement of a hypothetical low earner retiring in 2051 who worked for 49 years and earned between

159 As discussed in Sections 1.1 and 1.2, private pension payments may not in fact be fully indexed to inflation. A more detailed analysis of income dynamics in retirement is in Johnson, Stears and Webb (1998).

the LEL and the lower threshold (£9,500 in 1999/2000) throughout their working life. It shows that, using the Government Actuary's assumption of 1.5% real earnings growth, it would take approximately 8 years for this person's income to fall below the level of Income Support.

Figure 6.3

Value after retirement of the pension of a lifetime low earner retiring in 2051 (£ per week, 1999 earning terms)



Source: LIFEPEN

The second theoretical reason why the S2P may not be fully effective in eliminating reliance on Income Support is that the gap between the level of the basic pension and the minimum income standard will grow after 2051. Figure 6.2 showed that when the scheme first matures it will provide just enough extra benefits to lift a low earner with a full working life above the level of Income Support. However, the seeming elegance of this outcome is just that - a fortuitous feature of the date chosen to illustrate the scheme rather than an inherent property of its design. Peering into the more distant future it can already be predicted that the gap between the combined value of first and second tier pension benefits and Income Support will re-emerge. In other words, as the basic pension declines even further relative to earnings, at some point the S2P will no longer ensure that even someone with a full working life will automatically accumulate

pension rights which exceed the level of Income Support at the point of retirement. However, this effect only operates slowly, and individuals with full S2P rights will not retire with incomes below the level of Income Support until the 22nd century.

The third problem with Figure 6.2 is that, in practice, individuals experience considerable variations in employment and earnings over their lifetime (see Gardiner and Hills, 1999, Jarvis and Jenkins, 1996, or the contributions to Gregg, 1997)[160]. Moreover, because eligibility for S2P credits is limited, and second tier provision does not include the self-employed, many people will not be covered for part of their working life. Hence people with interrupted earnings may accumulate automatic S2P and private pension rights worth less than the amounts shown in Figure 6.2. This problem in particular was highlighted by the Social Security Select Committee in their review of the government's policies to reduce pensioner poverty. They comment that:

> "[an individual] *will require a 49 year contribution record to achieve a full state second pension and although there is provision for credits, these are not as comprehensive as for the basic state pension. Mr Ross* [Chair of the Pension Provision Group] *explained that 'there are going to be many people of modest means who will not qualify for the full state second pension because it does not have the same level of credits. It is much more work-based than the basic pension is and the people we are talking about will have breaks in employment and they will not have 49 years of employment*" (HoC, 2000, paragraph 71).

However, there are also a number of reasons to be more optimistic about the effectiveness of the S2P in reducing reliance on Income Support.

First, Figure 6.2 understates the level of benefits provided by the S2P because the effect of earning dynamics (variability) is omitted. This means the asymmetrical effect of the S2P's benefit structure is not captured in the analysis. Under SERPS the assumption that everyone has constant earnings throughout life is relatively unproblematic – as benefits accrue at the same rate on all earnings the inclusion of earnings variability makes little difference (the only effect coming through the LEL and UEL). In contrast, the 40/10/20 accrual structure of the S2P means that earning dynamics matter a lot. For instance, consider the second pension benefits earned by two individuals: A who has

160 As noted in Section 1.4, this is one of the main motivations for analysing future pensioner incomes through dynamic microsimulation.

constant earnings of half the workforce-wide average throughout a full 49-year working life, and B who similarly works for 49 years but spends half the time earning a quarter of the average and the other half earning three-quarters the average. A and B therefore have the same lifetime earnings, and under SERPS would be entitled to the same second pension benefits (ignoring the effect of the LEL). In contrast, under the S2P individual B will receive rather higher benefits than A, as the increase in the average accrual rate on earnings below £9,500 is greater than the reduced average accrual rate on earnings above this level (see Figure 6.1).

Second, Figure 6.2 looks at the situation facing a single person, i.e. it refers to the first and second tier pension entitlements which an individual will accumulate in their own right, and ignores the existence of any spouse. Because the level of Income Support for a single pensioner is significantly more than half that provided to couple households (see Section 1A.1) this difference is important. For instance, even if both individuals in a couple earned less than the lower threshold throughout their (full) working lives, their combined S2P entitlements would lift them substantially above the level of Income Support for couples. Hence for couples the margin for error (i.e. for interruptions in earnings/credits) before the benefits provided by the S2P fall below the minimum standard is rather larger than shown in Figure 6.2.

Third, even if analysis is restricted to single households, Figure 6.2 ignores the fact that many single pensioners will have had a spouse in the past, and hence will acquire S2P rights from them. In effect it looks only at the retirement income of someone who is single throughout life, and pension rights gained on divorce or bereavement are ignored. But, particularly for women such rights can be an important determinant of retirement incomes. In the case of inherited rights, where the S2P will follow SERPS (and most occupational pensions) in providing widow(er)s with half the pension of their deceased spouse[161], this reflects the fact that women live longer than men on average (and tend to marry men older than themselves). In the case of divorce, where the government intends to introduce 'pension splitting' for SERPS benefits (and presumably also for the S2P), women gain most because men have larger earnings and

161 At present widows stand to inherit full SERPS rights. Though the 1986 Pension Act legislated for inherited SERPS rights to be reduced to 50% in April 2000, in fact the government delayed implementation until October 2002 due to its failure to publicise this legislation (see DSS, 2000c, p. 2).

work for longer (equivalently, spend less time caring), and hence accumulate larger pension rights. On divorce wives therefore tend to have a larger claim against their husband's pension than vice-versa (see Joshi and Davies, 1991).

Last, Figure 6.2 makes no allowance for any voluntary third tier provision individuals might make, including periods of entitlement built-up in occupational schemes. In reality voluntary provision is the most important determinant of retirement incomes (see Section 2.3), and hence Figure 6.2 vastly understates the actual pension income most people will accumulate. It is particularly for this reason that analysis using PENSIM is required to establish the true extent of reliance on Income Support under the S2P.

6.3 Analysing the S2P using PENSIM

PENSIM's estimates for the effect of the S2P on pensioner incomes are set out below in Tables 6.4 and 6.5 and Figures 6.4 and 6.5. However, before this the fact that the S2P reform comes in two stages should be mentioned.

Hitherto the analysis in this chapter has ignored the peculiarities of contracting-out, whereby second tier pension provision is divided between the public and private sectors. As discussed in Section 1A.2, under SERPS the contracted-out NIC rate - currently 4.6 percentage points less than the full rate - reflects the actuarial value of the pension which individuals would have enjoyed had they remained in the state scheme. Hence the choice between opting-in and opting-out is neutral. However, under stage two of the S2P, which the government intends to introduce in 2006 or so, this split between the public and private sectors will take a somewhat different form. Rather than the incentive to opt-out of state provision being actuarially-fair there will be a built-in incentive for younger people to stay with the state scheme if their earnings are below the lower threshold (£9,500 a year in 1999/2000) but to opt-out if their earnings are above this level. This is because under the second stage of the scheme state-provided benefits will become flat-rate (at the level earned by someone earning at the lower threshold) for people under a certain yet-to-be-determined age. Hence anyone who is

below the given age and earns more than the lower threshold will have a strong incentive to opt-out, as above this level of earnings the value of contracted-out rebates will exceed the actuarial value of the benefit provided by the state scheme[162]. The effect of stage two is therefore not to alter the benefits provided by the scheme, which remain the same as the description in Section 6.1, but to change how benefits are provided (i.e. more private and less public provision).

Under stage two of the S2P, some increase in the number of people contracted-out can therefore be expected. However, estimating precisely how many people will in fact follow the incentive structure described above is difficult to estimate; projections in the 1980s for how many people would contract-out into personal pensions were wildly wrong, and estimating the effect of the new scheme is equally difficult (see GAD, 2000, pp. 11-13). Accordingly, the analysis of the S2P in this section using PENSIM, and in the next section using the NIESR generational accounting model, assumes that the proportion of people contracted-out will remain at its current rate. In effect, therefore, the analysis is of stage one of the reform where, like today, the decision to contract-out will be neutral[163]. But even with this assumption it should be appreciated that one effect of the S2P will be to increase the size of rebates provided to members of private pension schemes; because contracting-out is actuarially fair the value of rebates must rise to match the increased benefit promise of the S2P.

The effect of both extra rebates and extra benefits can be seen in Table 6.3, which provides PENSIM's estimates for the level and composition of mean pensioner incomes in 2066 under the S2P. In the same way as in the tables in Chapter 3, earned/other income and investment income are only shown in the total income row. The Table shows that the S2P will result in mean pensioner income rising substantially, with large increases in income from occupational and personal pensions, as well as from state sources.

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162 Assuming the level of rebates adjusts fully for the age of the recipient (see Section 1A.2).

163 This is a slight simplification – in fact the decision whether to contract-out of the S2P will be more complex than this even under stage one of the scheme. In particular, the fact that tax relief is payable on rebates means that, save for the transaction costs associated with private pensions, everyone should really contract-out. However, this situation already applies under SERPS, and it is not clear what difference the introduction of the S2P and Stakeholder pensions will make.

Table 6.3

Effect of the S2P on mean pensioner incomes in 2066 (£ per week, 1999 earnings terms)

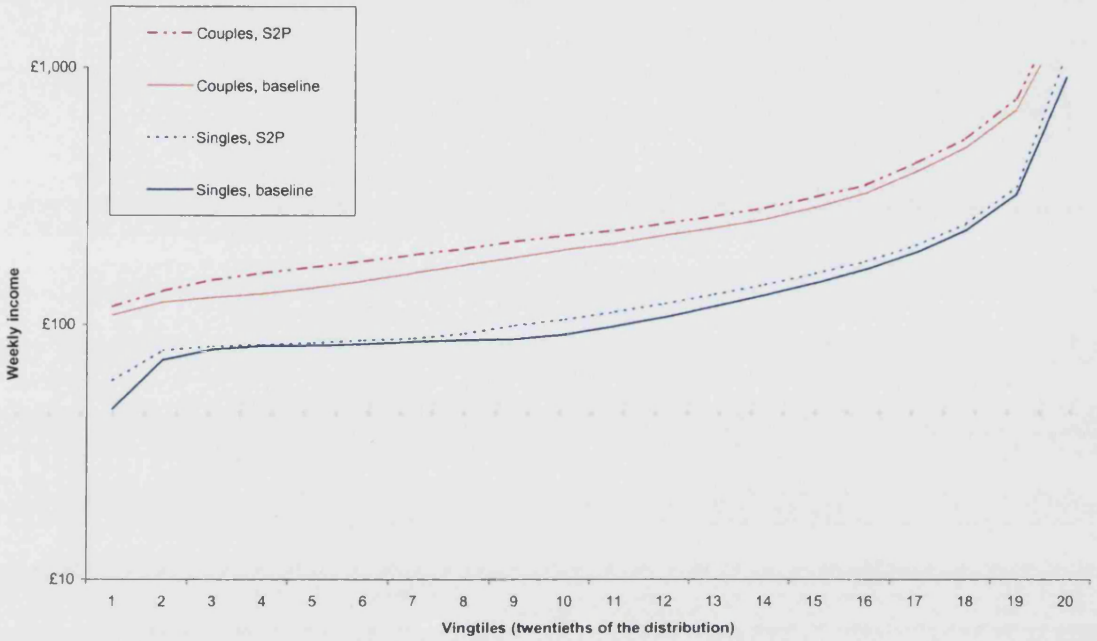
	Mean weekly income: singles	Mean weekly income: couples	*Change from baseline: singles*	*Change from baseline: couples*
Income Support	5.2	1.0	*-4.2*	*-2.1*
Basic state pension	23.3	45.4	*0.0*	*0.0*
S2P/SERPS	29.8	59.0	*10.7*	*22.3*
Personal pensions	17.0	30.4	*2.7*	*4.6*
Occupational pensions	69.5	114.5	*11.5*	*17.2*
Total (inc. earnings and investment income)	181.7	352.1	*20.6*	*42.1*

In terms of the overall change in pensioner incomes, the Table shows that the S2P lies roughly halfway between the baseline and the basic income policy (see Table 3.3). Moreover, as was the case under a basic income, couples gain rather more (per member of the household) than single people. This reflects the fact that single pensioners are far more likely than couples to rely on Income Support, and that for eligible households the main effect of the S2P is not to increase total income but to alter the composition of income. This effect is shown more clearly in Figure 6.4, which presents PENSIM's estimates for the distribution of gross incomes in 2066 under the S2P and under baseline policy. As with the figures in Chapter 3, it uses a log scale on the vertical axis to highlight the lower end of the income distribution.

Figure 6.4

Distribution of pensioner incomes in 2066 under the S2P

(1999 earnings terms, log scale)



The importance of the interaction between Income Support and second tier pensions, particularly for single households, can again be seen in Figure 6.5. In the same way as Figure 2.3 it shows the distribution of gross pensioner incomes by component under the S2P (panel A) and under SERPS (panel B). For convenience the analysis is restricted to single households and to 2066. The Figure demonstrates that for single pensioners in the bottom third of the income distribution the effect of the S2P is chiefly to alter the form of state support – they get more as second pension benefits and less as means-tested assistance. Hence the 'depth' of reliance on Income Support is reduced.

It is also worth noting what the Figure suggests about the distribution of gains from the S2P by income source. In particular, it shows that the increase in income from the state-provided part of the scheme will be fairly evenly spread across all single pensioners while the increase in income from occupational pensions (due to higher rebates) is concentrated on the top half of the distribution. This reflects the fact that the majority of low income single pensioners are modelled as having few or no periods during their working life when they are in an occupational pension scheme, so that they

are little affected by the change in rebates. The change in personal pension income is too small to be visible.

Figure 6.5

Income of single pensioners in 2066 by component

A. Under the S2P

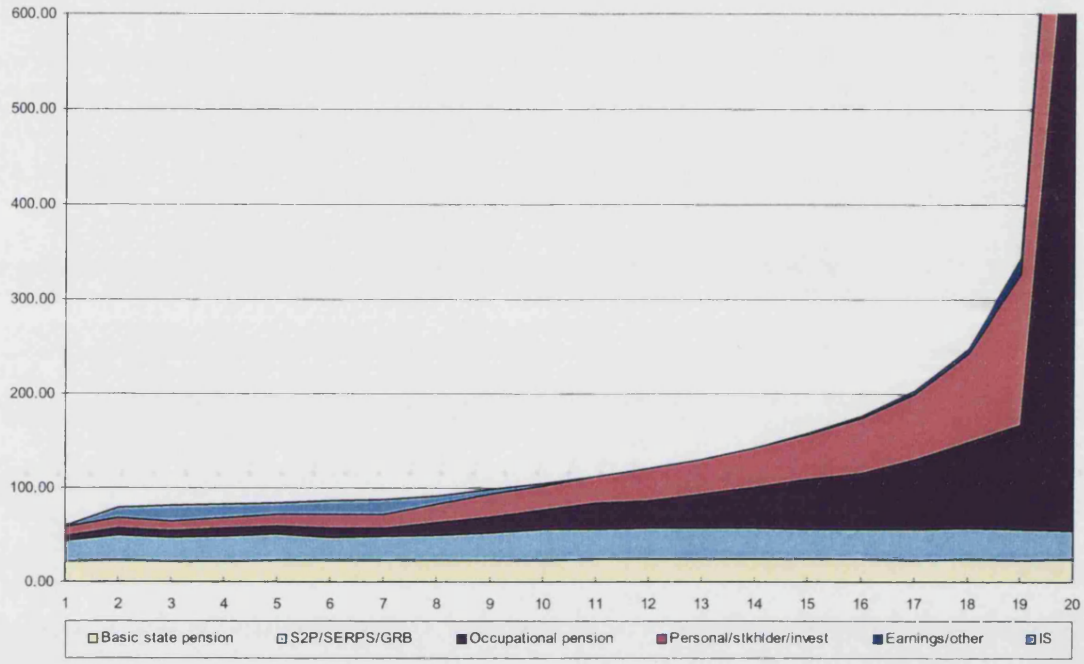
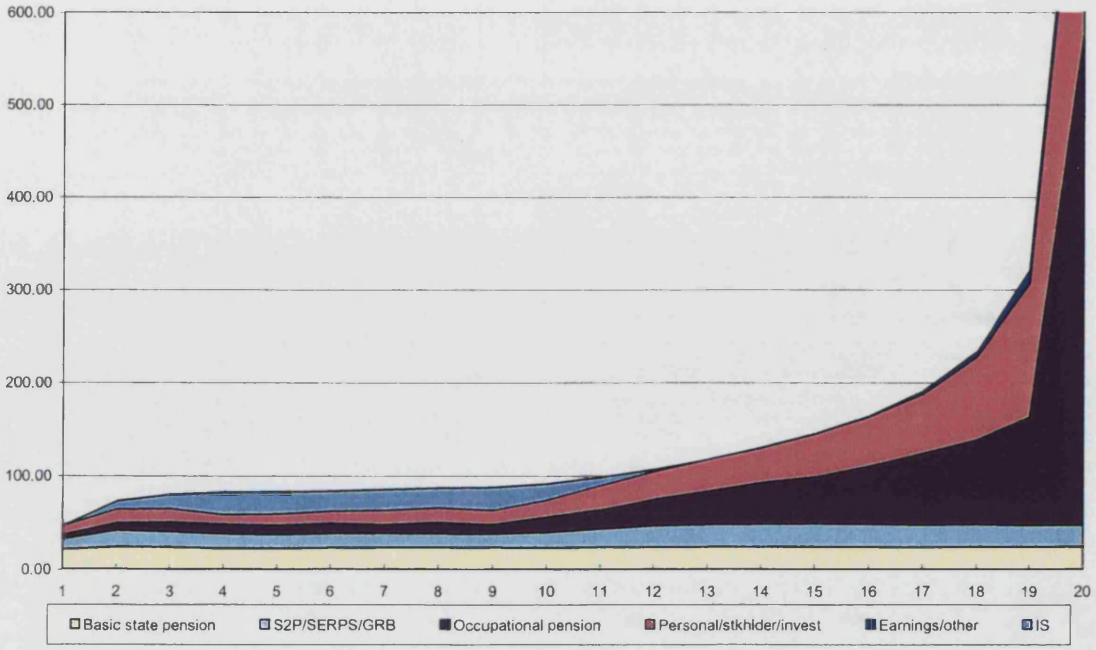


Figure 6.5 cont.

B. Under baseline assumptions (SERPS)



Finally, summary statistics on the effects of the S2P are presented in Table 6.4. It shows that under this policy:

- mean and median net income will be substantially higher, particularly for couples (note that these estimates are different from those for gross income presented in Table 6.3 – see Section 2.3 for notes on how PENSIM's estimates are presented);
- reliance on Income Support will be reduced by a little over a third relative to baseline policy[164];
- poverty will fall, though over two-fifths of single pensioners will remain below the half-mean population-wide household income standard;
- inequality will be little affected.

Table 6.4

Summary statistics on income distribution under the S2P

	Singles	Couples	*Change from baseline: singles*	*Change from baseline: couples*
90:10 ratio	3.2	3.8	*0.0*	*-0.2*
Gini coefficient	0.37	0.35	*0.01*	*-0.01*
% below half mean income	44%	22%	*-10%*	*-15%*
% below half median income	9%	7%	*-5%*	*-13%*
% claiming Income Support	24%	5%	*-10%*	*-8%*
Mean net income (per week, 1999 earnings)	£160	£305	*£15*	*£34*
Median net income (per week, 1999 earnings)	£108	£223	*£11*	*£25*

In conclusion, PENSIM's analysis shows that the S2P will be only partially successful in reducing reliance on Income Support, and that the additional benefits it provides will be spread thinly over the pensioner income distribution rather than concentrated at the bottom. The impression is therefore that the scheme is not particularly redistributive. However this is not an entirely fair picture. PENSIM's analysis looks only at the benefits of the scheme and ignores the other side of the redistributive coin – who pays for the extra benefits it provides. As shown in Agulnik (1999b, p. 419), if the S2P is

164 Restricting analysis solely to single pensioners PENSIM's estimate for the reduction in means testing brought about by the S2P is broadly in line with the DSS estimate that under SERPS approximately 1 in 3 pensioners would have been entitled to Income Support and that the S2P will reduce this proportion to 1 in 4 (see Hansard, 22 February 1999, Col 160).

financed on a PAYG basis, with NIC rates adjusting to benefit spending, then people earning more than around £12,000 a year will lose out overall. This reflects the fact that for higher earners the increase in contribution rates is more important than the change in the value of benefits/rebates.

6.4 The public finance effects of the S2P

The effect of the S2P on the public finances can be analysed through the generational accounting techniques described in Chapter 4. This allows the fiscal effect of a reform to be assessed by looking at the size the intertemporal budget gap (IBG) which it is associated with, and the immediate and permanent change in tax needed to close this gap. As in Section 4.3, the below calculates the IBG associated with the S2P under the assumption that all other spending remains the same as in the baseline (see Section 4.2).

Projected spending under the S2P on first and second tier provision (including rebates) is shown in Figure 6.6. In the same way as in Chapter 4 the projection for spending on Income Support is derived from PENSIM (i.e. from Table 6.3) through grossing-up to population totals, while the projections for spending on second tier benefits and rebates are taken directly from the Government Actuary (GAD, 2000, Tables 2.1, 2.3 and 3.1); the availability of recent official estimates means that PENSIM's role can be confined to estimating Income Support spending[165].

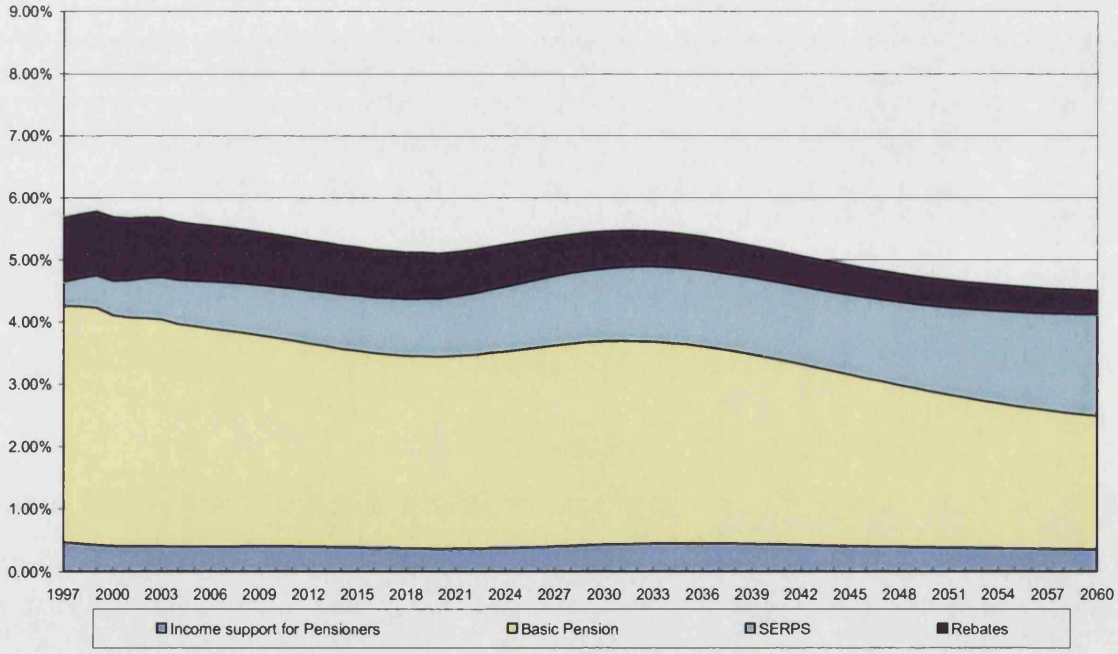
It should be noted again that, as with Section 6.3, these estimates do not include allowance for any change in the number of people contracting out; i.e. they do not include the likely behavioural response to stage two of the S2P, when earnings-related benefits for people earning more than £9,500 will only be available through rebates. Though the Government Actuary provides estimates for the effect of increased

165 More precisely, the Figure shows spending on S2P benefits and rebates under the Government Actuary's second assumption for how the scheme will work (see GAD, 2000, Table 2.1). This assumes that additional benefits (over and above SERPS) for members of occupational schemes will be provided on a PAYG basis rather than through rebates. In fact this is the option which the government eventually chose.

contracting-out on rebates and benefit spending (see GAD, 2000, Table 3.1), as with all official projections they end in 2060. This is insufficient time for the reduction in future benefit spending caused by higher contracting-out to fully flow through, and hence these estimates do not provide a complete picture of the effects of stage two (i.e. they capture the increase in rebates but not the full decrease in future benefit spending). Moreover, the extent of the increase in contracting-out under stage two is extremely difficult to estimate, and the Government Actuary presents three alternative assumptions, none of which allow for the differential effect of stage two on people earning above and below the lower threshold[166]. Modelling the effect of increased contracting-out is therefore extremely difficult, and would require a number of variations to be looked at. Such analysis has not been attempted here.

Figure 6.6

Expenditure on first and second tier pensions under the S2P (% GDP)



166 The Government Actuary's third assumption for the effect of Stakeholder pension schemes comes close to capturing the effect of stage 2 of the S2P, but assumes that everyone earning more than the LEL (and under 40) is contracted-out (see GAD, 2000, Section 3). To some extent it therefore over-estimates the effect of stage 2. Against this, however, the Government Actuary's estimates assume that even under Stage 2 the state will continue to provide earnings-related top-ups for members of occupational schemes, thus under-estimating the effect of this stage.

The Figure shows that relative to the baseline projection under SERPS (see Figure 4.2) the S2P will increase spending on both elements of second tier provision and reduce spending on Income Support. However, as was also shown in Table 6.3, though the importance of Income Support will be reduced it will still be very far from zero[167].

The projections in Figure 6.6 can then be used to calculate the effect of the S2P on the inter-temporal budget gap (IBG). Estimates are reported in Table 6.5, which like Tables 4.1 and 4.2 expresses the IBG in terms of the immediate and permanent change in tax needed to close it on a number of different bases. It shows that after the S2P has been implemented there will be still be a slight surplus in the IBG of around 4% of GDP. However, as noted in Chapter 4, the overall results from the model are open to numerous objections, for instance about the way health spending is projected, and probably more useful is what the Table tells us about the cost of the S2P relative to the baseline. Comparing the two rows produces the result that the cost of the S2P is equivalent to an increase in tax revenue of around £1.5 billion or 0.2% of GDP[168].

Table 6.5

Intertemporal budget gap and required change in taxes under the S2P

	Intertemporal Budget Gap; % of GDP	**Change in annual tax revenue needed to close the IBG**		
		Absolute terms; £ billion	*% GDP*	*% Income Tax revenue*
Baseline	-11%	-2.3	-0.3%	-3.2%
With S2P	-4%	-0.8	-0.1%	-1.1%

It is also worth thinking about the effect of the S2P under the scenario that it is paid for out of changes in NICs; i.e. under the assumption that revenue to the National

167 These estimates for the effect of the S2P on Income Support spending can be compared with the government's own estimates. In one sense the analysis here confirms the government's estimate that savings on Income Support will reduce the net public expenditure cost of the S2P by about a third. However, this is only if the increase in the cost of rebates is ignored. As shown in Table 6.3, if rebates are also included then the decline in income from (and hence spending on) Income Support is much less than a third of the increase in income from **all** second tier pensions as a result of the introduction of the S2P.

168 This is broadly in line with the estimate in Agulnik, Cardarelli and Sefton (2000, p. 606), though the modelling technique used here to look at the cost of rebates differs from this earlier analysis. Note also that the baseline in the two exercises is different.

Insurance Fund is set so as to balance expenditure on a PAYG basis (the assumption made by CSK), rather than under the assumption that NICs work in the same way as income tax.

The effect of this assumption on the IBG is surprising, but essentially meaningless. Because under this scenario an increase in contributions is, in effect, legislated for alongside the increase in benefits, the only change in spending not matched by a change in contributions is the decrease in the projection for Income Support. Hence the scheme appears to improve the public finances under this assumption. This is obviously not a good representation of its true effects, and illustrates the dangers in incorporating projections for NIC revenue into generational accounting. Instead, therefore, the effect of the S2P under the scenario that NICs adjust to benefit spending is shown in Table 6.6 through a schedule of changes. Though the projections for benefit spending and rebates used in the Table are taken from the Government Actuary (GAD, 2000, Table 2.1), it should be noted that the estimates in the final two rows for spending as a proportion of GDP are different from the Government Actuary's due to the slightly higher growth assumption used here (1.75% against 1.5%). Note also that unlike previous Tables in this thesis the estimates are in 1999 prices rather than 1999 earnings terms, and that Income Support for pensioners is omitted (the Table looks only at National Insurance benefits).

Table 6.6

Effect of the S2P on expenditure from the National Insurance Fund

(£ billion in 1999 prices, unless otherwise indicated)

	2000	2010	2020	2030	2040	2050	2060
Extra cost of benefits under the S2P	0	0.6	2.0	5.4	10.2	16.9	25.9
Extra cost of rebates under the S2P	0	0.7	0.7	0.8	0.8	1.0	1.3
Total extra spending under the S2P	0	1.3	2.7	6.2	11.0	17.9	27.2
Total extra spending under the S2P as a % of GDP	*0*	*0.1*	*0.2*	*0.4*	*0.7*	*0.9*	*1.2*
Total spending on S2P benefits, rebates and the basic pension as a % of GDP	*5.3*	*5.1*	*4.8*	*5.1*	*4.9*	*4.5*	*4.4*

Source: GAD (1999, Tables 15.1 and 1.3; 2000, Tables 2.1 and 2.3)

The Table shows that the introduction of the S2P will cause spending from the National Insurance Fund to be a little over 1% of GDP higher in 2060 than would have been the case under SERPS. However, because a fairly rapid decline in NICs was expected under SERPS (particularly after 2030), overall spending from the National Insurance Fund will still goes down under the S2P (as a proportion of GDP). The S2P will therefore not cause people to 'lose' in the sense of paying more NICs than is currently the case; rather, they will fail to gain through the NIC reductions which would have taken place under existing policy.

6.5 Conclusion: policy implications

The analysis above focussed predominantly on the effectiveness of the S2P in achieving a minimum retirement income without means testing (the government's main aim for the scheme). It showed that it will be only partially successful in eliminating reliance on Income Support. The most important criticism of the scheme is therefore that it is inadequate – it fails to provide sufficient benefits to lift pensioners above the minimum income standard. As set out in Section 6.2, one reason for this is the

'tightrope' of declining pension income during retirement relative to earnings. However, more important is the 'tripwire' of periods not in employment but not covered by S2P credits (these terms are borrowed from Rake, Falkingham and Evans, 1999, abstract).

Although the new scheme brings carers and other groups deemed to be 'participating' into the ambit of second tier pensions, entitlement is very far from universal. Estimates from the DSS Lifetime Labour Market Database suggest that something like 30% of the working-age population will fail to qualify for S2P benefits in any particular year. This may be compared to the estimate in Kumar (1999, Figure 12) that roughly 17% of the working population failed to qualify for the basic pension in 1995/6[169]. Hence holes in the S2P are likely to be much larger than is the case for the basic pension. At root this reflects the fact that, though both the basic pension and the S2P are both National Insurance benefits, the latter is more firmly rooted in the idea that 'rights' to benefit must be 'earned' through particular kinds of activity (principally working).

The S2P and the basic pension therefore exemplify the dichotomy at the heart of the 'contributory principle' which underlies National Insurance. Though less so than under SERPS, the S2P views this principle as meaning that benefits and contributions should be connected – in New Labour's language, the principle is about ensuring 'no rights without responsibilities'. In contrast, following a series of reforms to widen entitlement (and the move to earnings-related contributions in 1975), the basic pension now represents the view that the contributory principle is about 'people getting something back for what they have put in'. Under this view the contributory principle has almost no implications for the structure of benefits and eligibility conditions; rather, it is just a way of hypothecating revenue from taxes on labour to pension benefits[170].

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169 This gap is comprised of the following groups, who will receive credits for the basic pension but not for the S2P:

- the unemployed or sick;
- women entitled to Maternity Allowance or Statutory Maternity Pay;
- people taking a course of approved training;
- men not in employment aged 60 or over;
- people receiving Working Families or Disabled Persons Tax Credit,
- people (mostly women) not in employment caring for a child over the age of 5.

170 Note also that this looser definition of the contributory principle may also hold sway in other areas, such as health-care. Indeed, support for automatic (as opposed to means-tested) entitlement to long term care is often argued for in terms of people having 'paid in' during their working lives, despite the fact

Setting aside the numerous other problems with the 'rights for responsibilities' view, the problem with limiting benefits to a narrowly defined set of contributors is that it is not possible to secure a minimum income through benefits which are closely linked to previous labour market activity. For instance, even when, as in the 1970s, the basic pension was set at or above the level of Supplementary Benefit (as Income Support then was), reliance on means-tested benefits continued to be significant due to the incomplete contribution records of many women (their working lives having preceded the extension of credits; see Evans, 1998, p.274). Glennerster (1995, p. 221) comments:

> *'The Beveridge design for social security was flawed from the outset... what Britain in the end came to develop, by incremental stages, was an extremely complex system of means-tested support. It went a long way towards achieving Beveridge' s national minimum but by a quite different route from the one he envisaged.'*

In contrast, if universal benefits paid for out of taxation were given to all then this problem would not arise. However, this creates a dilemma for (left) reformers, as popular mythology holds that it is more difficult to raise general taxes than other forms of compulsory contribution such as National Insurance (see Section 7.3). If this is so then the contributory system is likely to end up being more redistributive simply because it is bigger[171]. If this view is accepted, therefore, the 'solution' to many of the problems with the S2P described in this chapter would simply be to provide credits for non-workers on a more universal basis (a more radical alternative of abolishing second tier provision and increasing the basic pension is discussed at the end of Chapter 8). Though there are other ways of ensuring that the S2P succeeds in its objective of preventing pensioners from relying on Income Support, this is the most obvious way in which to improve the adequacy of the scheme[172].

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that health-care in the UK is (almost) wholly funded out of general taxation and does not have the contributory trappings of National Insurance.

171 In other words, if a switch from NICs to income tax reduced politicians' willingness to raise revenue, thereby constraining benefit levels, the distributional advantages of tax-finance would be less clear-cut.

172 A number of other possibilities are listed in the Social Security Select Committee's examination of pensioner poverty (HoC, 2000, paragraphs 131-143). Rather than extending credits the effect of the S2P on the poorest pensioners could be enhanced by:
a) reducing the number of qualifying years (e.g. from 49 to 44);

If it is accepted that benefits under the S2P are too low then the next question is how such additional benefits should be funded. One way would be to use up the 'headroom' in NICs shown in Table 6.6, so that rather than benefits/revenue going down as a proportion of GDP, National Insurance resumed its upward path (thus creating a 'rising tide' of state transfers; see Section 7.3). However, it would also be possible to pay for extending S2P credits by reducing the benefits provided to higher earners. In particular, it is anomalous (and regressive) that benefits accrue at a rate of 10% between the lower and the upper threshold but at a faster rate of 20% above this. A two-tier accrual structure of 40/10 (or 50/10 if the savings were re-cycled in this way) would be fairer, simpler and more redistributive.

b) reducing the 'shadow' LEL, thus widening the band of earnings below the lower threshold and increasing the number of part-time workers qualifying;
c) increasing the accrual rate below the lower threshold to, e.g., 50%.

Part C. Weighing the alternatives

This concluding part of the thesis looks at some theoretical issues in pension reform. The first two chapters follow the typology set out in Section 1.3. Chapter 7 examines the two earnings-related models – social insurance and compulsory saving - by discussing whether the compulsory earnings-related benefits they give rise to can be justified on economic, social or political grounds. Chapter 8 then analyses the arguments for and against the two minimum income models, basic income and targeting, and compares them with two 'hybrid' models. Chapter 9 summarises the entire thesis and concludes.

7. Social insurance and compulsory saving: do compulsory earnings-related pensions make sense?

Much of the recent pension reform debate has focussed on the extent to which benefits should be provided publicly via earnings-related social insurance or privately via compulsory saving. Following the example of Chile, a number of countries have moved towards the latter model, cutting-back future payments from their pay-as-you-go (PAYG) state pension schemes and obliging workers to contribute a proportion of their earnings to private pension schemes. The result, therefore, has been that one form of earnings-related pension provision (social insurance)[173] has been replaced by another (compulsory saving), the principal difference between the two being their method of financing (PAYG or funded). Though considerable attention has been devoted to the merits (or otherwise) of funding pension provision (for a review of the arguments see Section 4.5), relatively little attention has been devoted to the rationale for providing **any** form of compulsory earnings-related pensions, public or private. This chapter attempts to make up for this gap by critically assessing the arguments for compulsorily linking individuals' retirement incomes to their previous earnings. In effect, therefore, it assesses the theoretical argument for the social insurance and compulsory saving 'ideal types' analysed in Sections 3.4, 3.5 and 4.3.

Earnings-related pension schemes are ostensibly concerned with protecting individuals' accustomed living standards in retirement. They may be contrasted with flat-rate or means-tested pensions, where the level of an individual's previous earnings is irrelevant and the objective of policy is simply to ensure a universal minimum income standard (in the former case by giving all pensioners the required minimum and in the latter case by targeting benefits on those in need)[174]. The rationale for state intervention

173 It is not quite true that all social insurance systems are earnings-related – traditionally the UK operated a flat-rate system, where both benefits and contributions were invariant to earnings (see Section 5.2). To emphasise this this chapter generally refers to earnings-related social insurance.

174 Though under the basic income policy analysed in Part A benefits go to all pensioners, in fact the basic pension (the closest the UK pension system comes to a basic income) is a contributory benefit, and entitlement is based on the number of years an individual has worked or received credits. Hence while there is no link between the level of an individual's lifetime earnings and the amount of basic pension they receive (assuming they always earn more than the LEL, £66 a week in 1999/2000), there is a connection between basic pension entitlements and number of years worked (see Section 1A.1).

to ensure such a minimum standard is clear: as only the state has the power systematically to redistribute income between people (via taxes and benefits) it must take direct responsibility for preventing poverty in retirement[175]. However, the rationale for state intervention to maintain accustomed living standards is more opaque. In particular, though it might readily be accepted that most people would prefer to smooth consumption over their lifecycle (i.e. to follow the flatter consumption profile illustrated in Figure 1.1), it is not altogether clear why the state should force them so to do. So long as there are no implications for other people, whether or not an individual's retirement income is a particular proportion of their previous earnings is a matter for them, not the government (Jupp, 1998, pp. 6-7).

Nevertheless, in spite of this reasoning support for compulsory earnings-related pensions is widespread throughout the political spectrum, and both the 'left' and the 'right' favour schemes where, on top of the responsibility to ensure a minimum income standard, the state is also in the business of protecting accustomed living standards. This is a paradox. The left's traditional concern with equality suggests that the minimum income should be the focus for attention - on the face of it there is little reason why they should support earnings-related social insurance schemes which tend to "*perpetuate inequalities from working life into old age*" (Hannah, 1986, p. 56). And the position of the (libertarian) right is, if anything, even more puzzling. In spite of their rhetoric about paring down the role of the state, free-marketeers have emerged as one of the main supporters of the compulsory saving model. As, in effect, this model forces people to accumulate an earnings-related pension (reflecting the fact that contributions are proportional to earnings), it again extends the state's ambit into protecting accustomed living standards. This runs counter to the minimalist, *laissez-faire* stance one might have expected, where the state's role would be confined to ensuring a minimum income.

This chapter attempts to shed light on this paradox through critically examining various rationales for compulsory earnings-related pension provision. In so doing it also questions whether the current emphasis on compulsory saving as **the** alternative to

175 As noted in Section 1.1, more extreme commentators might disagree with this assertion. In particular, it might be objected that individuals with high lifetime earnings but a low retirement income should not be supported by the state.

existing (earnings-related) social insurance schemes is helpful. It concludes that, rather than the mechanism used to finance benefits (funded or PAYG) being the focus for attention, the pension reform debate should concentrate more on the most appropriate shape for compulsory benefits.

The structure of the chapter is as follows. The three main rationales for compulsory earnings-related pensions are examined in Sections 7.1 to 7.3. Section 7.1 looks at the 'moral hazard' argument for this type of provision - that unless earnings-related pensions are compulsory people will change their behaviour to increase their income from the state. Section 7.2 then discuses the argument that because people are myopic, i.e. do not take sufficient account of their future needs, governments should (paternalistically) force them to increase the amount they save for retirement. Last, Section 7.3 looks at the willingness to pay argument for compulsory earnings-relation: that this type of pension scheme is likely to be more popular than alternatives because contributions are meaningfully distinct from taxation. The conclusion reached is that, though the last of these rationales may provide a political explanation for why earnings-related social insurance schemes were first introduced, it is difficult to find an **economic** rationale for government intervention to protect accustomed living standards. Hence the argument for compulsory saving must be made on other grounds; Section 7.4 examines whether such grounds exist. Section 7.5 then turns to the main argument against compulsory earnings-related pensions, namely their effect on labour market efficiency, while Section 7.6 provides a brief conclusion.

7.1 Moral hazard

The problem of moral hazard - the saving disincentive associated with means tested benefits - has already been discussed extensively in Sections 3.3, 5.1 and 5.4. This section gives a more formal analysis of the problem.

As defined by Barr (1992, p. 752), moral hazard is "*the problem* [which] *arises when the insured person can influence the expected loss... at a cost lower than the expected gain from so doing*". In the case of pension provision moral hazard can arise because of

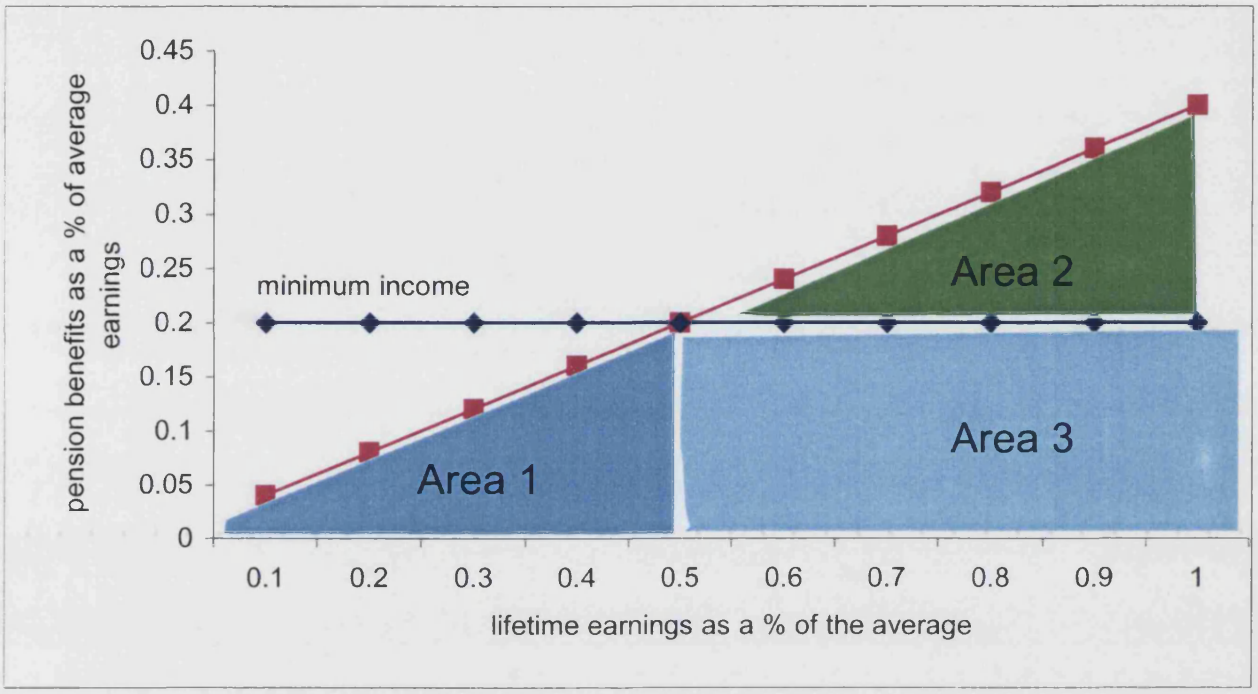
the existence of targeted (i.e. means-tested) state benefits, where the size of transfer an individual (or household) is entitled to is inversely related to their retirement income. This means there is an incentive for people to change their saving behaviour; if they consume more now they will not pay the price in terms of reduced consumption later, as their means-tested benefit entitlement will rise to compensate. Barr's condition therefore holds: the expected loss from not saving is lower than the gain, in terms of current consumption, of this course of action. Apart from the direct cost to the state of encouraging such 'knavish' behaviour (Le Grand, 1997, pp. 159-163), and the moral issues it raises, the reduction in private savings which means-tested schemes can bring about may also have adverse macro-economic consequences.

Avoiding moral hazard therefore appears to provide a rationale for compulsory earnings-related provision, as this will ensure people automatically build up pension entitlements which reflect their lifetime earnings, thus limiting individuals' ability to manipulate their retirement income so that they receive additional benefits from the state. If there is sufficient compulsory earnings-related provision the existence of means-tested benefits will, in effect, cease to be relevant for the majority, and their savings behaviour will be unaffected. Indeed, moral hazard might be eradicated entirely through putting a floor (set at the level of the minimum income) to the benefits which the scheme provides (for a proposal for the UK along these lines see Section 8.3).

However, while it is true that reducing moral hazard may be a knock-on effect of compulsory earnings-related provision, this argument does not in itself provide a rationale for this type of pensioning. For instance, Figure 7.1 illustrates the effect of a compulsory pension scheme which provides individuals with a pension worth 40% of their average lifetime earnings – twice the level of earnings-replacement provided by SERPS. To simplify analysis the Figure ignores the fact that under National Insurance an initial portion of earnings does not count for benefit entitlement due to the LEL (see Section 1A.2). It also assumes that the minimum retirement income is set at 20% of average earnings, slightly above the current level of Income Support for a single 65 year old (see Section 1A.1).

Figure 7.1

Compulsory earnings-related provision and moral hazard



As the Figure shows, under the hypothesised scheme someone on half average lifetime earnings would accumulate a compulsory pension worth precisely the same as the minimum income (0.4*0.5 = 0.2). In this particular case, therefore, the system will be efficient. However, below this level of lifetime earnings the scheme only **contributes** to achieving the minimum income; the pension rights of low lifetime earners (Area 1 in the Figure) will need topping-up. Perhaps more importantly for the argument being made here, above half average lifetime earnings the system will be 'too generous', providing pension rights worth more than the minimum (Area 2 in the Figure). As these additional rights do not reduce moral hazard their existence cannot be justified in terms of contributing to the minimum retirement income – the benefits in Area 3 are sufficient to ensure this[176]. Hence a different rationale for the portion of benefits above the minimum, i.e. the earnings-related element, is needed.

176 This is perhaps a little too strong. The fact that benefits in retirement are linked to prices while the minimum income rises with earnings means that the bottom left-hand corner of Area 2 could be justified on moral hazard grounds. Earnings variability might also be used to justify this part of Area 2.

In general, the moral hazard argument for compulsory earnings-related benefits may therefore be rejected[177]. The exception, potentially, relates to the question of housing costs and the existence of means-tested housing benefits for retirees (Housing and Council Tax Benefits, see Section 1A.1). However, it is precisely the people who are most likely to qualify for such benefits, elderly women tenants living alone, who are least likely to build up pension rights based on previous labour market activity. Moreover, at least in the near future, each new cohort of pensioners will contain a higher proportion of owner-occupiers than earlier generations (Hancock *et al* 1999, p. 5). As most of these will already have paid off their mortgage they will be ineligible for housing-related benefits, hence over time this problem is likely to diminish. In any event, compulsory earnings-related pension provision seems a rather circuitous, and somewhat heavy-handed, method of cracking this particular nut[178].

7.2 Myopia/Paternalism

The second argument for compulsory earnings-related pensions relates to the problem of 'information failure' discussed in Section 1.1. In brief, the idea here is that people are myopic, and hence do not save 'enough' for their needs in later life, i.e. they experience too large a fall in income on retirement. Of course, this immediately raises the question of who should decide what constitutes 'enough', and it is not obvious that the state is better placed to do this than individuals themselves. Nevertheless, Le Grand (1995, pp. 29-30) puts forward a sophisticated argument for why the state should intervene in this area. In outline his argument is that our present selves are only

177 Note that this is slightly different from arguing that there should be no second tier provision whatsoever. As discussed in Section 8.3, it is possible to use second tier pensions in a limited way, with individuals only being required to accumulate sufficient pension entitlements to cover the minimum. Under a funded (compulsory saving) system this would take the form of a requirement to contribute a fraction of earnings to a pension fund until a 'minimum sum' had been reached. Under a PAYG (social insurance) system a very similar effect can be achieved by having a low ceiling on contributions/entitlements, so that for most workers second tier benefits are essentially flat-rate (as in Canada). The key point is that in both systems there would only be a small proportion of people who would receive genuinely earnings-related benefits, as most moderate and high earners would receive the maximum second tier benefit. The S2P can be seen as an attempt to move second tier provision in this direction (see Part B).

178 Much the same conclusion was reached in Chapters 3 and 4; the social insurance model successfully eliminates reliance on Income Support and greatly reduces pensioner poverty but is much more expensive than the basic income model (see Tables 3.11 and 4.2).

imperfectly connected to our future selves, and consequently future needs suffer as, selfishly, current selves devote too many resources to current needs. Therefore, Le Grand suggests, justice demands that our future selves are protected from this selfishness, and hence it is legitimate for governments to intervene to ensure that incomes in retirement reflect accustomed living standards[179]. Compulsory earnings-related pensions are one way of doing this, thus their existence may be justified as a response to the problem of myopia.

However, while ingenious, Le Grand's argument may be pushing social policy too far into the realm of metaphysics. If our future selves really do need to be protected from our current selves then this has far wider implications; for instance, smoking would be illegal (as opposed to heavily taxed) and obesity would be a punishable offence. In a liberal, democratic society such authoritarian behaviour is rarely countenanced; faith in individuals' ability to decide for themselves (and their future selves) usually prevails[180]. Moreover, if governments were genuinely concerned about myopia a number of features of existing pension systems - such as the ability to take lump-sum payouts or purchase non-indexed annuities - would not exist. The fact that these practices are tolerated (or even encouraged by the tax system) suggests that in reality governments do not take myopia too seriously.

Even so, paternalistic arguments for intervention to relate retirement incomes to those in work can be persuasive. Hedges (1998, pp. 23-24) shows that many retirees wish they had saved more during their working life, and many workers similarly regret not saving more at a younger age. The reasons they gave for not doing so at the time are varied; though myopia was often a factor, ignorance about the true level of state provision and uncertainty about the benefits which additional pension contributions might provide were also important. In short, pensions were something which people

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179 It is also the case that, if myopia is important, forcing people to take more of their income at the end of their lives will raise efficiency: the aggregate lifetime welfare of an individual will be raised by the state preventing their younger selves from adopting a *'carpe diem'* strategy and, instead, forcing them to take more account of their future needs.

180 It was this liberal argument against compulsory earnings-related benefits which led Beveridge to reject such provision, famously arguing that "*in establishing a national minimum, it* (the state) *should leave room and encouragement for voluntary action by each individual to provide more than the minimum for himself and his family*" (Beveridge 1942, p 6/7).

didn't think about when young – both because retirement was a long way off (myopia) and because the whole area is so complex and uncertain – but which became of increasing concern as retirement approached[181]. However, the older one is the more must be contributed to a pension to achieve a particular retirement income, and hence action at an earlier stage in life may, in retrospect, have been preferable.

This therefore provides a straightforward argument for compulsory earnings-related pensions: left to themselves individuals will make 'wrong' decisions about provision for old age (i.e. decisions which they later regret), and hence government should take on responsibility for organising how finances are managed over the lifecycle. By forcing people to save the state circumvents individuals' lack of understanding of pensions and, moreover, relieves them of the 'burden' of having to make decisions for themselves.

The paternalistic argument for earnings-relation cannot, therefore, be entirely discounted. However, hard evidence that the majority of people would prefer less liberty is always likely to be hard to come by and, even then, the infringement of the freedom of those who prefer to organise their own finances must be taken into account. As with myopia, if the government were to go into the business of intervening to ensure people avoid regrets there would be far wider implications for public policy. Though clearly some recent legislation has been paternalistic – forcing people to wear seat belts, for instance – in general the tide of history appears to be moving away from such an all-encompassing role for the state[182]. Certainly, as the general level of education rises, with upwards of half the working population having degrees, lack of understanding of financial products may become less of a problem (though simplification certainly also has a part to play, see Jupp, 1997, p. 53). But perhaps most importantly, particularly if low earners are worse than others at planning their lifetime

181 Myopia may be explained by both genuine information failures (e.g. about the rate of return to pension investments and the costs and risks attached to such schemes) and by 'optimism bias' - individuals' tendency to overestimate their future pension rights, for example by underestimating the extent to which job changes adversely affect occupational pension rights.

182 Note though that there is an externality associated with car accidents, in that they create extra work for the NHS. There are no analogous externalities associated with earnings-related social insurance (if the argument made in the previous section is accepted).

finances, paternalistic arguments (though of a slightly different kind) could just as easily be used to justify increases in flat-rate benefits.

7.3 Willingness to pay

The final argument for compulsory earnings-related pensions is that people are more willing to pay for such pension schemes than for flat-rate or means-tested schemes paid for out of taxation[183]. One argument here is that (psychologically) people prefer paying contributions which are not designated as general taxation but are in some way assigned to a specific purpose (Mulgan and Murray, 1993, p. 19; Wilkinson, 1994, p. 120). Hence to secure electoral support for state transfer payments contributions/taxes must be allocated to particular areas of spending, such as support for the elderly. As earnings-related pensions are naturally hypothecated (as this sort of tax-linkage is called), they may therefore be preferable to tax-financed pensions. However, as will be apparent, under this argument the tail is wagging the dog – the reason for earnings-relation is that this allows contributions to be labelled as other than taxation; the resulting shape for benefits is merely a by-product. At least in theory, an hypothecated flat-rate scheme would do just as well in convincing people that they weren't simply being obliged to pay another tax (see Section 6.5).

The hypothecation argument for earnings-relation does not therefore bear close analysis. However, there are two other willingness to pay arguments which we should take more seriously. The first of these relates to the supposed advantages of 'back-door' income redistribution. Under social insurance benefits do not need to be linked to contributions in an actuarially-fair way, and this can allow pensions to be tilted in favour of low lifetime earners. So long as benefits reflect earnings to some extent then, the argument runs, the precise rate of return for different individuals is neither here nor there; the main thing is that people should believe they are getting something back for

183 The willingness to pay argument for earnings-related social insurance is closely related to the idea that corporatist, all–encompassing welfare states are more successful than other models in engendering social stability, and are to be preferred on this basis (see Goodin *et al*,1999, pp.160-174). In particular both arguments hinge on the ability of earnings-related schemes to institutionalise protection of retirement incomes.

paying in (see Section 5.2, in particular the quote from Labour Party, 1957). Even if (tax-financed) flat-rate pension schemes are a more efficient way of reducing poverty (as shown in Figure 7.1 and illustrated by the results in Section 3.3 and 3.4), they too clearly redistribute from rich to poor, and hence will be difficult to sustain politically. In other words, the politics of redistribution make it necessary to disguise who wins and who loses - obfuscation is an (unfortunate) necessity.

This sort of argument may hold considerable force in relation to, for instance, the US social insurance scheme, where redistribution is achieved through varying accrual rates within an integrated system of earnings-related pensions[184]. Arguably, as this type of system makes it possible to redistribute by lifetime rather than annual income (as occurs in the tax and benefit system), it is also more efficient than other available policy tools (Diamond, 1999, p. 8). However, whether or not this is the case (with the answer being highly sensitive to the specifics of the scheme in question), this reasoning can not be applied to the UK. In particular, the fact that it is possible to opt-out of SERPS means that benefits **must** be actuarially-fair. Admittedly, as originally envisaged, the state-provided part of the scheme did contain some redistributive, non-actuarial elements (principally Home Responsibilities Protection), but these have proved the least durable politically. Moreover, the fact that there is a ceiling on National Insurance Contributions means that what 'back-door' redistribution is achieved is generally from middle rather than high earners (Agulnik, 1999b, pp. 419-420). This is further shown by the estimates from PENSIM reported in Section 3.4, which suggest that even if the system envisaged under the 1975 SERPS legislation were restored in full there would be only a modest fall in pensioner inequality relative to the baseline (see Table 3.7).

184 In the US social insurance system the first segment of contributions accrues benefits at the rate of 90% (i.e. if an individual's earnings were always in this band they would receive a pension worth 90% of their contributions), but above this level contributions accrue benefits at a rate of 32% at first, and then 15% on the final segment (Johnson, 1999, p.7). In some ways the S2P can be seen as a variant on this kind of scheme; in particular a higher accrual rate (40%) applies on earnings below the lower threshold than above it (10%). However, the jump upwards to 20% once the upper threshold is crossed is anomalous in this context. Moreover, in so far as the S2P is a replacement for the (flat-rate) basic pension it is a regressive rather than a progressive step (see Section 6.5). But even if it is compared to SERPS the estimates from PENSIM reported in Section 6.3 do not support the notion that the S2P achieves much by way of 'back-door' redistribution.

If the willingness to pay argument holds for the UK at all it must therefore be made in relation to broader ideas about how earnings-related schemes can institutionalise protection of retirement incomes. In a mature system the provision of earnings-related benefits requires higher contributions than would otherwise be the case, reflecting the fact that as well as ensuring a minimum standard the pension system is also protecting accustomed living standards. However, at the inception of compulsory earnings-related provision this trade-off between the size of contributions and the extent to which benefits are earnings-related may not be apparent. This is because social insurance (which is normally how compulsory earnings-related pensions are first introduced) is financed on a PAYG basis, hence the link between the benefits offered by a scheme and contributions to it may vary by cohort[185]. Higher benefits than those merited by individuals' contribution records can be offered to early generations - indeed, at the start of social insurance schemes it is possible for the value of benefits earned by contributions to be so far from actuarially fair that, in effect, introduction of the scheme increases the net wage (in present value terms). In the short term, therefore, the willingness to pay argument for social insurance can be very attractive to governments, appearing to offer a painless way to overcome the political and economic problems associated with taxation.

Of course, in the long run it is inevitable that this 'win-win' situation will come to an end; eventually the true cost of providing earnings-related benefits must become apparent. However, it would appear that in many countries such considerations did little to undermine the political attractions of establishing earnings-related social insurance. No doubt this partly reflected the fact that those who stood to lose - younger and unborn generations - had little or no voting power. But a more sophisticated line of argument may also have been important. Rates of return to social insurance contributions can remain high for many decades after the inception of a scheme, and full maturity can also be delayed by demographic change. Such schemes therefore have plenty of time to become embedded in the economic and social fabric of a nation before the trade-off between contribution levels and redistribution must be faced.

185 In other words, PAYG pension schemes can bring about inter-generational redistribution from future (richer) generations; see Section 4.1 for a discussion of whether the generational inequality this creates is problematic.

Hence social insurance may institutionalise protection of incomes in later life in a way in which taxation fails to do.

An additional factor should also be mentioned. Because under earnings-related social insurance the state's role is comprehensive, helping individuals to maintain their accustomed living standards in retirement as well as ensuring a minimum income, demand for private pensions is likely to be low[186]. Therefore, even when rates of return fall as schemes reach maturity, there will appear to be little alternative but to continue to rely on state provision: private pensions will have had little opportunity to establish their own role and constituency of supporters. Similarly, individuals will have made plans on the basis that they will receive a particular level of pension benefits from the state, and as their working life progresses it will become gradually more difficult for them to switch to private provision. In particular, the defined-benefit nature of social insurance schemes means that private alternatives, which are typically defined-contribution, grow increasingly unattractive as individuals approach retirement. (see also the explanation for the introduction of age-related rebates in Section 1A.2). Governments and individuals may therefore become 'locked-in' to earnings-related state provision, unwilling to countenance a reduction in benefits and therefore forced to rely on increasing contribution rates to bring schemes into balance[187]. As such, social insurance is less vulnerable to welfare state 'retrenchment' under conservative administrations (Pierson, 1994, pp. 171-175). The analysis in Section 5.2 suggested that this idea was very much part of the thinking which motivated Labour's conversion to earnings-related social insurance in the 1950s.

The main argument for earnings-related social insurance is therefore essentially political, and, as such, must be examined in the particular context of the country concerned. In the US, for instance, the Clinton administration's plans to shore-up social insurance demonstrate the political strength which this form of pension provision can possess (see Clinton, 1999, pp. 6-7). In contrast, Labour's reform proposals (the

186 As shown by Johnson (1999, p. 43), if the state already provides a high standard of living in retirement there is little reason for people to further transfer resources to later life through voluntary (private) saving.

187 The widespread popular opposition to reform of the German pension system may illustrate this point.

historical background to which is discussed in Chapter 5) illustrate SERPS' failure to gain a foothold in the popular psyche and, more generally, public ambivalence towards making accustomed living standards an objective of policy (see Hedges, 1998, pp. 92-94).

The above has mostly related to the social insurance 'ideal type'. However, much of the recent debate on pension reform has focussed on compulsory saving, the other 'ideal type' system providing earnings-related benefits. In particular, a number of countries have followed the example of Chile and moved to replace their PAYG social insurance schemes with compulsory funded schemes with workers being obliged to contribute a proportion of their earnings to a private pension scheme (James, 1997, pp. 363-364). The result, therefore, has been that one form of earnings-related pension provision has been replaced by another, the principal difference between the two being their method of financing (PAYG or funded). The next section therefore examines how (or whether) the arguments for compulsory saving differ from those outlined above (see also Section 4.5). The following section then goes on to discuss the main argument against compulsory earnings-related pensions, namely their effect on labour market efficiency.

7.4 Are the arguments for compulsory saving different?

Proponents of compulsory saving generally believe that the contributions required to sustain mature social insurance systems are too large; political or economic realities, they argue, make reductions inevitable (see, for instance, Feldstein, 1996, p. 13). However, the idea that social insurance is in some way unsustainable does not, in itself, make the case for compulsory saving. If social insurance contributions are 'too large' then the simplest path for reform would simply be to reduce the benefits such schemes provide – parametric reform (i.e. of the rules governing benefit entitlements) is all that is required (Willmore, 1998, p.16)[188]. Accordingly compulsory saving should be seen

188 This might involve, for instance, raising the retirement age or, where such provisions exist, removing the possibility of early retirement. Alternatively, the parameters of the system could be left the same for low lifetime earners but cut back for the better off, for instance through imposing a maximum pension or through reducing accrual rates (but not contributions) as earnings increase. In any event, the key point is that social insurance contributions can only be reduced (or increases curtailed) through benefit cuts; whether these cuts should fall on everyone or be concentrated on the lifetime rich is a political question.

as a combination of two distinct policies. First is reforming (cutting) social insurance benefits, so that the expected cost of state transfers to future pensioners is reduced (parametric reform). Second is the imposition of a layer of compulsory funded pensions, so that the benefits once provided by social insurance are instead provided by private pension schemes[189].

There is little doubt that in many continental European countries some variant of the first policy is required (Roseveare *et al*, 1996, Section II; Disney, 2000, pp. 6-8)[190]. Their social insurance schemes provide such generous benefits, both in terms of earnings-replacement levels and length of retirement, that maintaining existing entitlement rules is not an option; the rates of contribution required to fully finance such benefits are unlikely to be economically sustainable. However, the need for the second policy is more open to doubt; as with social insurance, a convincing rationale for forcing people to have an earnings-related pension is needed. Three possible arguments - presentational, macro-economic and fiscal - are examined in turn below.

The presentational argument for compulsory saving is that in order to gain support for cutting social insurance benefits it is necessary to show that retirement incomes will nonetheless be maintained. While in all probability voluntary saving will in any case increase to compensate for the loss of state benefits, this cannot be proven. Thus, the argument runs, for presentational reasons replacement pension provision must be made compulsory, in spite of the economic arguments for favouring a voluntary approach (see next section). However, this argument ignores the possibility that reductions in social insurance benefits might be accompanied by other, potentially more popular, policies. For instance, rather than obliging people to pay into a private pension, governments might instead promise to use future savings to improve/maintain health services (the cost of which also tends to grow as populations age; see Section 4.2), or to

189 This logical distinction between cutting social insurance benefits and the imposition of compulsory saving is well illustrated by the 'personal security accounts' option for reforming the US social security system, as described by Goss (1997, pp. 2-4). This proposes, first, that public benefits should become entirely flat-rate (allowing the sustainable contribution rate to fall), and, second, that everyone should be obliged to contribute 5% of their earnings to a private pension.

190 As shown in Section 4.2, the prognosis in the UK is far more benign; despite population growth the cost of pension provision (as a proportion of GDP) is set to fall, though the cost of the NHS will rise to compensate for this. The estimates presented in Table 4.1 suggest that, overall, current tax revenues are sufficient to cover future changes in expenditure, i.e. policy is sustainable at present.

reduce user charges (such as for long term care). Certainly New Zealand's September 1997 referendum on pension reform, where advocates of compulsory saving received just 8% of the vote (on an 80% turn-out), does not lend much support to the idea that such policies are voter-friendly[191].

The macro-economic argument for funding pension provision (for instance, through compulsory saving) has already been discussed in Section 4.5[192]. Two conclusions were reached. First, it is far from clear that a move to funding makes a **large** difference to macro-economic performance, and it may make none. Second, the debate about the economic impact of funding should not obscure the fact that what matters is growth; and for that latter purpose the **entire** menu of policies should be considered, whether or not this has anything to do with pensions. Again, therefore, the case for compulsory saving must be made in relation to alternative interventions, not in relation to the (alleged) adverse economic effects of social insurance.

Finally there is the fiscal argument for compulsory saving. As shown in Section 4.1, and by Barro (1979, p. 944) and Flemming (1987, pp. 380-384), in comparison with a policy of allowing tax rates to go up (or down) in response to spending pressures (such as those caused by demographic change), the economic distortions associated with taxation will be lower if tax rates are smoothed. Hence governments should seek to even out the tax burden at different points in time for efficiency reasons[193]. But, once again, this does not in itself constitute an argument for compulsory saving, or indeed for reducing public pension liabilities. While scaling-back social insurance is one way of reducing future spending pressures, and hence of flattening-out tax rates, other

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191 The rejection of compulsory saving in New Zealand also tends to support the idea that electorates do not distinguish between taxation and compulsory pension contributions; both reduce take-home pay and are equally unpopular. The inclusion of rebates with other forms of public expenditure in Section 4.2 therefore looks like the 'correct' assumption – distinguishing between gross and net NICs is not helpful.

192 In practice most advocates of funded pensions tend to argue for the compulsory saving model for pension provision. However, there is no necessary connection between funding and compulsorily linking pension benefits to earnings. For instance, Frank Field has advocated a system where compulsory contributions would pay for flat-rate benefits financed out of a communal asset-based fund. Though rather different to most basic income schemes, this idea is best seen as a funded version of this ideal type.

193 As noted in Section 4.1, this assumes that the tax base and structure of taxation remain constant over time, so that evening out the average tax burden will result in stable tax rates. Demographic change in fact means that this is not the case in the UK (see Figure 4.5).

policies are possible (see Chapter 4). Moreover, even if it is agreed that funding more pension provision is a sensible way of adapting to demographic change, this argument says nothing about whether the benefits provided by funded pensions should be earnings-related or flat-rate; tax-smoothing is achieved by reducing future expenditure on state pensions, and replacement provision need not mirror the benefit structure of social insurance.

7.5 The effect of compulsory earnings-related pensions on labour market efficiency

Two arguments against compulsory earnings-related pensions have already been mentioned: Section 7.3 suggested that the higher contribution rates associated with earnings-relation will be politically unpopular, while Section 7.2 set out the libertarian case for restricting the state's role to ensuring a minimum income. However, yet to be mentioned is perhaps the most important argument against this form of pension provision - that it adversely affects labour market efficiency by distorting the choice between work and leisure. This section takes up this issue.

The argument that social insurance contributions reduce work incentives is well set out in Feldstein (1996, pp. 2-5). As part of a wider critique of social insurance, he suggests that contributions to such schemes are little different from taxation, in that both reduce the lifetime value of labour, thereby driving a wedge between workers' net remuneration and their true productivity (to the detriment of labour market efficiency). This in turn reflects two features of social insurance. First, an element of 'back-door' redistribution is often built into the design of such schemes, so that better-paid workers receive a worse deal on their contributions than low earners. However, as Feldstein concedes, this does not affect the population-wide aggregate of benefits received to contributions paid; rather, it means poorer workers get a higher rate of return on their contributions, and hence have an increased incentive to work, while the reverse is true for high earners. Feldstein's argument therefore hinges on the second feature of social insurance – that under PAYG finance the rate of return on contributions cannot in the long run exceed the rate of growth of the contribution base (earnings plus population

growth). As discussed in Section 4.5 Feldstein assumes that this long run real rate of return is 2.6% pa (the average annual increase in US salaries since 1960), which he contrasts with the 9.3% average real rate of return on corporate capital over the same period[194]. He concludes, therefore, that individuals would prefer to invest their social insurance contributions in the private sector – where they can buy more retirement income for a given fall in consumption – and that the difference between the public and private rates of return represents the effective tax imposed by social insurance.

However, even if Feldstein's arguments against social insurance are accepted (contrary to the conclusions of Section 4.5 and Diamond, 1999, p. 18), it does not follow that forcing workers to contribute to private savings schemes will have zero effect on labour market incentives. Indeed, this will only be the case if the level of compulsory contributions is the same (or less) than individuals would have contributed to a pension voluntarily. This does not seem very probable (and, moreover, would obviate the need for any sort of intervention in the first place). In reality some workers are likely to be myopic (see Sections 7.2 and 1.1), preferring to consume more now and less later (despite the high rewards from saving), while others may favour a different portfolio of assets, with, say, greater investment in their own business or housing and less in the form of a pension. Instead of being forced to contribute part of their earnings to a pension scheme many workers would therefore prefer to receive a larger net wage, so that they can then make investment decisions themselves[195]. Hence, even when the return on compulsory saving is identical to that on voluntary saving, such compulsory contributions may share some of the properties of taxation, in that the balance of incentives (for instance between working in the formal and the shadow economy) will be altered. Therefore, though it is plausible that compulsory saving will affect labour market efficiency less than social insurance, if it has some effect on individuals' saving behaviour it is also bound to affect their work incentives.

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194 Feldstein also produces a number of slightly lower estimates for the rate of return to private capital, reflecting the effect of taxes and the need to take into account the variability (i.e. riskiness) of returns.

195 This assumes that capital market constraints do not allow individuals to borrow against their compulsory pension savings. However, even when credit markets do allow such borrowing to take place, transaction costs mean not being forced to save in the first place would have been cheaper and therefore preferable.

Labour market considerations therefore favour a voluntary approach to pensioning, where people are free to decide for themselves how much to save from their (higher) take-home pay. However, this does not mean that governments can entirely abrogate their responsibilities in relation to older people; as noted in Section 1.1, all governments have a duty to ensure a minimum retirement income standard through providing either means- tested assistance or universal flat-rate benefits. Bearing in mind the problem of moral hazard mentioned earlier, it is likely that any move away from earnings-relation would be in favour of the latter model, and this would clearly require raising substantial amounts of revenue through taxation. This therefore suggests a potential flaw in the above analysis: as there would be no link whatsoever between contributions and benefits, a flat-rate scheme could reduce work incentives more than either kind of earnings-related scheme, despite the lower rates of contribution it requires.

However, this line of argument fails to take into account the need for supplemental assistance (or a floor to benefits) under earnings-related schemes. Though Feldstein's analysis assumed a rate of return on compulsory pension contributions of 9.3% (or slightly lower after adjusting for taxes and risk), he ignores the fact that some workers will not accumulate benefits worth more than the minimum retirement income, and so will qualify for means-tested assistance[196]. The rate of return on their contributions will therefore be nil (just like a tax). Similarly, the rate of return to people who retire with an income just above the minimum should also be adjusted to take into account the existence of top-up benefits. Unless workers systematically fail to consider the existence of such benefits, the end result is that the flat-rate scheme will always have less of an effect on labour market incentives than either kind of earnings-related scheme.

196 In the example illustrated in Figure 7.1 earlier these are people whose lifetime earnings are under half average.

7.6 Conclusion

This chapter has looked at the arguments for the two compulsory earnings-related models for pension provision, social insurance and compulsory saving. The moral hazard and myopia arguments for this type of provision have been shown to be weak: earnings-related pensions *per se* do not reduce the moral hazard associated with means-tested benefits, and though myopia/paternalism may offer a justification for governments concerning themselves with accustomed (as well as minimum) living standards, this is a somewhat authoritarian path to tread. However, the willingness to pay argument is more convincing, at least in providing a **political** rationale for the introduction of earnings-related social insurance. The important point about this argument, however, is that it relies on social insurance being introduced prior to the widespread development of occupational pension schemes or other private pension/savings vehicles. In the UK this 'window of opportunity' was manifestly missed, with Beveridge's (1942, paragraphs 302 and 304) rejection of compulsory earnings-relation being the last chance (see Chapter 5). The move to something like an earnings-related model for social insurance in 1975 was clearly too late.

On the other side, proponents of compulsory saving should consider what they are trying to achieve. As shown above, it is difficult to find an economic rationale for why governments should concern themselves with individuals' accustomed living standards, hence the justification for schemes which force people to transfer resources to later life must be made on other grounds. In the case of compulsory saving these grounds are largely macro-economic. However, while it is probably the case that compulsory saving would have some economic benefits, it is much less clear that these are greater than those associated with alternative courses of action (see Section 4.5). At best, therefore, compulsory saving is a little like Keynes' illustration of the merits of public spending in a depression – paying people to dig holes is one solution, but it is probably not the best available policy response.

The question is then whether existing earnings-related pension schemes should be reformed, perhaps along the lines of the movement from SERPS to the S2P (see

Chapter 6), or whether abolition of second tier provision is the more sensible path. In countries where first and second tier provision are unified in the form of a large social insurance scheme it is probable that parametric reform is optimal - the most straightforward way to reduce 'excess' benefits above the minimum is simply to change the benefit formula. But in the UK, where there is a clear division between first and second tier provision, there are strong arguments for a more radical approach. In particular, the abolition of second tier provision could pay for improvements in first tier benefits – the cost of contracted-out rebates is substantial (over 1% of GDP) and could finance significant improvements in the basic pension (see Section 8.5). Given the failure of social insurance in the UK, as described in Chapter 5, the case for 'starting over' is simply that the current system is too far gone to make a gradual approach desirable.

8. Targeting versus a basic income: ensuring a minimum retirement income

Ensuring a minimum retirement income is an objective of pension policy in all developed countries; in contrast to the working population, where there is at least one country (the US) which does not provide a safety net for people without children, there is a consensus that government has a moral duty to prevent destitution in old age. Whether the state should ensure that everyone has a minimum income in retirement is therefore not in question – unlike the accustomed living standards objective discussed in the last chapter, there is little doubt that this objective makes sense[197]. Accordingly, the issue addressed in this chapter is the most appropriate way to secure such a minimum.

As set out in Section 1.3, there are two contrasting approaches to how governments can ensure a minimum income. At one extreme they can use targeted (i.e. means-tested) benefits to top-up the incomes of pensioners who would otherwise fall below the minimum standard, while at the other extreme they can provide universal benefits (set at the level of the minimum) to all pensioners irrespective of their income. These two ideal type polices are labelled in this thesis as 'targeting' and 'basic income', and estimates of the effect of each on future pensioner incomes and on the public finances were presented in Sections 3.2, 3.3 and 4.3. In brief, the analysis showed that the basic income policy fares far better in terms of distributional outcomes (for instance, pensioner inequality and poverty are predicted to be lower than under targeting), but that it is much more expensive. This firmly accords with popular conceptions: the basic income policy is 'fairer' but this advantage comes at the expense of a hefty price-tag. There would therefore appear to be a simple policy trade-off between distributional outcomes (fairness) and cost (efficiency).

197 As noted in Section 1.1, some commentators have argued that people with low retirement incomes but reasonable earnings over their working lives should be excluded from eligibility to additional state assistance. However, the attempt to implement a thrift condition in 1908 when means-tested pensions were first introduced in the UK was not a success (Macnicol, 1998, pp. 158-161), and it is doubtful whether it would be any more successful today.

However, the efficiency argument for targeting is not as clear-cut as might be supposed, and it is possible that the basic income policy will be more efficient in spite of its higher cost. As set out in Section 8.1, this reflects the fact that under targeting people with (or expecting to have) a retirement income below the poverty standard face a 100% effective marginal tax rate, and hence have no incentive to save. Therefore though the lower cost of targeting improves incentives for people above the minimum (as the required tax rate on labour income is lower), the overall effect of this policy is indeterminate, and economic theory cannot provide a definitive answer as to which type of intervention is preferable. Section 8.2 then moves on to look at three other arguments against a policy of relying on mean-tested benefits: its effect on horizontal equity, the problems of incomplete take-up and stigma, and the political problems it is associated with. Given these difficulties Sections 8.3 and 8.4 look at two alternative 'hybrid models' which claim to avoid the problems of means testing while stopping short of a full basic income. Section 8.3 looks at the idea that second tier provision could be used in a limited way to deliver a minimum retirement income, while Section 8.4 discusses the effects of a 'pensioner credit', where eligibility for Income Support would be tapered-off at less than the current 100% rate[198]. Section 8.5 concludes by reviewing the arguments against means testing and by suggesting that the abandonment of second tier provision could make moves towards a basic income both feasible and desirable.

8.1 Is targeting more efficient than a basic income?

The main claim made for targeting is that it is a more efficient means of delivering a minimum retirement income as it avoids the 'waste' of giving benefits to people who do not need them (i.e. to pensioners who already have an income worth more than the

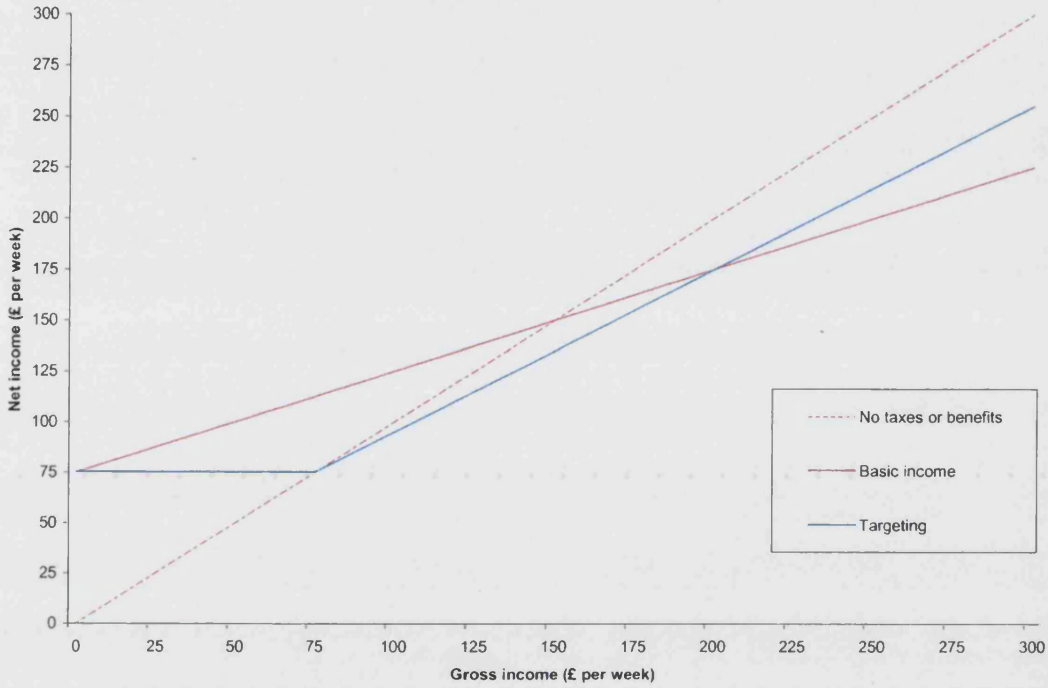
198 As noted in Section 1A.1, the government announced in Budget 2000 that it plans to introduce a pensioner credit to "*to reward low income pensioners who have made some pension provision for themselves and those who are currently just above MIG levels*" (HMT, 2000, paragraph 5.45). More details of the proposal are to be announced in Autumn 2000, and at the time of writing the precise structure of the new scheme is unknown. The tapered means-test looked at in Section 8.4 is one way in which the government's objective might be achieved, and this possibility is mentioned in the Budget documentation, hence the moniker 'pensioner credit' is used here as a short-hand description for the scheme. However, the analysis in Section 8.4 should be thought of only as **illustrating** the government's plans; the pensioner credit which is eventually introduced (if the government follows through with its plans) may well be rather different.

minimum). The proposition is therefore that targeting will have less of an effect on incentives, and hence on economic behaviour, because its lower costs will be reflected in lower tax rates. However, on its own this argument is clearly incorrect; as well as looking at the incentive effects of raising revenue to finance benefits (via taxes), the distortions created by benefits themselves must also be considered. In other words, analysis must look at the incentive effects of the tax-benefit system as a whole.

The effect of taxes and benefits on incentives can be analysed by looking at how a marginal increase in an individual's gross income affects their net income, the difference between the two representing the effective marginal tax rate (EMTR). Figure 8.1 illustrates for the basic income and targeting schemes used in Part A. It should be noted, however, that the Figure is highly schematic, and is intended to indicate only the broad properties of the two models. In particular it should be borne in mind that, though the Figure illustrates the relationship between gross and net income for pensioners, in reality the incentive effects of pension policies are felt most keenly by working-age people. The relationship between the EMTR schedule and incentives is therefore complex, as pensions affect decisions about both work and saving.

Figure 8.1

Effective marginal tax rates under a basic income and targeting



The Figure merits some explanation. The solid lines plot how individuals' net income (shown on the vertical axis) alters in response to changes in their gross income (shown on the horizontal axis). The slope of this net income line therefore shows the marginal benefit (i.e. additional net income) an individual receives from a marginal increase in their gross income. If there were no taxes and no benefits then an incremental increase in gross income would translate directly into the same increase in net income - the resultant 45 degree slope is plotted by the dashed line. The difference between the slope of the dashed line and the slope of the solid line therefore represents the EMTR.

Under a basic income, everyone receives a benefit equal to the minimum income standard (£75 a week, by assumption) causing the net income line to intersect the vertical axis at the level of the minimum. To pay for the basic income the government must levy income taxes equivalent to the difference in the slope of the net income line and the dashed 45 degree line[199]. By assumption the required tax rate shown in the

199 To simplify analysis the Figure ignores the effect of graduated tax rates, i.e. it assumes that income tax is levied at a uniform rate on all non-benefit income.

Figure is 50%. However, this is only for illustrative purposes, and it is useful to refer to this tax rate algebraically as α. The key point is therefore that under the basic income model all individuals face the same EMTR (α).

In contrast, under a targeted (i.e. means-tested) scheme the net income line is kinked i.e. individuals face different EMTRs depending on their gross income. This reflects the fact that under this system individuals at the bottom of the income distribution receive no additional benefit from increases in their gross income until they reach the minimum income standard. Below this amount additional benefits are provided which are just sufficient to bring incomes up to the minimum level, hence individuals face a 100% EMTR (net income is invariant to changes in gross income), while above this amount individuals are taxed at the rate β (by assumption, 20% in the Figure[200]). Clearly, therefore, people with incomes below the minimum standard face much worse incentives under this system than under a basic income. However, incentives for people with gross incomes above the minimum are improved, as the cost of benefits is lower under the means-tested scheme (and hence tax rate β is lower than the tax rate α). Whether, overall, incentives are improved relative to the basic income therefore depends, firstly, on how many people are subject to the means test, secondly, how they react to this increase in their effective tax rate from α to 100%, and, lastly, how everyone else reacts to the decrease in their tax rate from α to β.

The incentive effects of different kinds of benefit system are therefore difficult to determine. However, economic analyses of 'optimal taxation' – the best trade-off between incentives (which are affected by **marginal** tax rates) and redistribution (which reflects **average** tax rates) – have tended to favour the linear tax schedule associated with the basic income model[201]. This said, recent work by Diamond (1998,

200 Note the Figure also assumes that the tax allowance is set equal to the minimum income (£75 a week or £3,900). In fact in 1999/2000 the tax allowance for pensioners was £100 a week (see Section 1A.1).

201 The connection between a basic income and linear (flat) taxation is recognised by Atkinson (1995c) in the title of his study of the issue. For an outline of the problem with which optimal taxation theory is concerned, and some initial results, see Mirrlees (1971). More detailed numerical estimates of a number of optimal tax schedules are in Tuomala (1990). Broadly, Mirrlees found that an optimal tax structure would be linear, while Tuomala (p14) concludes that *"it is difficult (if at all possible) to find a convincing argument for a progressive marginal tax rate structure"*, and hence suggests that (optimally) effective marginal tax rates would gently decline as income increased. The policy implications of these findings are discussed in Heady (1996).

p. 93) suggests this conclusion is sensitive to the assumed distribution of skills (earning power), the responsiveness (elasticity) of labour supply to changes in taxation, and to society's redistributive preferences. Rather than a flat-tax being optimal, Diamond finds that under certain assumptions a U-shaped pattern for tax rates is preferable. The economic case for linear taxation, while perhaps stronger than many may have imagined, is therefore not incontrovertible.

Nevertheless, even if it is accepted that a linear schedule optimises incentives to work, it is not clear that this analysis crosses-over directly to pensions policy. This is because pensions affect incentives to save, as well as incentives to work (through the taxes on earned income needed to finance benefits). In the case of flat-rate benefits the saving effect reflects the fact that individuals now have less need to make provision for themselves, as they are guaranteed a certain level of income from the state. Means-tested benefits also have this income effect, but because the majority of pensioners are not eligible for such benefits it is rather less important in aggregate. However, unlike flat-rate benefits, means testing also imposes a 100% tax rate on savings below the minimum level, creating a severe problem of moral hazard (see Section 7.1). Therefore, despite their smaller reach, the overall effect of means-tested benefits on saving may be larger than those associated with flat-rate benefits.

The economic arguments for means testing are therefore indeterminate, depending on how individuals respond to changes in work and saving incentives. The low tax rates it imposes on earned income will encourage people to work more, as the 'tax wedge' between an individual's marginal productivity and their remuneration is now smaller, but at the same time the policy creates a very large incentive not to save for people likely to be affected by the means test. Evaluating the optimal policy therefore requires an assessment of both labour-market effects and saving effects. This is an enormously difficult exercise. In particular, as Section 3.1 discussed in detail, it is very difficult to know the practical importance of the saving disincentive effects created by means testing – the existence of tax reliefs and uncertainty about future income mean that in reality moral hazard may not be too important. However, even if it turns out that the efficiency arguments favour targeting (on balance), there are a number of other

objections to means testing which tilt the scales heavily against this model for pension provision.

8.2 Other arguments against means testing

The main non-economic arguments against means testing relate to the ethical basis for this policy, its ability to ensure that all pensioners receive the assistance they are entitled to (i.e. the problems of incomplete take-up and, relatedly, stigma), and its political sustainability. These are discussed in turn below. However, arguments about administrative costs should first briefly be mentioned.

Undoubtedly it is the case that universal benefits are easier (and therefore cheaper) to administer than income-related (means-tested) benefits. However, most administrative costs are incurred when means-tested benefits are first claimed (i.e. when people enter the system), and after that the cost of administering such benefits is much the same as for universal benefits. For some groups of claimants, therefore, administrative costs are a significant element in total spending; for instance, people who are claiming benefits because they are unemployed are unlikely to claim for a long period (there is a high inflow and outflow of claimants), and hence administrative costs are a high proportion of expenditure. In contrast, eligible pensioners (and other groups such as disabled people) are likely to continue to receive means-tested benefits for a prolonged period (quite possibly until they die), and hence the initial cost of administering the claim is only a small fraction of the benefits they receive over the entire duration of the claim[202]. A shift towards means-tested benefits for pensioners will therefore incur higher administrative costs, but these are insubstantial relative to the savings on benefits. Accordingly, therefore, this can only be a supporting argument in favour of universal benefits, and the issues discussed below are more important.

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202 DSS estimates for the cost of administering different benefits show that, excluding loans and grants from the social fund, the Jobseekers' Allowance is the most expensive benefit to administer, with administrative costs amounting to over a tenth of benefit expenditure. By way of comparison, as a proportion of expenditure the administrative costs of the basic pension are under 1% and for Income Support are under 5% (DSS, 2000, Table 42). However, this level of aggregation hides the fact that administrative costs for different claimant groups within Income Support vary significantly – costs are front-loaded and hence are higher for shorter-claiming groups. Unfortunately, though, the DSS do not release estimates disaggregated by claimant group.

Ethics

The ethical argument against means testing relates to the notion of desert and is well illustrated by the current transition towards a 'minimum income guarantee'. As set out in Section 5.4, in the short term the policy of the Labour government is to rely more on means-tested benefits, through linking Income Support (the minimum income guarantee) to earnings while the basic pension remains tied to prices. The government's argument is that, as the majority of pensioners have an income above the minimum, the state's priority should be to protect the living standards of the poorest. However, this is widely perceived as being unfair to people who were prudent in the past, particularly as today's pensioners spent their working lives in a period when the general presumption was that means-tested benefits for retirees would become extinct[203]. For instance, imagine the position of a pensioner who discovers during retirement that, because of the declining value of the basic pension relative to means-tested benefits, her savings leave her little or no better-off than if she had not saved. While not decrying the plight of those with very low lifetime incomes, who were never able to save, she might feel that she has been treated badly relative to her high-living peers who consumed more and saved less during their working lives. Looking backwards it may appear to her as if the government unilaterally, and (if she is ill-informed) apparently secretly, changed the rules of the game. Means testing is therefore 'unfair' to people who worked and saved in earlier life and hence who might expect a higher retirement income than more spendthrift peers.

The argument can be made more formally in terms of horizontal equity – the idea that like should be treated as like and vice-versa. This principle suggests that if two people have the same lifetime earnings but one consumes more during their working life than the other they should be treated differently during retirement. The saver 'deserves' to have a higher income than the non-saver to compensate for their lower consumption in working years. Concern for distributional outcomes should therefore be tempered by a recognition that individuals' circumstances can reflect choices made earlier in life. To borrow a biblical analogy, if the prodigal son voluntarily and knowingly decided to

203 As described in Chapter 5, from 1925 until (at least) 1979 the main thrust of pension policy was to reduce reliance on means testing (though in practice the relationship between universal and targeted benefits was more delicately balanced; see Glennerster, 1995, p. 221).

give today's consumption priority over tomorrow's he cannot complain when, as tomorrow dawns, he discovers his income is lower than his prudent brother's. However, should the state, or their father in this case, decide to disregard decisions taken earlier in life then the prodigal son's brother may rightly feel aggrieved that his earlier prudence has been for nought (see also Hills, 1997, p. 29).

Take-up and stigma

There are also practical objections to means testing. One is that means-tested benefits are, in reality, incapable of achieving the government's objective of relieving pensioner poverty. This is because no mechanism has yet been designed, or is in prospect, which ensures anything like complete take-up of such benefits. Moreover even if the problem of low take-up could be overcome, the problem of 'stigma' associated with means-tested benefits would, according to commentators such as Townsend and Walker (1995, p. 7), greatly reduce the effective value of benefits to recipients, again undermining the government's objective of increasing the well-being of the poorest pensioners. These arguments are looked at in turn below.

The problem of low take-up has been widely and officially recognised. Following the pioneering work of Abel-Smith and Townsend (1965), successive governments have instituted their own studies of take-up, and annual estimates are now published. The most recent estimates (for 1997/8) show that around half a million pensioners are not taking up their entitlement (DSS, 1999a, Table 1.1; see also Section 1A.1)[204]. This is a substantial hole in the safety net. However, while all agree that this is a significant problem, opinion differs about the causes of the low take-up, and therefore the difficulty of designing a better system. Atkinson (1995a, pp. 296-198) and Townsend and Walker (1995 pp. 6-7) argue that low take-up is the inevitable result of the social stigma which, in the minds of potential recipients, is attached to means-tested benefits. However, empirical research is more equivocal about the reasons for low take-up; for instance, Costigan *et al*'s (1999, Ch.s 4 and 5) study of eligible non-recipients suggests

204 In terms of expenditure incomplete take-up is less marked, indicating that non-claimants have smaller entitlements on average. For instance, estimates for 1997/8 show that for single female pensioners take-up is between 62% and 74% by caseload but between 69% and 83% by expenditure (DSS, 1999a, Tables 1.3 and 1.4).

that lack of information (the 'process dimension') is as important as claimant's attitudes (the 'stigma dimension') in explaining low take-up.

It is therefore possible that better devices for giving information to, or collecting information from, pensioners could significantly increase take-up[205]. This said, it is doubtful whether complete take-up could ever be achieved using current administrative mechanisms; certainly, previous attempts to increase take-up through restructuring benefits, such as the move in the 1960s from National Assistance to Supplementary Benefit or the introduction in the 1980s of Income Support, give little reason for optimism on this front (Fry and Stark, 1993, p. 63). And, indeed, the government's new campaign to persuade pensioners to claim their full entitlement only envisages increasing take-up to 85% (by caseload, DSS 1998b). Nevertheless, it is too early to judge whether the re-branding of Income Support as a 'minimum income guarantee' and other recent moves to popularise the benefit have been a success, and despite some justified scepticism from critics it remains possible that something closer to complete take-up could eventually be achieved.

However, even if the principal reason for low take-up of means-tested benefits is lack of information rather than unwillingness to claim, stigma may remain a valid basis for criticising means testing. Rothstein (1998, pp. 178-180) argues that recipients of means-tested benefits are, inevitably and always, labelled as 'second class citizens', and feel themselves to be such. The intangible psychological costs this stigma imposes is, he argues, part and parcel of the process of claiming and receiving non-universal benefits[206]. Hence we should reject means testing on the grounds that, while it may be able to ensure a minimum income in retirement, it cannot ensure a minimum level of personal dignity and autonomy. In other words, the cost of hurt pride (or, more mildly, wasted time), may be a significant factor in reducing the well-being of recipients of means-tested benefits. In contrast, it seems safe to assume that a universal flat-rate

205 The government are currently experimenting with various administrative reforms such as using data-matching with other benefits to identify potential Income Support claimants, offering over-the-phone form filling, direct-mailing households who may be eligible for additional benefits, as well as a more traditional advertising campaign.

206 Rothstein does not consider the possibility that claimants of means-tested benefits may actually form a majority of the pensioner population (as is the case in Australia, for instance). In such circumstances it is possible that stigma will be greatly reduced, if not eradicated.

benefit, which involves all individuals in an identical and simple claiming process, will not involve such costs. Comparing the two without taking into account the costs of claiming therefore presents a distorted picture of their relative efficacy (Besley, 1990, p. 126).

Political

There are two main political arguments against means testing: that it undermines broader social values which the government wishes to encourage, and that it fails to deliver sufficient resources to capture pensioners' votes. These arguments are examined in turn below.

The first issue is related to the saving disincentive created by means testing, though it applies even if relatively few people are affected by moral hazard. Excepting the recent example of Japan, governments rarely encourage workers to consume now rather than later. However, the prospect of being reliant on means-tested benefits in retirement has precisely the effect of discouraging people from putting money aside for the future (see Section 7.1). In the terminology of Le Grand (1997, p. 165), means testing therefore promotes 'knavish' behaviour which is, at once, rational for the individual and, from society's point of view, irresponsible. Rather than conjoining social rights and responsibilities such a policy sets one against the other - greater 'responsibility' (in terms of higher saving) may lead to lower rights to benefit and vice-versa. Given this it would be disingenuous for the government to simultaneously exhort people to save while operating a policy which penalised them for so doing.

Such a situation would appear to arise under current policy due to the fact that Income Support is uprated with earnings while the basic pension is linked to prices. Nevertheless, the government claim that the introduction of the S2P means that this 'moral hazard' problem does not affect today's workers, and hence there is no sleight of hand in encouraging people to save. The validity of this claim was examined at length in Chapter 6, which found that though reliance on Income Support in the future will be lower under the S2P than under SERPS, it will still be quite substantial. Even so, it is probably the second political problem with means testing - that it fails to get pensioners' votes - which is the more important factor.

The most persistent criticism of the approach adopted by Labour since coming into office relates to their decision to increase the basic pension with prices. Though Income Support has and will increase in line with earnings, because only a minority of pensioners claim means-tested benefits the policy fails to deliver sufficient resources to a key group of voters. In particular, the policy is incapable of rewarding the so called 'median voter': most pensioners have too high an income to benefit from increases in Income Support but too low an income to receive much (if any) advantage from the lower tax rates associated with means testing. By hollowing-out pensioners in the middle of the income distribution the policy therefore misses the 'Middle England' voters needed to win elections[207].

In one sense this argument is simply a poor representation of what Labour has done since being elected. In fact, once various measures such as the introduction of winter fuel payments and free TV licences for people over 75 are taken into account, the government will spend around £2.5 billion more in their first term of office than would have been needed to uprate the basic pension with earnings (Darling, 2000, p.3). However, in another sense, the fact that despite this extra spending the government have lost more ground since 1997 on the issue of pensions than any other (see MORI, 2000) illustrates precisely the political difficulties associated with means testing[208]. Even if one way or another state transfers to pensioners rise to compensate for the falling value of the basic pension, the way in which support is delivered may be important; as exploited by the Conservatives in their plans to roll-up winter fuel

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207 This hollowing-out effect can be seen in the analysis in Section 3.2 using PENSIM, which showed that the effect of the targeting ideal type is to flatten-out a large portion of the income distribution. These flat segments represent pensioner households claiming Income Support, and show that the policy prevents pensioners from falling below the minimum standard (bar those not taking up their entitlement). However, the key point is that while the policy prevents pensioners from falling too far, middle income pensioners will be worse-off than under baseline policy (see Figure 3.1). Only households who would in any case have been eligible for means-tested support will be no worse-off under this policy, and these are a minority.

208 MORI's commentary on their August 2000 poll findings is instructive: *"the opposition attack on the derisory pension rise announced in the Spring hit home; indeed, it may prove to be the biggest mistake the government has made this year. Quite apart from the overall swing, it angers a particularly dangerous portion of the electorate, and has been accompanied by a swing to the Conservatives, against the general trend, among older voters. Although... Labour still retains a narrow lead on pensions among the whole population, among the third of the public who say it will be important to their vote the Tories have a tiny lead, 23% to 22%"* (Mortimore, 2000)

payments and free TV licences into the basic pension, innovation in benefit delivery for older people may not reap (electoral) rewards.

8.3 Hybrid model 1: second tier provision to a minimum

In the long term the problems with means testing described above are likely to make a strategy of relying wholly on Income Support untenable. However, it may still be possible to overcome (some or all) of these problems while avoiding the 'waste' associated with providing universal benefits (i.e. with the basic income model), and in practice many pension reform proposals in the UK attempt to steer a passage between universal and targeted benefits. Accordingly, this section and the one following examine two 'hybrid' models for pension provision, this section analysing the proposal that second tier provision should be used to deliver a minimum income (as proposed by Jupp, 1998, pp. 8-10, and in a rather different way by Hills, 1997a, pp. 3-5), while Section 8.4 looks at the possibility of creating a 'pensioner credit' through tapering-off means-tested support.[209].

As noted in section 7.1, an automatic knock-on effect of compulsory earnings-related provision is to ensure that people who can afford to make provision for themselves (the 'lifetime rich') are not influenced by the availability of means-tested benefits. It is this observation which motivates many calls for second tier provision to be strengthened. However, this position begs the question as to the optimal level for such provision. The problem of moral hazard suggests that contributions to the second tier should be relatively high, so that most people automatically accumulate sufficient pension entitlements to avoid reliance on means-tested benefits. A recent inquiry into pension provision put the argument as follows:

> *"the minimum level of contributions* [to the second tier] *should be sufficient, and its coverage should be sufficiently comprehensive, to ensure that in future generations the vast bulk of the population will not require an income-related payment to achieve the minimum level of income ... If, over time, the basic pension continues to wither in relation*

209 A third possible strategy not considered here is to use the system of tax reliefs surrounding pensions to (in effect) bribe people to increase the amount they save in the form of a pension (see Agulnik and Le Grand, 1998a, pp. 413-415).

to average earnings, this implies the level of compulsory contributions to the second tier will need to rise" (Anson, 1996, p30).

However, as shown in Section 7.1, this moral hazard argument for second tier provision is weak, as it fails to provide a rationale for the existence of earnings-related benefits above the minimum. Recognising this, Jupp (1998) suggests a variation on this theme, proposing that people should only be forced to contribute up to the point where they have accumulated sufficient entitlements to pay a pension above the level of means-tested benefits. Once this 'minimum sum' had been reached individuals would not be obliged to save additional amounts. Hence, under Jupp's proposal, the role of second tier provision is limited to ensuring that people avoid reliance on means-tested benefits in retirement. It does not aim to, and does not, ensure that a particular earnings-replacement rate is achieved, and hence cannot be criticised as paternalistic.

Even so, there are considerable problems with Jupp's proposal. First, there are transition difficulties: second tier pension entitlements only build-up slowly, and it would not be until people starting work today had died that the transition to the new system would be fully complete. Second, there is an inherent – and obvious - tension between the rate of compulsory provision and the level of the minimum, making such a scheme prey to the kind of welfare retrenchment strategies described by Pierson (1994, Ch. 3). Third, Jupp's system would not fit well with changes in need over the lifecycle – people may find themselves forced to contribute when they have least spare resources (e.g. when they have young children) but then find themselves above the minimum sum when they are more able to pay. In particular, given the introduction of student loans and the culture of owner-occupation, the scheme would tend to exacerbate the 'front-loading' of lifecycle burdens[210]. Last, and most importantly, unless the level of the minimum income is extremely low, or the compulsory contribution rate extremely high, there will always be some people who do not automatically accumulate a minimum pension.

This last point is recognised by Jupp, who proposes that some people (principally carers) should receive second tier credits during years when they are not working. Such credits

210 Casarico (1998, p. 361) goes one step further, arguing that, if people cannot borrow against their savings due to capital market failure, compulsion will tend to reduce individuals' ability to invest in education as financial resources will increasingly be directed towards retirement.

would therefore act as reward for socially responsible activity outside the labour market, as well as reducing the number of people who failed to reach the minimum. However, as Jupp also recognises, such credits would not be very 'target efficient' – a lot of money will go to people who could have reached the minimum without additional assistance. Moreover, they would not ensure that **everyone** reached the minimum, and there would be a residual problem of means-testing for low lifetime earners. A simpler solution might therefore be to automatically top-up the pension funds of people who do not reach the minimum, thereby creating what might be termed a 'lifetime means-test'. It is this type of solution which, in rather different ways, is proposed by Atkinson (1995b, pp. 318-320), Hills (1997a, pp. 3-5) the National Association of Pension Funds (1995, pp. 70-72) and Falkingham and Johnson (1995, pp. 208-210). For convenience the following focuses on Hills' 'automatic pension top-up' scheme.

The essence of Hills' scheme is that rather than targeting additional benefits according to household income they should be provided to individuals on the basis of their income from the basic pension and second tier pensions. In other words, the individual should be the unit for assessment, and income from voluntary (third-tier) savings should be ignored in calculating top-up payments. The scheme would therefore work through providing automatic second-tier credits for low lifetime earners i.e. people who have not earned enough over their working life to have accumulated first and second tier entitlements which are worth more than the minimum. Assuming that the basic pension continues to be linked to prices while Income Support rises with earnings, entitlement to top-ups would need to be calculated annually, and the cut-off point for receiving extra support (i.e. the definition of a low lifetime earner) would vary by cohort. Nevertheless, the key point is that all the relevant information would already be known to the DSS and hence credits could be provided automatically, without any need for further income assessments during retirement[211].

The advantage of such a lifetime means test is that, unlike Income Support, it would ensure that all pensioners actually receive the minimum income (as opposed to merely having an entitlement), while at the same state top-ups are focussed on the poorest.

211 Because of the existence of SERPS the DSS has full records of the earnings of all employees in every year since 1978. From 2027 it will therefore have full records of lifetime earnings (excluding periods of self–employment and time spent out of the country, see text).

However, there are also (at least) two problems with this idea. For one, it might prove quite difficult to implement in practice. In particular, there are problems about whether current administrative records fully capture individuals' lifetime earnings. If people spend time out of the country or in self employment they will have zero recorded earnings for the years in question, and hence will be more likely to qualify for a top-up when they retire. But this result is simply because their earnings for those years were not recorded, not necessarily because they did not have any. Annual credits, as used in the S2P, may therefore be the only practical means of providing top-ups – measuring lifetime income accurately is, in reality, an extremely difficult task.

The second problem with a second tier plus top-ups system is more fundamental: in effect, it is simply a circuitous way of creating a basic income. Under both systems all retirees end up getting a benefit worth the same as the minimum income, the only difference being that in the basic income approach the nature of this transfer is explicit whereas the lifetime means-test cloaks redistributive transfers in the guise of credits to a pension scheme. If individuals recognise that their compulsory contributions merely serve to reduce eligibility to such credits then this strategy does not reduce effective tax rates (the reason for targeting benefits in the first place).

8.4 Hybrid model 2: a pensioner credit

The alternative strategy for ameliorating the problems with means testing is to taper off means-tested benefits at less than the current 100% withdrawal rate; this is one way in which the government's plans for a 'pensioner credit' might be implemented (see HMT, 2000, paragraph 5.45)[212]. This section explores the cost and distributional effect of introducing a taper into Income Support, set either at 75 or 50%, and compares this with the effect of moving to a basic income.

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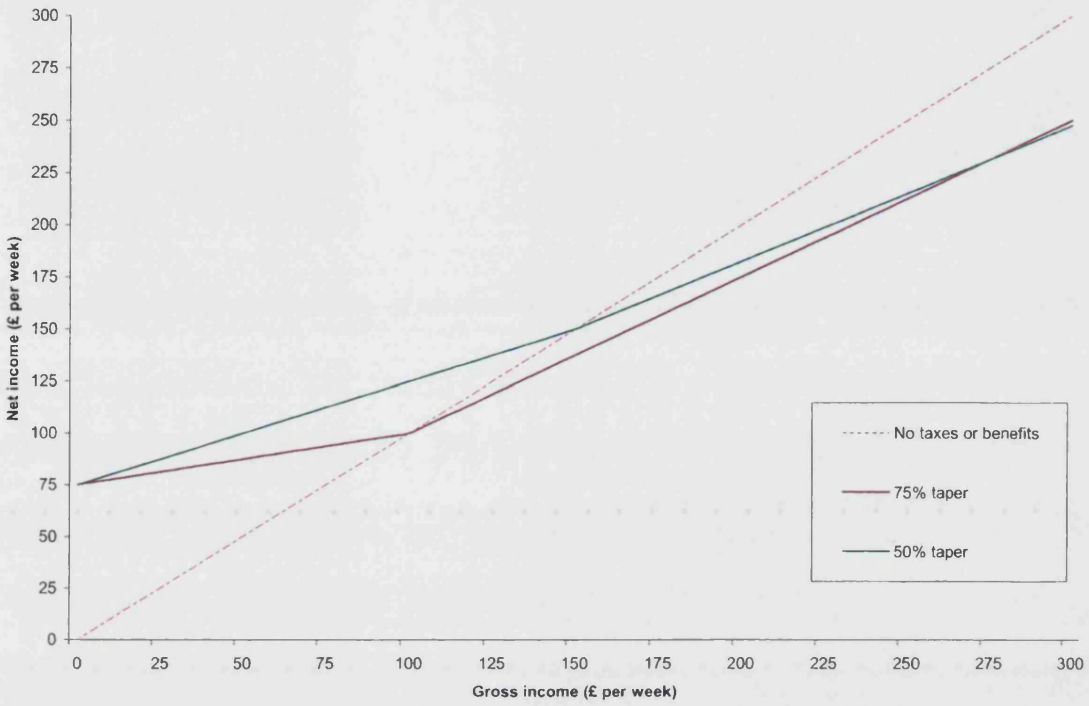
212 Rather than tapering-off means-tested benefits it would also be possible to use refundable tax-credits to achieve a similar effect. For instance, if tax of 25% were charged on all income over £100 a week (which approximates the tax system facing pensioners in the UK today), and the minimum income was £75 a week, then making the tax allowance refundable would have exactly the same effect as putting a 75% taper into means-tested benefits. This may be what some advocates of this type of reform have in mind, particularly when it is presented as a move towards 'negative income taxation'. However, there are important issues to do with the time-period for payments and unit of assessment (the tax system works on an annual and individualised basis while the benefits system is on a weekly and household basis) which make tapering-off benefits the more attractive option administratively.

As witnessed by Housing and Council Tax Benefits (and in a rather different way by the Working Families Tax Credit), there is no necessity for means-tested assistance to be withdrawn completely once the minimum income is reached. Rather than a single cut-off point a taper system could operate, with benefit entitlement being reduced on a less than £ for £ basis. The effect of such a tapered means-test is shown in Figure 8.2; as with Figure 8.1 earlier (with which it may be compared) the Figure is schematic – it is intended only to indicate the broad properties of this kind of reform. Two possibilities are illustrated. Under one scheme the taper rate is set at 75% (i.e. for every extra £ of gross income benefits are reduced by 75p) and, by assumption, this is associated with a tax rate of 25%. Under the other scheme the taper rate is set at 50% with an income tax rate of 35% (by assumption). The Figure also assumes that the minimum income standard is £75 a week (the level of Income Support for a single 65-year-old in 1999/2000), hence for a single pensioner entitlement to benefit is extinguished at £100 a week under the 75% taper and at £150 a week under the 50% taper[213].

213 The government appear to have in mind something more like the 75% taper scheme. In his Budget speech the Chancellor stated that: "*the Secretary for Social Security is to launch a consultation on how, for the next Parliament, we can develop a new pensioners credit....under the framework on which we will consult, an older pensioner with income, for example, of less than 100 pounds a week, or a couple with less than 150 pounds a week, would qualify for a pension credit to raise their income*" (G. Brown, 2000, p.10).

Figure 8.2

Effective marginal tax rates under a tapered means-test



As with the comparison between a pure means test and a basic income, a number of factors need to be taken into account in thinking about how the taper schemes affect incentives. Relative to the basic income people with incomes below £100/£150 a week face worse incentives, while the incentives facing everyone else are improved (due to the lower tax rates required to finance benefit payments). A more complex picture emerges if the schemes are compared with a pure means test: incentives for people with incomes of less than £75 a week are improved, worsened rather dramatically for people with incomes between £75 and £100/£150, and worsened slightly for everyone with incomes above this level. Whether, overall, introducing a taper improves incentives relative to the pure means test is therefore again difficult to establish, depending as it does on both the distribution of income and how people react to different EMTRs. The conclusion of section 8.1 therefore also applies here. While there are good reasons for believing that effective marginal tax rates should be similar (or the same) throughout the income distribution, it is possible that in some circumstances a 'U' shaped EMTR schedule (or some other shape) will be more efficient. The analysis below therefore

concentrates on describing the effects of the various options rather than determining absolutely whether one is preferable to another.

Estimates from POLIMOD

The cost and distributional effects of the two options can be calculated using the static microsimulation model POLIMOD[214]. As noted in Section 1.4, because in all cases pension benefits are invariant to lifetime earnings there is no need to use dynamic simulation (PENSIM was used in Chapter 3 due to the need for comparability between all the options analysed). Assuming that a taper is introduced only for Income Support claimants over the age of 65 (i.e. excluding single women aged between 60 and 65), and that the structure of Housing and Council Tax benefits is left unchanged, POLIMOD calculates that the cost of a 75% taper would be around £1.4 billion (in 1999/2000), rising to £3.6 billion under a 50% taper[215]. Note therefore that the cost of the taper increases more than proportionally with reductions in the taper rate. This reflects the fact that lowering the taper rate expands the number of Income Support recipients (from 1.4 to 2.0 million households under the 75% taper and to 2.5 million under the 50% taper), as well as increasing the amount going to existing claimants[216].

The distributional effect of the two variants is shown in Figure 8.3. Note that unlike the distributional Figures in Chapters 2 and 3 the analysis here is based on the 'benefit

214 The analysis in this section is based on the July 1999 version of the model (poli0799). Distributional outputs are for families containing pensioners over state pension age (60/65) and the McClements equivalence scale is used throughout. The estimates were derived through running the model over both available years of FES data (1994/5 and 1995/6).

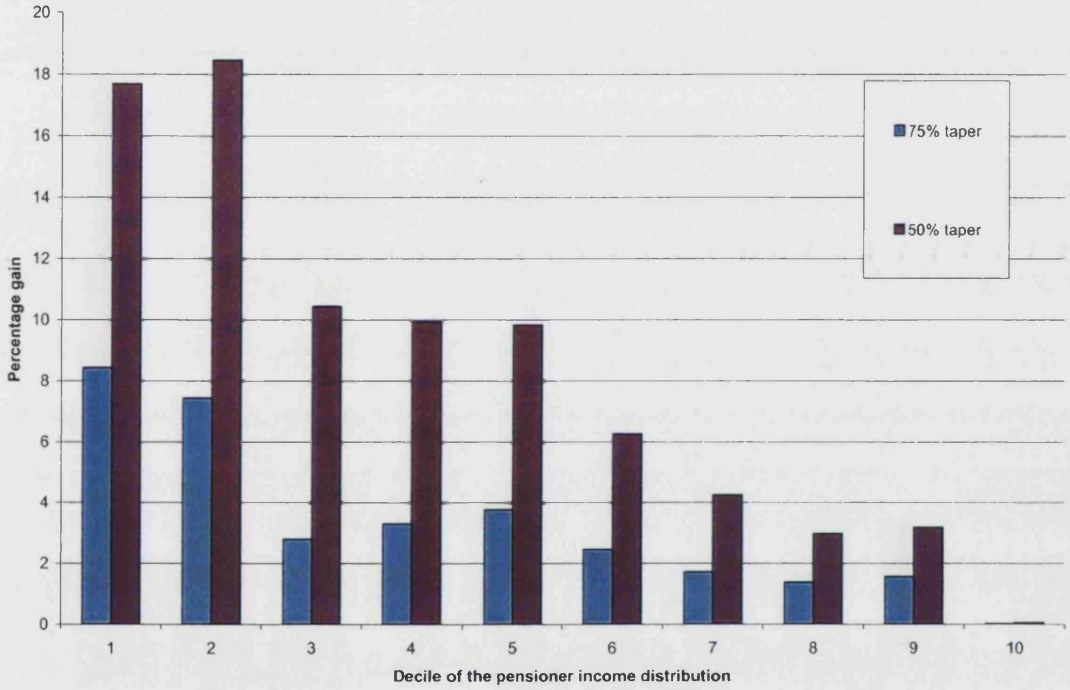
215 It should be noted that these estimates would be much higher (by a factor of about 2) if Housing and Council Tax Benefits were adjusted so that eligible individuals receive the full gain from the introduction of a taper in Income Support. Under the system modelled here households claiming housing-related benefits stand to lose 85% of the extra income they receive through the taper. However, as well as being easier to model, the analysis of a Citizen's Pension discussed later also assumes that housing-related benefits are left unchanged (following the example of Sutherland, 1998, p.8), and hence this assumption aids comparability between the options looked at in this section.

216 Note that POLIMOD's estimate for the number of pensioner households currently claiming Income Support (1.4 million) is rather lower than the estimate used in Section 1A.1 (1.6 million; taken from DSS, 2000, Table 10). This reflects, first, the inclusion of men aged 60-65 in the estimate taken from administrative data and, second, the fact that POLIMOD's take-up assumption is a little on the low side (63% against the government's estimate of 63-73%; see DSS, 1999a, Table 1.1). For the record it is worth noting that if take-up were 100% (i.e. if everyone eligible made a claim) the cost of the 75 and 50% taper schemes would be £2.2 and £5.9 billion respectively, and the number of claimants (equivalently, eligible households) would rise from 2.1 million at present to 3.1 million under the 75% taper and to 3.9 million (a slim majority of pensioner households) under the 50% scheme.

unit' (household) income distribution, rather than the effect of the reform on singles and couples being illustrated separately. Note also that it shows the percentage gain in each decile – the Figures in Chapters 2 and 3 showed the absolute gain (albeit using a log scale which emphasised differences at the bottom).

Figure 8.3

Distributional effects of tapering-off Income Support



Source: POLIMOD.

As can be seen, the benefits of both schemes are concentrated on the bottom half of the pensioner income distribution. However, it is also the case that some additional benefits would go to pensioners near the top of the income distribution; this largely reflects the availability of disability premia within Income Support, which can lift eligible households into middling income deciles. Particularly under the 50% taper scheme middle income pensioners would see quite reasonable gains.

The cost and distributional effects of tapering off Income Support can usefully be compared with a basic income. As in Section 3.3, the scheme analysed is based on the Citizen's Pension proposal set out in Sutherland (1998, pp. 6-15). In this instance though it is the 'Age-related Citizen Pension' variant which is looked at. This involves

universalising the basic pension and increasing benefit rates to the same level (by age) as Income Support; in contrast Section 3.3 analysed the 'Minimal Citizen's Pension' variant where the basic pension was made fully universal (and was uprated in line with earnings growth) but where the level and structure of the benefit were left unchanged. Taking into account consequential increases in tax revenue (because the level of the tax allowance for pensioners is unchanged and the basic pension is taxable some of the additional income provided by the scheme flows back to the Exchequer through income tax payments), POLIMOD estimates that the net cost of an Age-related Citizen's Pension in 1999/2000 would be £8.2 billion[217]. A breakdown of how this estimate is arrived at is in Table 8.1, while a full discussion of the estimates is in Jordan *at al* (2000, pp. 85-87).

Table 8.1

Cost of an Age-related Citizen's Pension

Measure	**Cost/Saving** (£, bn)
Gross cost of Citizen's Pension payments	37.6
Savings on the basic pension	-25.7
Savings on means-tested benefits	-2.9
Additional tax revenue	-0.8
Net cost	**8.2**

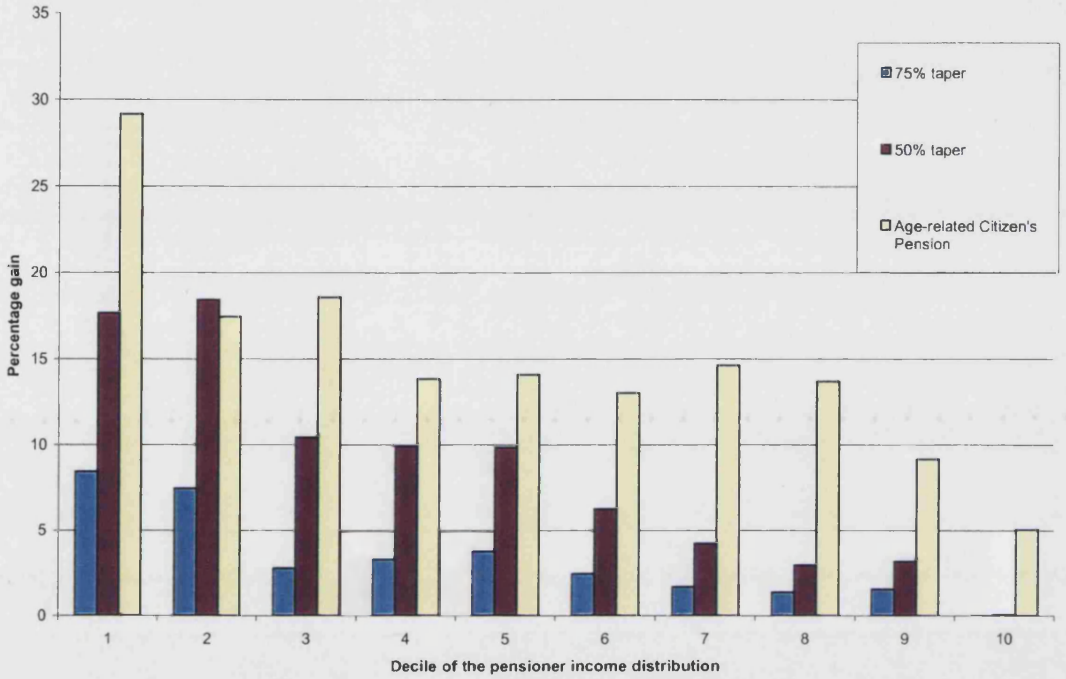
Source: POLIMOD.

POLIMOD's estimates for the distributional effect of introducing an Age-related Citizen's Pension are shown in Figure 8.4. As with Figure 8.3, it illustrates the proportional change in income experienced by each decile of the pensioner income distribution as a result of the reform. For ease of comparison the earlier estimates for the two taper schemes are also shown.

217 This estimate may be compared with Sutherland (1998, Table 3), who finds that a similar scheme would cost £4.6 billion. The higher cost of the scheme illustrated here is accounted for by a number of factors. First, disability additions are included, so that the structure of Income Support is replicated more precisely; this adds nearly £2 billion to the net cost of the scheme. Second, the relative level of Income Support was nearly £5 higher in the modelling here, due to the fact that Sutherland used benefit rates for 1998/9 in her analysis rather than the 1999/2000 rates used throughout this thesis. Last, the tax system used here reflects the introduction of the 10p starting rate, and hence revenue flow-backs are smaller.

Figure 8.4

Distributional effects of an Age-related Citizen's Pension and a tapered means-test



Source: POLIMOD

As can be seen, the effect of a Citizen's Pension is much larger than the effects of either taper scheme, reflecting its higher cost. Perhaps more surprising, however, is the fact that the scheme gives a larger boost to pensioners in the bottom decile than even the 50% taper in Income Support. This is largely accounted for by the (assumed) increase in take-up to 100% under the Citizen's Pension (which by assumption remained at 63% under the taper schemes)[218]. It should be noted though that for decile two the gains from a Citizen's Pension and from a 50% taper are approximately the same, despite the fact that the taper schemes costs considerably less. More generally, gains fall more steeply as income rises under the taper schemes than under the Citizen's Pension, indicating that benefits are better targeted on the those with lower incomes.

218 This effect is also shown in the analysis in Section 3.3 using PENSIM, which found that the basic income model successfully increases the incomes of the very poorest pensioners (those failing to take-up their entitlement to Income Support).

Against this, the estimates in the Figure take no account of the higher taxes which would be needed to finance a Citizen's Pension.

8.5 Conclusion

On the surface the arguments in favour of focusing resources on means-tested rather than universal benefits are strong. At least in the short term such a policy meets the minimum income objective at far lower cost than a basic income, as it avoids the 'waste' of giving money to people who don't need it. Moreover, because resources are focussed on the poorest pensioners it can also be argued that, even after allowing for the lower taxes paid by the rich, targeting is more redistributive than alternative policies. In other words, such a policy ensures that the level of support provided to the poorest pensioners is not confined to that which can be afforded for all, and hence allows for a higher minimum standard than would otherwise be affordable/achievable.

However, there are a number of well-documented problems associated with means testing (see, amongst others, Field, 1996, pp. 8-12; Parker, 1989, pp. 53-55; Shaver, 1998, pp. 251-252; Hills, 1997, pp. 22-29; or Borrie, 1994, pp. 245-251). This chapter has highlighted four main concerns: stigma and low take-up, moral hazard, 'fairness' between savers and non-savers and, potentially, political unsustainability.

The first of these may well become less significant in future years, though it is doubtful whether the take-up rate for Income Support for pensioners (the 'minimum income guarantee') will ever exceed the government's target of 85%. Stigma may also be reduced by the fact that pensioners are likely to be more reliant on Income Support in the future (according to PENSIM), though it is likely that more significant administrative changes would be needed to get to the heart of this problem.

In contrast the problem of moral hazard is likely to worsen substantially under targeting. Indeed, the fact that the gap between the level of the basic pension and means-tested benefits is widening under current policy is already being felt. For

instance, the Financial Services Authority, the regulator of private pension products, now advise that:

> *"if you are over 40, have little pension or other savings and cannot afford to save much, the little you are able to put into a stakeholder* [pension, the new form of personal pension] *may not be enough to bring your total income above the MIG* [Income Support]. *It would then be wasted"* (Financial Services Authority, 2000, Annex A, p. 5).

However, perhaps of more immediate concern to the government than the effect of means testing on workers' saving patterns is its effect on today's pensioners. There is considerable antagonism towards means testing among pensioners due to the fact that, in effect, it penalises those who saved earlier in life. Hence it is widely perceived as being unfair[219]. In addition, the fact that pensioners with incomes just above the level of Income Support do not benefit from increases in the level of the safety net means that an important group of 'Middle England' voters are effectively missed-out by policy (see Section 8.2). These ethical and political objections to means testing are therefore related, and are the main reason why Labour is now revising its pension strategy[220].

As noted in the introduction to this chapter, an announcement on the introduction of a 'pensioner credit' is expected in Autumn 2000, and it seems likely that the policy will resemble the tapered means test described in Section 2.4. The hope is that this new scheme will resolve both the ethical and political problems associated with means testing by providing additional help to pensioners with incomes just above the level of Income Support. Indeed, the government have described the pensioner credit as the 'missing link' between the minimum income guarantee and the S2P (see, HoC 2000, paragraph 116). However, it is arguable whether this proposal will in fact make matters better.

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219 This ethical objection to means testing is now accepted by the government. For instance, Social Security Secretary Alistair Darling has commented that *"people with small occupational pensions or modest savings... ought to be rewarded for all their effort during the lifetime* (sic) *and not penalised because of it"* (Darling, 2000, p. 5). In a similar vein, the Chancellor stated in his Budget speech that the government want *"to do more for those with modest occupational pensions and savings who should not be penalised for having worked hard all their lives and saved for their retirement"* (G. Brown, 2000, p.10).

220 For today's pensioners Labour's policy of increasing Income Support with earnings but the basic pension with prices may fairly be represented as a move in the direction of targeting though, as discussed in Part B, in the longer term, this is not a fair representation of the government's strategy; see also Figure 1.6.

In terms of the ethical objection to means testing, though it certainly makes the 'unfairness' of the 100% withdrawal rate in Income Support less acute, it only does so by making this 'savings trap' wider; while people claiming Income Support should feel slightly less aggrieved – they now get to keep 25p of every £ of additional income rather than none – this advantage is only bought at the expense of a wider band of pensioners being affected. The ethical problem is therefore slightly different in nature, but is by no means resolved. Similarly, it is not clear that this policy will succeed in making all pensioners believe they are "*share*[ing] *fairly in rising national prosperity*", the government's overall aim for pension policy (see DSS, 1998, p12), and the political problems with targeting support by household income are likely to continue. Holly Sutherland describes the issue as follows:

> *"there is a general problem with being worried about people who are just above whatever level we set at the moment, so worrying about people who are just above the MIG* [Income Support] *and doing something for them will leave another set of people who are just above the new credit and we may start worrying about them...I think the idea that there is always a group who feel neglected, who are just above the target group, does dictate that the group as a whole needs to be thought of together"* (HoC, 2000, paragraph 118)

In conclusion, the analysis in this chapter suggests the problems with means testing are fairly intractable, and that at best that the tapered means test 'hybrid model' only ameliorates them. Given this the other hybrid model, second tier pensions to a minimum sum, might appear attractive. However, as noted in Section 8.3, this policy is really just a circuitous way of creating a basic income – the retirement benefits it produces are flat (or nearly so). It should therefore be compared with the basic income ideal type analysed in Sections 3.3 and 4.3. In some ways, though, this would be unfair, as the analysis in Part A assumed that second tier pension provision would remain the same as under current policy (i.e. SERPS is retained). In fact the introduction of a basic income for all pensioners might be accompanied by the abolition of second tier provision altogether, as there is no longer any problem of moral hazard. As well as future savings on benefit expenditure this would result in immediate gains of £8.3

billion a year due to the abolition of contracted-out rebates (see HMT, 1999, Table 7)[221].

The saving from abolishing contracting-out rebates is therefore almost exactly enough to pay for the immediate cost of the Age-related Citizen's Pension scheme described above. However, it would not be sufficient to pay for such a policy in the long-term; as shown in Table 4.2, the less generous Minimal Citizen's Pension modelled in Part A costs nearly this amount once its effects on future expenditure are taken into account (though note that in this instance second tier provision was retained, thus altering the spending profile considerably). Hence a less ambitious version of a basic income, such as the household retirement income described in Jordan *et al* (2000, pp. 86-87), would be needed if such a reform were to be fully self-financing (see Section 9.4).

221 In effect, abolishing SERPS would mean that all employers and employees paid NICs at the full contracted-in rate of, respectively, 12.2 and 10%, as against the contracted-out rates of 9.2 and 8.4%. Note also that the saving of £8.3 billion from abolishing rebates (taken from HMT, 2000, Table 7) ignores additional savings in the form of the reduced cost of the tax relief on second tier pension contributions (see Section 1A.3).

9. Summary and Conclusion

This thesis has looked at a number of aspects of pension policy. One focus has been on theory – why does the state need to get involved in retirement income provision and what types of intervention make most sense? Another has been on numbers – what are the effects of current and proposed policies on pensioner incomes and the public finances? A third, often implicit, focus has been on the politics of reform. This chapter attempts to bring these various threads together.

The structure of the chapter is as follows. Section 9.1 begins by discussing the nature of the pension reform debate, arguing that while the four 'ideal type' systems outlined in Chapter 1 are a good starting point for thinking about the available options, in most developed countries political factors mean debate revolves around the social insurance and compulsory saving models, However, for the reasons discussed in Sections 9.2 and 9.3, the UK is an exceptional case. First, unlike countries such as Germany or Italy, where rising contribution rates are a major problem and the prime motivation for reform, the cost of state pension provision in the UK is set to fall – Section 9.2 explains why. Second, while the UK does not suffer from cost problems, it suffers from a number of other problems which do not affect other countries. Section 9.3 discusses some of these and looks at the reform strategy adopted by Labour to tackle them. Section 9.4 then examines whether alternative directions for reform, as represented by the four 'ideal types', would have been preferable. Finally, Section 9.5 concludes by discussing the legacy of the reforms introduced since 1997 and the challenges facing future governments.

The estimates for the effect of current and alternative policies presented in Part A and Chapter 6 are referred to throughout, and it is worth briefly reviewing how these should be interpreted. In one sense this thesis has served to show the benefits of analysing pension policy using the sophisticated tools made available through modern computing power. Indeed, if the quantitative analysis has successfully illuminated the choices facing policy makers it might lead to the conclusion that such tools are essential for understanding the impact of pension reform. Simultaneously, however, it must be

conceded that both PENSIM and the NIESR generational accounting model are subject to very wide uncertainties. In one sense this is inevitable given that they attempt to forecast the distant future. But it should also be borne in mind that both models are essentially 'first generation' designs, and in different ways they both suffer from their novelty. In the case of the NIESR model the most important technical problem is its failure to include all elements of the public finances (such as, for instance, the foreseeable costs of nuclear decommissioning). In the case of PENSIM the technical problems are two-fold: first, the data currently used is rather old and, second, because the model is a 'black box' it is very difficult to be sure that it is genuinely functioning correctly (i.e. that it is bug-free).

In their current state of development the findings from such models therefore need to be handled with particular care. Nevertheless, if we are to understand pension reform options properly some attempt to compare the distributional and fiscal effects of alternative options is probably better than no attempt at all. The Cabinet Office report into modelling in government concluded as follows:

> *"modelling is in the best interests of both Ministers and senior officials. They lead to better decisions and improved policy outcomes. Without soundly based analysis and modelling, those involved in the formulation of policy and the delivery of services will work in the dark"* (PIU, 2000, p8)

In other words, for all its defects, modelling does at least hold out the prospect of better-informed (and hence, hopefully, better) policy making. The estimates produced by such models should, though, be treated as illustrations rather than as forecasts.

9.1 Key choices in pension reform

This thesis has used a typology of four 'ideal type' pension systems – targeting, basic income, social insurance and compulsory saving – to illustrate the main options for pension reform. As set out in Chapter 5 (and Section 1.3), the history of pension provision in the UK means that it contains elements of all four of these ideal types: Income Support is a targeted benefit, the basic pension is similar to a basic income, SERPS is an earnings-related social insurance scheme and contracted-out rebates are a

form of compulsory saving. This diversity of provision is relatively unusual internationally, where one form of provision (most often social insurance) usually dominates. As such the UK can be seen as an early adherent to the 'multi-pillar' approach promulgated by the World Bank[222]. Though, admittedly, the composition of the pillars does not conform precisely to the World Bank model, the UK does at least have a multi-pillar system in place. Accordingly, it should be better placed than most countries to cope with demographic change, as the pension system does not rely (and never has relied) on a dominant public tier.

The World Bank analysis suggests that the trick for UK pension reformers is to find the best possible mix of the various elements of the current system, adding a little bit more of this or a little less of that until the right combination is found. Labour's approach to pension reform might be described in something like these terms. However, while this 'pick and mix' approach sounds attractive, it also has its dangers:

- it is likely to be complex to administer and to understand, with 'cliff edges' where one form of provision takes over from another;
- precisely because of its adaptability it may also be rather unstable, with reform coming in successive waves rather than step-changes;
- such an approach can rapidly lead to incoherence, with the objectives of the system becoming hard to identify beneath the mass of different interventions of one kind and another.

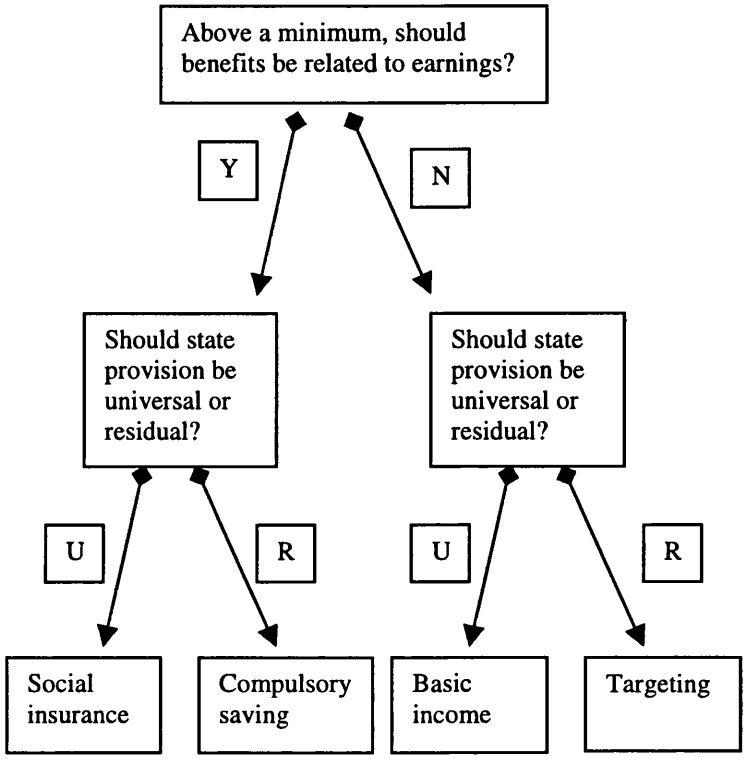
A better way of thinking about pension reform is not to see the four ideal types as ingredients in a recipe – or as a smorgasbord from which the governments can select according to their taste – but as separate meals in their own right. According to this view the typology of pension provision used in this thesis represents the four possible outcomes of the decision tree illustrated in Figure 9.1. The first decision is about policy objectives: is the government's aim confined to ensuring a minimum retirement income or, in addition, does it believe it also has an obligation to protect individuals' accustomed living standards? The second (and secondary) decision is then about the

222 See World Bank (1994, Ch. 7) for a full analysis of their approach. Holzmann (2000, pp. 23-29) provides an updated description of the policies adopted in World Bank reform programmes.

mechanism used to achieve this objective: should universal benefits be provided by the state to everyone or should its role in provision be more residual?

Figure 9.1

Decision tree for pension policy



As the Figure demonstrates the primary issue in pension reform is whether the state should directly link retirement incomes to earnings in work though compulsory earnings-related pension provision. This question was considered in Chapter 7, which looked at various rationales for second tier provision. It concluded that in purely economic terms the case for this form of pensioning is weak. However, if non-economic factors are brought into the equation the argument becomes less clear-cut.

One issue relates to 'myopia', the idea that people are more short-sighted than they should be and hence that governments should intervene to enforce long-termism. As a discipline economics tends to be sceptical about policies which assume the state knows what individuals want better than they do themselves. In the right conditions, economists generally argue, social welfare will be maximised by leaving people to pursue their own self-interest as they see fit. However it can also be argued that these

conditions are not met in the case of pension provision due to the existence of 'individual failure', which means people do not plan for the future in an optimal way and hence that government intervention is required (Le Grand, 1995, pp. 28-30). But as set out in Section 7.2, the implications of this concept are far reaching: it suggests, for instance, that permission to get an overdraft should come from the state, with repayments deducted from wage packets if necessary, and that re-mortgaging should be tightly controlled. Such developments do not seem very likely, nor very attractive. A better (and more honest) line of argument is therefore to question economists' faith in individual choice and to accept that this type of intervention is paternalistic (but not necessarily worse because of it). In other words, in spite of the lack of any recognised market failure government intervention to protect individuals' accustomed living standards is justified on the basis that, in this instance, the 'man from the Ministry' knows best[223].

A belief in (or acceptance of) the need for paternalistic intervention is therefore one reason for second tier provision. However, the main arguments for social insurance and compulsory saving are more overtly political. In the case of social insurance the argument is that in the right circumstances it can institutionalise protection of retirement incomes and (some degree of) lifetime redistribution. Although benefits will clearly be less redistributive than if they bore no relation to earnings (they will tend to replicate rather than reduce labour market inequalities), the higher overall level of transfers made possible by this institutional structure will be the best guarantor of the living standards of the poorest. In other words a rising tide lifts all boats, and social insurance is the best way of ensuring that the tide of state pension payments comes in and stays in (see Section 7.3). Conversely, the political argument for compulsory saving is that this is the only way in which to hold-back the flood waters of social spending and limit (or even reverse) the increasing tax rates which would otherwise be necessary. In the absence of a political process capable of preventing governments

223 In addition it can be argued that, if the man in the street thinks that the man from the Ministry knows best (or at least knows more than he does), individuals might prefer to have the 'burden' of decision making taken away from them (through the government forcing them to accumulate an earnings-related pension). If this argument is persuasive then a relatively small degree of earnings-relation (as seen in the UK) may not seem too large an infringement of individual liberty – after all, it simply involves people paying a bit more into the system and receiving back a few more benefits in retirement. Then again, governments are rarely so free with their tax and spending powers in other circumstances.

from making overly generous pension promises - thereby placing an 'unfair' burden on future generations and damaging the economy - a switch from PAYG social insurance to funded compulsory saving is required.

The political economy of pension reform can therefore lead all sides of the argument to embrace the need for a second tier of compulsory earnings-related provision. The pension reform debate in the US illustrates this point. As discussed by Willmore (1998, p. 16), if the future contribution rates required to maintain social insurance provision are judged 'too large' (either economically or politically) then the most obvious path for reform is to reduce the benefits offered to future retirees. Such a strategy of 'parametric reform' therefore puts the focus on how large cuts should be (equivalently, what level of contributions is acceptable) and whether cuts should fall on everyone (e.g. through raising the retirement age) or be focussed on the richest (e.g. through making benefits more flat-rate). However, the recent reform debate in the US has generally not been conducted in these terms. Rather than the shape of benefits being the primary issue, the focus has instead been on whether existing benefits could be financed at lower cost through moving from PAYG to funded provision (see Feldstein, 1996, pp. 3-5, and Thompson, 1998, pp. 120-130, for opposing views). 'Structural reform', as Willmore calls this strategy, therefore largely ignores questions about the most appropriate shape for benefits and concentrates on issues of finance. Even so, this suits both sides of the argument. For conservatives structural reform holds out the prospect that state provision could be stopped in its tracks, preventing the need for a prolonged 'guerrilla war' against the expansionist tendencies of social insurance, while for liberals it represents a chance to emphasise the advantages of state provision and avoids the need for negotiation and (inevitably) compromise on benefit rules and rates.

In terms of the analysis in this thesis, the pension reform debate in the US therefore wrongly focuses on the secondary issue of provision (i.e. public PAYG versus private funded) rather than the primary issue of objective (i.e. earnings-related or not). Because both sides in the US debate are locked-in to an argument about whether social insurance should be replaced by compulsory saving, the options on the right-hand-side of Figure 9.1 (i.e. the bottom row of Figure 1.3) have been more or less ignored (at least to date). Nevertheless, it seems likely that at some point the debate will return to

questions about the most appropriate shape for benefits (i.e. to a debate about parametric rather than structural reform), if only because arguments about the effect of funding are unlikely to be resolved decisively in favour of one side or another[224]. If the analysis in Chapter 7 is accepted the outcome would then be to flatten-out benefits completely, so that the earnings-replacement function is abandoned altogether. However, this is by no means inevitable, and will depend very much on the tactics adopted by each side.

The changes proposed by the Labour government in the UK similarly show the importance of politics in framing the pension reform debate. However, because pension provision in the UK is not dominated by earnings-related social insurance (as is the case in the US), the nature of the debate is rather different. First, rather than compulsory saving and social insurance being the focus of attention, all four ideal types have a constituency of supporters (see Figure 1.8). The arguments in Chapter 8, which compared the basic income and targeting models, therefore also come into play. Second, and probably more important, the cost of state pension provision is set to fall, and more generally the outlook for the public finances is benign. The pension reform debate in the UK is different to that in other countries, therefore, because the problems facing the UK pension system are different.

9.2 Why is cost not an issue in the UK?

In most developed countries the outstanding pension problem is that contribution rates will need to rise substantially over coming decades if currently legislated benefits are to be maintained (see amongst others Roseveare *et al*, 1996, Section II, or Disney, 2000, pp. 6-8). This is emphatically not the case in the UK. As shown in Figure 4.2, in relation to national income the cost of state pension provision is now on a downward trend, albeit with a levelling-out between 2020 and 2030[225]. Bearing in mind the fact

224 Economists are divided over whether funded pensions are preferable to PAYG pension systems. However, for what it is worth Chapter 4 came down on the side of the sceptics, arguing that the idea that funding allows current benefits to be bought for lower contributions, either directly or because of knock-on effects on economic growth, is a chimera.

225 Note that Figure 4.2 was based on a higher assumption for GDP growth (roughly 1.75% a year) than used by the Government Actuary (1.5%). If the Government Actuary's assumption for growth is used

that there will be more pensioners in the future than today (see Figure 9.2 later), this is a fairly remarkable feat. This section sets out the reasons why the UK is so exceptional in this regard.

First it should be acknowledged that, although the number of pensioners will increase in coming decades, demographic trends in the UK are less alarming than in many countries. This reflects a number of factors:

- the transition from an agrarian to an industrial society occurred earlier in the UK than elsewhere, so that the period of very high fertility combined with low infant mortality has already long gone (Halsey, 1987, pp. 99-105);
- the post-war 'baby-boom' was less spectacular in the UK than in many other countries and, more importantly in relation to continental Europe and Japan, there has been less of a 'baby bust', i.e. though not at replacement levels, fertility rates have not fallen to very low levels (Falkingham, 1997, pp. 31-32);
- women's pension age is set to increase from 60 to 65 between 2010 and 2020, so that the increase in the number of pensioners is rather lower than unadjusted demographic projections suggest.

The result is that the rise in the pensioner support ratio (that is, the number of pensioners divided by the number of people of working age) will not be that dramatic. Figure 9.2 illustrates, showing the Government Actuary's mid-1996 projections for the size of the working-age and pensioner populations (taking into account the increase in women's pension age).

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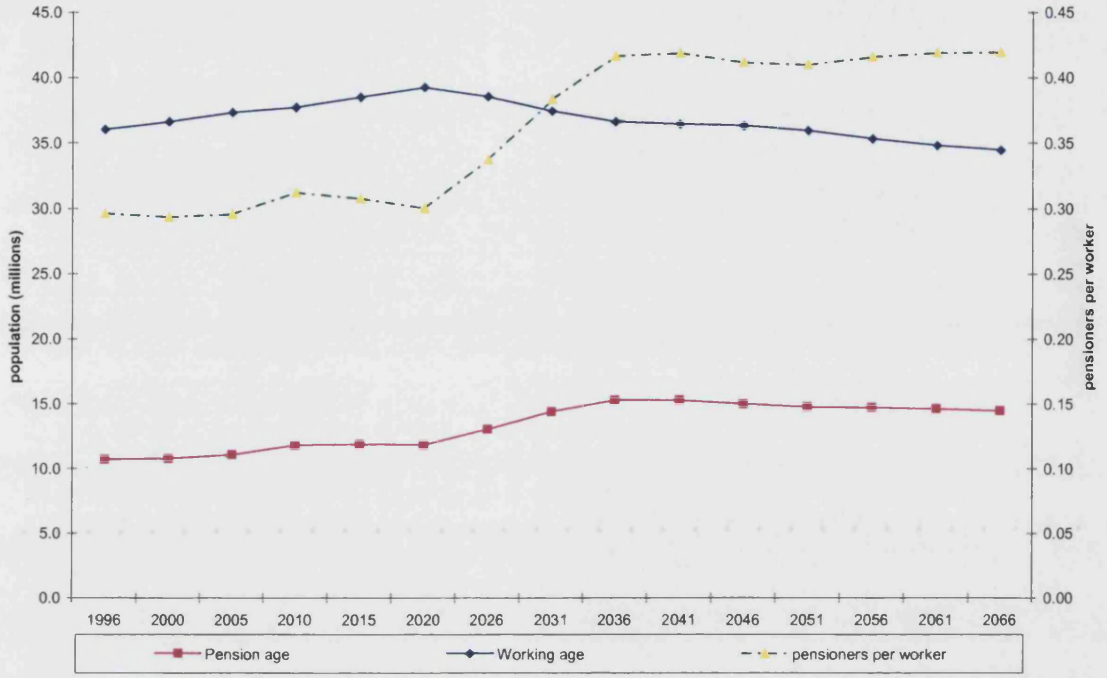
then the fall in the cost of pension provision is less pronounced (see GAD, 2000, Table 2.2). In addition, the Government Actuary's projections do not include the falling cost of rebates, and hence this is a further reason why official estimates show a slower decline in the cost of provision. However, the effect of rebates is included in estimates of required contribution rates (see GAD, 2000, Table 3.3).

Figure 9.2

Demographic trends in the UK



The Figure shows that the number of pensioners will increase by around 40% between 2000 and 2035 (with the bulk of this increase after 2020), before declining gently towards the middle of the century. At the same time the number of working-age people will increase slightly before also gently declining. The result is that the pensioner support ratio is projected to rise from 0.3 in 2000 to 0.42 in 2050, i.e. by 2050 there will be 12 extra pensioners for every 100 workers (GAD, 1999, p. 30). By way of comparison, Germany and Japan expect to have respectively 18 and 30 extra pensioners per 100 workers by 2050 (Radaelli and Shea, 1996, p. 30). Unsurprisingly, therefore, spending pressures are less in the UK.

The second reason for the lack of spending pressures in the UK is the preponderance of voluntary provision and, in particular, the high benefits (though not particularly high coverage) of occupational schemes. As discussed in Section 1A.3, the generous tax treatment afforded to occupational pensions means they are (or used to be prior to the change in ACT introduced in July 1997) an extremely efficient form of remuneration, particularly if contributions come from employers (as this also avoids National Insurance Contributions). This, combined with the fact that until 1978 state pensions

were wholly flat-rate (i.e. there was no compulsory earnings-related provision, ignoring the minor graduated retirement benefit), led to rapid growth in occupational provision in the decades following the second world war. Although membership levelled-off from the mid-1970s, and is now a little below its peak of slightly over half the workforce (GAD, 2000a, pp. 5-8), occupational schemes are still maturing and will account for a large and growing proportion of pensioner incomes in the future (see Section 2.3). This means that pressures on state pension spending are lower in another sense as, on average, pensioner incomes are set to grow substantially **despite** the projected fall in the cost of state provision (see Tables 2.4 and 2.5).

Third is the fact that second tier provision in the UK is mostly funded and is relatively small. Both these features can be put down to the fact that compulsory earnings-related provision was not introduced until 1978 (again, ignoring the comparatively unimportant graduated retirement benefit), by which time occupational pensions were already well established. As discussed in Chapter 5, the fact that this tier of provision was introduced so late had a number of consequences. For one it meant that a wholly state provided scheme was a political non-starter, and hence SERPS was always partially-funded (through rebates paid to occupational schemes). But perhaps more importantly, this also meant that higher earners were generally opted-out, so that direct state provision was limited to lower earners (predominantly women). Hence a broad constituency capable of defending state provision failed to emerge[226], and there was only muted opposition to the cut-backs implemented in the Conservative's 1986 and 1995 Pension Acts. The current SERPS scheme therefore provides lower benefits than originally envisaged (20% of lifetime earnings rather than 25% of an individual's best 20 years) and is predominantly funded (though rebates to personal pensions, as well as to occupational schemes).

The last reason for the declining cost of state pension provision is also connected to the late introduction of SERPS, albeit by a circuitous route. One of the main arguments advanced by proponents of earnings-related social insurance was that it would 'dynamise' the basic pension through creating an automatic link to earnings. However,

226 i.e. Rather than supplanting private pensioning SERPS only ever existed to supplement such provision, and hence its constituency of supporters was always likely to be weak.

because the scheme introduced in 1975 included contracting-out, which in turn reflected its late introduction, the two parts of the system were never integrated. It was therefore technically possible to switch to a policy of price-uprating without major legislation. Of course, the fact that this was in fact exactly what occurred (from 1980 onwards) can partly be put down to historical accident – the originators of the scheme were not to know that Thatcherism lay around the corner. Nevertheless, in terms of defending the value of the basic pension the introduction of SERPS can be seen as a major tactical mistake. Not only did it fail to dynamise benefit rates, it simultaneously managed to reduce net revenue (because of contracting-out) and raise future expenditure, thus strengthening the argument that pensions had to be cut to avoid a 'demographic timebomb'. The fact that the costs of SERPS were significantly under-estimated at first (Hemming and Kay, 1982, pp. 312-313) only made matters worse.

The fact that the basic pension is now linked to prices, with the post-1997 Labour government continuing the policy of the Conservatives, is the central reason why the cost of public pension provision in the UK is set to decline. As the next section discusses, this also has important implications for the level and composition of pensioner incomes, and brings with it a new set of problems. However, before these are discussed it is important to put the outlook for pension spending into context by looking at wider spending pressures, in particular those connected with health-care.

The overall cost of the demographic transition

As discussed in Chapter 4, in contrast to the falling burden of state pension provision spending on the NHS, the great success story of the UK welfare state, is expected to rise substantially in future decades. This principally reflects demography: the greying of the population increases the cost of health-care because average spending per capita rises with age (though the 'compression of morbidity' hypothesis suggests a less dramatic increase). Given that wages account for the bulk of NHS costs, and assuming that in the long term public sector earnings keep up with economy-wide earnings, this will directly translate into a higher proportion of GDP being devoted to health. However, there are a number of reasons why, in reality, we might expect spending to grow even faster than demography implies. First, technological improvements and new health-care interventions (such as heart transplants) mean that there is more the NHS

can do to improve health. Second, health-care may be a luxury good which 'naturally' takes an increasing share of national income as society gets richer. Last there is the political dimension, most notably Tony Blair's pledge to increase UK health spending to the European average.

The baseline estimate for spending set out in Section 4.2 only took account of demographic factors, and missed out these additional reasons why health costs may increase in the future. Even so it still predicted that NHS spending would rise from 6% of GDP in 2000 to around 10% of GDP by the middle of the century. As this is roughly the same as the predicted decrease in pension spending, the baseline generational accounts are approximately in balance[227]. However, if 'looser' health spending is assumed (with health spending jumping to 8% by 2005 and thereafter growing at 0.25% faster than earnings) the generational accounts go substantially into the red.

Nevertheless, the baseline generational accounts support the 'Goldilocks hypothesis' – that the UK's current fiscal stance is 'just right'. The estimates behind this conclusion are presented in Figure 9.3, which shows the key features of the baseline projection (as described in detail in Section 4.2). The top two lines show the NIESR generational accounting model's projection for total spending and total revenue. There are three distinct periods. In the first period, until around 2020, spending and revenue are projected to be similar, so that public debt remains constant in cash terms and gently falls as a proportion of GDP. In period two, from roughly 2020 to 2060, spending exceeds revenue so that, for most of this period, public debt rises in cash terms and as a proportion of GDP. Finally, from 2060 onwards revenue exceeds spending, allowing debt to be reduced again to below its original level. Discounting these revenue and spending streams to their present value (at a discount rate of 5%) produces the baseline estimate for the 'inter-temporal budget gap' that there is a small fiscal surplus under current policy.

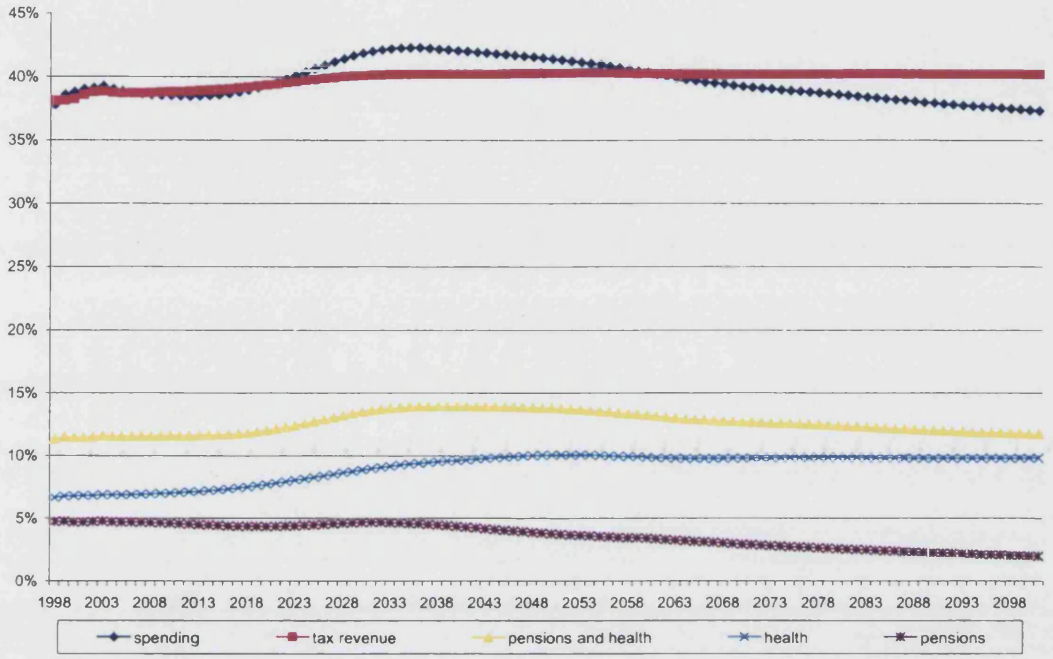
227 This conclusion is confirmed by the Treasury's analysis of public spending pressures over the next 30 years (see HMT, 2000, Annex A). It should be noted however that the estimates in CSK suggest the UK has a slight fiscal deficit; as discussed in Section 4.2, this in fact reflects the fact that a decline in NIC revenue is built into their baseline.

The lower three lines in the Figure then show the model's projection for the cost of pensions and health. The bottom downward-sloping line shows the cost of state pensions, the middle upward-sloping line the cost of health, and the top line the combined cost of these two elements. They demonstrate that the shape of the total spending line is largely determined by changes in the cost of pensions and health, with the dominant factor until about 2040 being the rising cost of health, after which time the declining cost of pensions dominates[228]. However on their own these two areas suggest that spending will only return to its current level at the very end of the century, while the total spending line in fact falls below its 2000 level in around 2075. This reflects the fact that the baseline assumes benefits for working-age people will be uprated in line with prices throughout the projection period (as they have been for the past twenty years), causing a trend decline in social security spending as the value of such transfers falls steadily in relation to earnings/GDP.

228 A different way of thinking about this conclusion is that the savings from price-uprating the basic pension are just about sufficient to offset the upward pressure on spending exerted by demographic change. It should also be noted that this conclusion springs in part from the way the model works. As set out in Section 4.2, the model's projections reflect an assumed rate for per capita spending growth and a profile for spending by age. As pensions and health are far more tilted to older age-groups than other areas of spending it is perhaps unsurprising that they are particularly important in determining the projection for total public spending.

Figure 9.3

Total spending and revenue, and spending by component, under baseline policy (% GDP)



9.3 What is the UK's pension problem and how is Labour tackling it?

One way of interpreting the changes in public expenditure described above is simply that increasingly in the future state transfers will come in the form of care rather than cash. The policy of price-linking the basic pension, the main reason for the falling cost of state pensions, is compensated for by higher in-kind benefits for older people via the NHS. In this sense, therefore, allowing the basic pension to wither on the vine and helping the poorest pensioners through Income Support is a sensible solution to the problem of population ageing. However, while it means that cost problems are non-existent, this strategy brings with it two distributional problems.

The first distributional problem facing the UK is pensioner poverty. As documented in the *Households Below Average Income* survey (DSS, 1995 and 2000b), the number of pensioners with incomes below half the population-wide mean (i.e. the number of pensioners living 'in poverty') has grown over the last two decades, for single

households from 16% in 1979 to 26% in 1998/9 and for couples from 16% to 25% (Table F1 BHC, including the self-employed). This reverses the trend of the previous two decades (Johnson and Stears, 1995, pp. 79-81), and comes in spite of the fact that aggregate pensioner incomes have grown more quickly than earnings since 1979 (see Section 5.3 for a fuller discussion of the position of current pensioners). The estimates from PENSIM presented in Chapter 2 suggest that under current policies this trend increase in poverty will continue, though the rate at which pensioner poverty worsens will slow-down somewhat[229]. Adjusting for the fact that PENSIM substantially overestimates the incidence of poverty among today's pensioners (see Table 2.7), the model suggests that by 2066 the HBAI figures might grow to around 30% for both single and couple households.

However, it might be objected that although the number of pensioner households below half mean income will increase, the vast majority of these will have an income which is only marginally below this poverty standard due to the existence of 'safety net' benefits such as Income Support[230]. If half median income is used as a measure then the proportion of pensioners living in poverty in 2066 will be only 14% for single households and 20% for couples (using PENSIM's unadjusted estimates, which as noted above are probably on the high side). If the poverty gap - the amount by which people fall below the poverty standard - is the real concern there is less reason to be worried, as this measure will not worsen so significantly (though the fact that there are any pensioners living on such low incomes may itself be unacceptable). This is a strong argument; the half mean income line is essentially arbitrary, and if the income distribution is concentrated around this area (as is the case for pensioners) it will be overly-sensitive to small changes in incomes.

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229 Note that the decision to link the value of Income Support to earnings, first announced in the March 1998 Budget, is included in baseline policy. It should be borne in mind that this was not policy under the Conservatives, when all benefits were price-linked, and hence the analysis in Chapter 2 understates Labour's achievements by assigning this important reform to the baseline. For the reasons set out in Section 3.1, in order to meaningfully compare policy options the minimum income must be held constant, and hence Income Support is assumed to rise in line with earnings throughout this thesis.

230 This feature of the projected income distribution reflects the fact that the baseline assumes Income Support will remain at its current level but be uprated in line with earnings in the future. This will prevent pensioners from falling into extreme poverty but, because Income Support (for 65-74 year olds) is currently worth 39% of average income for singles and 37% for couples, it does not affect the numbers with incomes below half average (though disability additions may have some effect).

The problem of incomplete take-up should not, though, be ignored. In reality the very poorest pensioners are eligible non-claimants of Income Support, and this group will continue to be significant unless take-up is increased to something closer to 100%. More generally, the fact that PENSIM's projection for 2066 suggests 34% of single pensioners (though only 13% of couples) will be claiming Income Support should be of concern. As set out in Sections 8.1 and 8.2, there are a number of problems with relying on means-tested benefits to ensure a minimum retirement income: for recipients the value of the benefit may be reduced by the perceived social stigma of claiming, for pensioners with incomes just above the level of the means test there is the problem of penalising those who saved voluntarily during their working life, and for working-age people there is the problem of moral hazard (the 'savings trap' created by means testing; see also Sections 3.2 and 7.1). In many ways reliance on Income Support can therefore be thought of as a problem in its own right.

The second distributional problem facing the UK is that current polices will lead to a significant widening in inequality amongst pensioners. As shown in Tables 2.4 and 2.5, PENSIM's baseline projection suggests that in real earning terms the poorest pensioners will be relatively worse-off in 2066 than in 1997, while the richest pensioners will be relatively better-off. As measured by the Gini coefficient PENSIM's projection is for inequality among pensioners to rise from .24 in 2000 to .35 in 2066 for single households, and from .28 to .36 for couples. If the 90/10 ratio is used as the measure of inequality then the increase over the period is from 1.8 to 2.2 for singles and from 3.0 to 3.7 for couples.

At root this growth in inequality reflects the increasing proportion of pensioner incomes coming from occupational pensions, and the fact that income from this source is heavily skewed towards richer pensioners (see Figures 2.3 and 2.4). This therefore creates a policy dilemma. The fact that aggregate pensioner incomes will rise more quickly than earnings (according to PENSIM) is largely due to the high level of saving currently being made through occupational pensions. However, the growth in occupational pension payments is also the reason why inequality is rising[231]. Hence any

231 In other words, occupational pensions increase mean pensioner income by 'dragging-up' the average – benefits go predominantly to richer pensioners. It is worth noting that this analysis also applies to changes in the pensioner income distribution over the past 20 years. In aggregate income from

serious attempt to reduce inequality would involve scaling back occupational provision, for instance through making its tax and/or National Insurance treatment less generous (see Section 1A.3), but in doing so would simultaneously risk reducing income growth to such an extent that pensioners (as a group) would fall behind the working population. Moreover, such a policy would also mean a substantial change in rhetoric – occupational pensions are widely proclaimed as the great success story of the UK pension system (see for instance DSS, 1998, p65).

Labour's response

In the short term Labour's response to the problem of pensioner poverty takes the form of the 'minimum income guarantee' - though the level of the basic pension will remain tied to prices (as under the Conservative's), Income Support will in future rise in line with earnings (see Section 5.4). Because the level of the safety net will keep pace with increases in general prosperity this policy should keep most pensioners out of extreme poverty. However, by increasing the gap between the basic pension and Income Support it also extends means testing and, as discussed in Chapter 8, this brings with it a number of fairly intractable problems. In the long term, therefore, the government's strategy is to reduce future reliance on Income Support by increasing the automatic (i.e. compulsory) pension entitlements of low and moderate earners through the new State Second Pension (S2P).

The effect of the S2P on future pensioner incomes was described in Section 6.3. As set out there, PENSIM predicts that relative to baseline policy (where Income Support rises with earnings but SERPS is still in place) the S2P will slightly reduce the number of pensioners below half mean income and (to a rather larger extent) the number of pensioners reliant on Income Support (though a quarter of single pensioners are still predicted to be claiming in 2066). The S2P will therefore go some way towards reducing the role of means-tested benefits, and will also modestly reduce the number of pensioners living in poverty (as measured by the half mean income standard). In

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occupational pensions grew by 162% in real terms between 1979 and 1996/7, by some way the fastest rate of growth of any component of pensioner incomes (see DSS, 1999c, Table 1). However, most of this income went to richer pensioners - even in 1996/7 the top fifth of pensioner households received more income from occupational pensions than the other four fifths of pensioner households put together (see DSS, 2000a, Chart 3.2).

contrast, PENSIM predicts that the S2P will have little effect on inequality amongst pensioners (though it must be conceded that none of the options looked at in Chapter 3 greatly affect inequality – see Table 3.11).

The reasons why the S2P is likely to be only partially successful in reducing reliance on Income Support were set out in Section 6.2.

- The fact that under current plans S2P benefits will be price-uprated after retirement, while Income Support rises with earnings, means that even people with full entitlement can fall below the level of the means test during retirement (if they have no voluntary savings).
- At some point after 2051 (the year when the scheme will first provide full benefits) the combination of the basic pension and full S2P rights will be insufficient to provide an income above the level of Income Support (because the S2P's value does not rise enough to compensate for the fall in the value of the basic pension).
- Most importantly, many (if not most) people will miss out on full entitlement due to having periods when they are not in work but do not qualify for credits.

These criticisms of the S2P are well-established, and have been set out elsewhere (in particular in Rake, Falkingham and Evans, 1999, pp. 3-9). What the analysis in this thesis has added to the debate is numbers – PENSIM gives some idea of how important these effects will be in aggregate (though note that the middle effect is not really included). However, perhaps more noteworthy is PENSIM's projection that the S2P will not reduce pensioner inequality (relative to baseline policy). This is not obvious from *a priori* reasoning: given that the S2P provides a much larger increase in benefits for low earners than high earners, i.e. rather than replicating lifetime earnings (and hence labour market inequalities) as SERPS does it redresses them, the reform might have been expected to reduce pensioner inequality. PENSIM's analysis suggests this is not the case and, on reflection, there are a number of factors which point in this direction. First and foremost is the 'ceiling' effect created by means-tested benefits – for pensioners at the bottom of the income distribution a lot of the increase in income from the S2P is absorbed by decreases in entitlement to Income Support. Hence gross incomes at the bottom do not rise as much as might be expected from looking purely at

the distribution of S2P benefits. Second, all workers receive higher benefits under the S2P, so it has some effect on incomes further up the distribution. Third, only a limited number of non-workers will receive S2P credits, and people with a weak attachment to the labour market (who generally end up being the poorest pensioners) will get little benefit from the new scheme.

Finally, the effect of Labour's pension policies on the public finances should be noted. As set out in Section 6.4, the S2P increases the sustainable tax burden by around £1.5 billion[232]. This is equivalent to an increase in the basic rate of income tax of a little under two-thirds of a penny. However, under the current framework for financing benefits the effect of the S2P will be felt by NICs rather than income tax (indeed, if anything the S2P will reduce income tax by cutting the cost of Income Support). Using Government Actuary spending projections, and assuming GDP grows at roughly 1.75% pa, the S2P will cause revenue from NICs to be a little over 1% of GDP higher in 2060 than would have been the case under SERPS. But because the cost of National Insurance benefit payments (and hence NIC revenue) was projected to decline very substantially under baseline policy, the S2P in effect acts to stem the fall in NICs which would otherwise have taken place. As shown in Table 6.6, even after the S2P is introduced revenue from NICs will still gently decline as a proportion of GDP.

9.4 Would alternative directions for reform have been better?

Labour's strategy can usefully be contrasted with the four 'ideal type' policies, which have been used throughout this thesis to exemplify the range of alternative directions for pension reform (see Sections 1.3 and 9.1). This section therefore briefly sets out the effects of each model, summarising the analysis in Chapter 3 and Section 4.3, and looks at the reasons why each model might be favoured or rejected (as discussed mainly in Chapters 7 and 8).

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232 Again, because the move to link Income Support for pensioners to earnings is included in baseline policy, this costing excludes this part of Labour's policies. Note, though, that a different stance is taken in Agulnik, Cardarelli and Sefton (2000, pp. 600-604), who provide costings for both the introduction of the minimum income guarantee (i.e. earnings-uprating of Income Support) and the introduction of the S2P.

Targeting

In common with the basic income ideal type, the objective of targeted pension systems is limited to ensuring a minimum retirement income. However, unlike a basic income, targeting does this through providing support selectively to pensioners with an income below the minimum standard; benefits are means-tested rather than universal.

As set out above, in the short term Labour's pension strategy might be assigned to this model. However, as well as its long term plans to bolster second tier provision through the S2P, current policy is only evolving slowly in the direction of means testing – the gap between the basic pension and Income Support for pensioners is increasing at the relatively slow rate of 1.5% per year (according to the Government Actuary's main assumption). Section 3.2 therefore looked at the effect of targeting through holding the basic pension constant in cash terms, so that by 2066 it is worth £2 a week in 1999 earning terms (on the basis of PENSIM's assumption that prices will grow by 3.8% a year on average). Note also that, as modelled in Section 3.2, second tier provision is retained in its current form; a truly targeted system would rely wholly on means-tested benefits without the support of the second tier.

In terms of the distributional problems set out in the last section targeting clearly comes out as the worst option of the four (see Table 3.11). Using the extended version of PENSIM to look at its effect on pensioner incomes in 2066, the analysis in Section 3.2 suggests that targeting increases pensioner poverty and widens inequality relative to the baseline (and, indeed, relative to the other options examined). Unsurprisingly reliance on means-tested benefits also goes up, with the 44% of single households now being modelled as claiming Income Support. In distributional terms, therefore, targeting would appear to be the least attractive option. However, very importantly, it should be noted that this conclusion only holds under the assumption of a fixed poverty line (relative to earnings). In fact, one of the main arguments for targeting is that it allows a higher minimum standard than would otherwise be achievable (economically or politically) - it means the level of support provided to the poorest pensioners is not limited to that which can be afforded for all.

The effect of targeting on the public finances was calculated in Section 4.3, which showed that this policy would reduce the sustainable tax burden by around £8 billion relative to baseline policy (or by £9.5 billion relative to the S2P). Given that under baseline policy there was already projected to be a small surplus (see Section 4.2), this money could then be used to finance lower taxes or higher (current or future) spending. In some ways it is this choice about how savings will be spent which is the key issue in relation to targeting. If savings from eliminating 'wasteful' expenditure on the non-poor are used to cut tax rates then this is clearly a right-wing policy. In contrast, if savings are used to improve public services (such as health), or raise the value of benefits for the poorest (i.e. the minimum income standard), then targeting could just as easily be seen as a policy of the left. In particular, if the view is taken that politicians face a binding tax constraint, so that tax revenue can not be more than (say) 40% of GDP, concentrating pension benefits on the poorest may be the only way of creating room for growth in universal public services (such as the NHS) where, for administrative or political reasons, equality of treatment between all citizens is judged to be an over-riding necessity.

However, whatever view is taken as to how savings will be spent, the very severe political, economic and practical problems with operating a means-tested system should be appreciated. Though writing about the whole benefits system, the conclusion of the Social Security Select Committee apply with particular force to pension policy:

> *"...a wholly means-tested benefits system would be cheaper, but would have an unacceptably large number of losers, would have severe consequences on work and savings incentives, and would be a bureaucratic nightmare leading to high error rates and fraud"* (HoC, 2000a, conclusion f).

Basic income

The basic income model is the other method for achieving a minimum retirement income. Rather than restricting benefits to the poorest, this strategy meets the minimum income objective through giving all pensioners benefits equal to the desired minimum. It was modelled by looking at the effects of the Minimal Citizen's Pension outlined in Sutherland (1998, pp. 15-17), with second tier provision retained in its current form (as under targeting). Although there are minor differences in terms of eligibility, one way

of thinking about this model is to equate it with linking the value of the basic pension to earnings.

The distributional effects of a basic income were impressive (see Table 3.11). Looking at pensioner incomes in 2066, the policy more than halves poverty rates relative to the baseline (under both the half mean and half median income standards), practically eliminates reliance on Income Support, and reduces inequality among pensioners more than any of the other options. The problem, however, is that these distributional advantages come at considerable cost. Rather than the small surplus in the inter-temporal budget gap projected under baseline policy, under a basic income there is a deficit equivalent (in present value terms) to around 40% of GDP. Moving to the sustainable tax burden under this policy would therefore require tax revenue to be increased by around £8 billion a year relative to the baseline.

There are a number of possible responses to the cost implications of this model. One is simply to accept the required rise in tax revenues as the price of having a pension system which secures reasonable distributional outcomes and avoids the problems associated with means testing. Another is to look to save money on benefit payments, for instance through introducing a household-based scheme rather than an individualised system (see Jordan *et al*, 2000, pp. 86-87). A third would be to co-finance the increase in the cost of benefits for pensioners by removing some of their tax privileges (such as the age-related tax allowance and, more radically, the exemption of unearned income from National Insurance Contributions). Last, resources could be found from within the pension system through abolishing second tier pension provision (see Section 8.5). In all instances the key insight is that the severe incentive (and other) problems associated with means testing can be eliminated through a relatively small change in the incentives facing workers or richer pensioners. In economic terms there is considerable force in the argument that equalising incentives optimises the trade-off between redistribution and efficiency (though this is very hard to prove conclusively; see Section 8.1), but the more important argument is probably that such a system is 'fairer' than one where effective tax rates are much higher for poorer than for richer pensioners.

Despite these attractive features, the government appears to have set its cap against this model for pension provision by its refusal to re-link the value of the basic pension with earnings. The reasons why were spelt out in a recent speech by Social Security Secretary Alistair Darling:

> *"An across-the-board earnings related increase in pensions doesn't tackle the problem we face. By 2020, restoring the earnings link would cost an additional £20 billion a year. That's a 50% increase in the current pensions budget. But crucially it wouldn't solve the problem of those on low and modest incomes. And it wouldn't do nearly enough to help those with small savings and little growth in their incomes when they retire"* (Darling, 2000a, p5).

Instead of restoring the earnings link the government have therefore decided to introduce a 'pensioner credit' to provide targeted support to pensioners with incomes just above the level of Income Support. As discussed in Chapter 8, this is likely to take the form of a taper in Income Support, with benefits being withdrawn at a rate of 75% or 50% rather than the pound-for-pound currently used. The aim is therefore to ameliorate the effects of the means test, so that there is less of a sense of unfairness for pensioners who fail to qualify for extra benefits because of past savings. Equally, however, the new system could be seen as exacerbating means testing, in that more pensioners will now be affected.

In particular, even if the policy reduces the ethical and political objections to targeting, it is likely to bring to the fore the saving disincentives associated with this type of provision. The flip-side to more pensioners now being eligible for top-up support is that more workers will have good reason to factor entitlement to means-tested benefits into their saving decisions. Rather than means testing being confined predominantly to older single pensioners, under the pensioner credit there is a much greater chance of households being eligible for support at the point of retirement. There will therefore be a strong incentive to maximise benefit entitlement by reducing voluntary savings (i.e. consuming more now), or, more likely, to save in ways which escape the means test (such as owner-occupied housing). The only way out of this predicament would then be for the government to reduce the taper rate even further. However, as the taper becomes shallower (i.e. as incentives become more-or-less equalised) it will become

increasingly apparent that a similar effect could be achieved more efficiently through a basic income (Jordan *et al*, 2000)

Social insurance

In contrast to the previous two 'ideal types', the objective of the social insurance and compulsory saving models is to protect individuals' accustomed living standards, as well as to ensure a minimum retirement income (through a safety net of means-tested benefits). Both models therefore force individuals to have a retirement income which is related to their previous earnings. However, they differ sharply as to how such earnings-related benefits should be achieved. Under social insurance the state is directly involved in finance and provision, while under compulsory saving the state's role is restricted to mandating contributions (though arguably this constitutes 'finance', and is interpreted in this way in this thesis). It follows that social insurance is run on a PAYG basis while compulsory saving is funded.

In many countries the distinction between social insurance and compulsory saving relates solely to the method of provision (public versus private) and finance (PAYG versus funded). This reflects the fact that in countries which currently have large social insurance systems proposals for compulsory saving are most often designed with the explicit intention of replicating existing benefits (see, for instance, Feldstein and Samwick, 2000, pp. 3-5). However, in the UK pension reform debate the equivalence between the two systems (in terms of the benefits produced) is barely recognised. For adherents of social insurance improvements in publicly-provided earnings-related benefits would be part-and-parcel of a more general expansion of state benefits, with the level of the basic pension also being imporoved via a return to earnings-uprating. In contrast, proposals for compulsory saving (such as the Basic Pension Plus; see below) invariably envisage that the value of the basic pension will continue to fall relative to earnings, as has occurred over the last twenty years under price-uprating. It is this factor which is principally responsible for the very different effects of the schemes looked at in Part A on pensioner incomes and the public finances.

The social insurance model was exemplified in Part A by looking at the effects of returning to the 1975 legislation which first introduced SERPS (and which also

legislated for earnings-uprating of the basic pension). In terms of pensioner incomes, PENSIM's analysis showed that the effects of this model were very similar to a basic income, albeit with a rather smaller reduction in inequality. The main difference between the two models therefore relates to cost. As noted above, a substantial increase in tax revenue would already be required under the basic income model in order for policy to be fiscally sustainable (i.e. so that increases in the cost of benefit payments in the future could be met out of constant revenues). Social insurance would increase these costs by around 50%. Moreover, it would also close-off potential routes for meeting this cost. In particular, the option of paying for the increased cost of first tier benefits through abolishing (or reducing) second tier benefits would no longer be available.

Given this analysis, the popularity of social insurance amongst commentators on the left is puzzling. If distributional outcomes are the main criteria for success then the basic income model is preferable (as well as being cheaper). However, as was also noted above in relation to targeting, this conclusion reflects the fact that this thesis has assumed that the minimum income standard is fixed under all options. If this assumption is dropped, and allowance made for the interplay between benefit levels and institutional structures, then social insurance may well come out more favourably. In particular, it can be argued that social insurance is to be preferred over a basic income because it creates a 'contract' between workers and the state (and consequently between generations) which will result in high benefit levels. By ensuring protection of retirement incomes for everyone, and by initially disguising how much such protection costs through its PAYG financing mechanism, social insurance can end up being the best way of helping poorer pensioners (see Sections 7.3 and 9.1).

This institutional argument for social insurance may well be true in many countries. However, it is far from clear that it holds in the UK (or, at least, in the UK at the beginning of the 21st century). Had Beveridge and the post-war Labour government opted to introduce an earnings-related scheme then it is quite possible that the distributional problems currently facing the UK pension system would have been avoided (albeit at the expense of higher and growing contribution rates). But history cannot be re-written. The absence of any second tier (alongside the generous tax reliefs

available for third tier provision) meant that the kind of comprehensive social insurance scheme seen in other countries, with the state providing earnings-related benefits to all, was no longer a possibility by the time SERPS was introduced. Even by the late 1950s contracting-out had become a political necessity, and hence the system was never capable of 'dynamising' the basic pension (through integrating first and second tier provision) in the way its originators intended.

The failure of SERPS should therefore not be put down to the various cuts made under the 1979-1997 Conservative administration. In political terms the scheme never made a great deal of sense from the outset. Equally, the argument that (as originally envisaged) SERPS was needed to improve the pension entitlements of low earners and women is incorrect: using resources to increase flat-rate benefits would have been more redistributive (Creedy, Disney and Whitehouse, 1993, p. 166). And the notion that SERPS would help to avoid the '*two nations in old age*' which Titmuss (1955, p. 74) envisaged is fanciful; if anything the scheme has served to reinforce inequalities in later life through protecting the privileged status of occupational pension schemes. The enduring support for SERPS from a dwindling band of politicians and academics can, therefore, only be put down to misplaced nostalgia.

Compulsory saving

This ideal type is represented by the Basic Pension Plus proposals (or that part which relates to second tier pensions) put forward by the Conservative Party in the run-up to the May 1997 general election (see Lilley, 1997)[233]. It involves, first, extending contracting-out to everyone, so that the second tier becomes fully funded and, second, increasing the compulsory contribution rate to 5%.

The effects of this reform on pensioner incomes and the public finances were set out in Section 3.5 and 4.3. In terms of distributional effects PENSIM's analysis suggests there is very little difference between baseline policy and compulsory saving: mean and median income go up slightly while the proportion of pensioners claiming Income

233 It should be noted these proposals are rather different to the ideas put forward by the Conservative Party in September 2000, in that the new scheme would only affect the basic pension and would be voluntary, while the Basic Pension Plus envisaged everyone below a certain age being forced to contract-out of both SERPS and the basic pension.

Support falls slightly, as does the proportion living below half mean and median income, while inequality is unaffected. The conclusion, therefore, was that this kind of reform is more concerned with altering the timing of public expenditure, bringing forward spending through ensuring that everyone is contracted out, than with altering pensioner incomes (see Section 4.3). However, it should be noted that this was under the assumption of a compulsory saving rate of 5% - as this is only slightly higher than the effective rate under SERPS (4.6% at present) it is not surprising that the policy has little effect on pensioner incomes. If instead a higher rate were implemented, such as 10% for instance, then the distributional effects of this policy would be much larger. In particular, increasing the compulsory contribution rate to such a level would significantly reduce reliance on Income Support in the future (Jupp, 1998, p. 17).

Nevertheless, there are good reasons for rejecting this argument for higher compulsory saving, and the analysis in this thesis concurs with the conclusion reached in the pension reform Green Paper:

> *"We have considered increasing the rate of compulsory saving.... increasing the compulsory rate for low earners leads to little extra pension, although affording the extra compulsory contributions could be difficult for them. But higher earners would be forced to have a significantly larger pension. These people's compulsory pensions are already likely to be high enough to take them clear of relying on state benefits in retirement. Two-thirds of those who earn more than £15,000 a year already save about an extra 5 per cent of their earnings voluntarily. Extra compulsion for these people would not reduce dependency on the State. Therefore, we do not believe higher compulsory saving is justified"* (DSS, 1998, p81).

Setting to one side this argument for higher compulsion, a number of other rationales for moving towards funded compulsory saving schemes have been put forward:

- funding more pension provision helps to diffuse the 'demographic timebomb' of population ageing;
- privatising provision allows individuals to plan for the future with more certainty, as their pension rights are more secure in the private sector;
- increased private saving will lead to more investment and higher growth;
- individuals would be seen to be taking more responsibility for their own retirement income, and would no longer have to rely on state transfers.

As set out in Section 4.5, the first three of these rationales are highly questionable, and the last is an ideological (rather than a normative) position. However, the more important point is that these arguments for funding say nothing about the shape of benefits, and they would apply equally to funding flat-rate benefits.

9.5 Looking to the future

This thesis' central criticism of the approach to pension reform taken by Labour is that, by spreading its interventions across a range of ideal types, presumably in an attempt to get the best of all worlds, the government has ended up with a set of mutually inconsistent policies. In other words, though it has announced numerous pension policies since its election, the government has no clearly defined overall strategy.

As shown in Figure 1.6, Labour's reforms (up to and including the Green Paper) have moved policy in three directions simultaneously: targeting is represented by the introduction of the 'minimum income guarantee', basic income by the move to make the S2P flat-rate for people earning less than the lower threshold, and compulsory saving by restricting earnings-related second tier benefits to private, funded schemes (via contracted-out rebates). In itself this diversity might be thought a little inconsistent; for instance, Ross (1999, p. 15) characterises the S2P as a substitute for the basic pension, and questions why it was felt necessary to allow the latter to wither while planting the seeds of the former. But more importantly, as argued in Section 9.1, the lack of a clear strategy can lead to inconsistency. One of such inconsistency was highlighted in Chapter 6, where it was argued that the policy of limiting S2P credits to a narrowly-defined group of 'participants' is in conflict with the scheme's main goal of keeping future pensioners off reliance on Income Support (i.e. if benefits are conditional there will always be some people who end up requiring means-tested support)[234]. However, a more important example of inconsistency has emerged more

234 Even if it is accepted that 'responsibilities' should take precedence over 'rights', despite the holes in provision which this inevitably causes, an additional argument for universalism in pension benefits is that if the government wants to change non-participants' behaviour it is better to impose penalties/provide rewards immediately rather than delaying sanctions until retirement. For instance, it seems likely that the job-search behaviour of people with school-age children will be more affected by

recently with the announcement in March 2000 that the government intends to introduce a 'pensioner credit' (see HMT, 2000, paragraph 5.45).

If not quite in conflict, it is clear that the pensioner credit and the S2P will not make easy bed fellows. As discussed in the last section and in Section 8.5, if the credit takes the form of a taper in Income Support its effect will be to make the means test shallower but broader, raising the point where entitlement ends. But as well as affecting pensioners' income this also affects saving incentives for working-age people – for them the credit acts as a tax on saving. In policy terms the introduction of a pensioner credit will therefore have the effect of undermining the strategy set out in the Green Paper (DSS, 1998, Ch.s 4-6), as it means the S2P will now not only have to be higher than the level of Income Support but also higher than the credit if saving dis-incentive effects are to be avoided.

This combination of policies therefore creates a distinct dilemma for future governments. Once given, the pensioner credit is likely to prove hard to take away from individuals, yet while it remains there will always be an extensive number of working people with little incentive to save. Moreover, there will also be a new group of pensioners just above the credit who will now have a reason to feel aggrieved (see Section 8.5). The pressures on the government will therefore lead in diametrically opposing directions: to reduce moral hazard resources should be concentrated on improving the S2P, while in order to help pensioners the taper rate must be reduced or Income Support increased (both of which will worsen saving incentives). However, there is also a more basic inconsistency between the two policies. The pensioner credit marks a move in the direction of tax/benefit integration while the S2P, in contrast, is based on the contributory principle. This is a fundamental, and possibly unbridgeable, divide. The former sees the state's job as being to provide citizens with basic rights, including to a minimum income, while the latter sees the state's role as providing collective insurance. This thesis' contention is that, though the government's chosen route for tax-benefit integration is somewhat tortuous, and that rather than putting a taper into Income Support it would be easiest to move straight towards a basic income,

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immediate changes in benefit rules and incentives than by arcane adjustments in their second tier pension rights.

nevertheless the pensioner credit is at least starting from a sensible principle. Equivalently, this thesis has argued strongly against the idea that state pension provision should be viewed as a form of insurance.

Of course, over the lifecycle the 'welfare state' will always act as a kind of savings bank, in that generally people will take more money out (in kind or in cash) towards the end of their life than in the middle (when they pay most in). But this does not mean the state need necessarily act like an insurer. The problems with linking benefits to contributions, either through compulsory earnings-related provision or (more mildly) through contribution conditions for flat-rate benefits, have been discussed extensively in this thesis. As set out in Chapter 7, it is difficult to find a rationale for the state forcing people to have a retirement income which is linked to their earnings in work, while contribution conditions for flat-rate benefits are self defeating (see above and Section 6.5). However, there is also a wider point: unlike an insurer the state is not bound simply to respond to lifecycle events, it can also shape them (see Laczko and Phillipson, 1991, Ch. 8, or from a rather different perspective, Leisering and Walker, 1998, pp. 6-11).

Pensions in the lifecycle

Starting with Rowntree's (1902, p. 137) cycles of poverty (or, some might say, Shakespeare's seven ages of man), the temptation to connect particular ages with particular activities or circumstances has proved irresistible. Nevertheless, while a useful tool for thinking about social policy, the limitations, and even dangers, of such an approach should be recognised. Though clearly certain parts of the lifecycle are biologically determined, we should not underestimate the extent to which age classifications are social phenomena which have been made and unmade over the centuries (Young and Schuller, 1991, pp. 152-154). Therefore, rather than viewing the lifecycle as pre-determined, with public policy simply responding to inevitable changes in status and circumstances as people age, the characteristics of different parts of life should be seen as a product of society's organisation. Leslie Hannah's 'Inventing Retirement' sums up this view in its title (Hannah, 1986)[235].

235 This view is by no means universally accepted. If the marginalisation of older workers is an inevitable feature of advanced capitalism (i.e. there is 'structured dependency'; Macnicol, 1990, p. 34), then policies towards income maintenance in later life should be quite distinct from those for younger

Pensions can therefore be seen both as a cause of and response to declining earnings in later life. In other words, the policy response to income needs in old age may, in effect, have exacerbated the marginalisation of older workers. In one way this simply reflects the fact that, by providing an alternative source of income, pensions reduce the amount individuals need to work to maintain their consumption. But more subtly, the fact of pension provision – and in particular tax incentives for private pensions - may also make it more difficult for older people to succeed in the labour market even before they reach retirement age[236]. In particular, as discussed in PIU (2000a, pp. 35-36) and Agulnik, Burchardt and Evans (forthcoming), occupational pensions make it more likely that older workers are the first to go in periods of economic restructuring (or are offered the biggest incentive to make themselves voluntarily redundant), and increase the probability that unemployment in late middle-age will cause permanent withdrawal from the labour market. Indeed, by helping to reduce the effective length of working life occupational pensions may exacerbate problems of poverty in retirement.

This brings us full circle to the assumption made at the start of this thesis that, for the majority, death will be preceded by a period of worklessness. Why should this be the case? Given that a century ago most people worked 'until they dropped', and hence retirement was the exception rather than the rule, we cannot view the growth of retirement as some kind of natural phenomenon[237]. Therefore, in looking at what retirement means, and how governments should intervene in this part of the lifecycle, we should be aware of the diversity of individual experience. For some the cessation of work represents a lifestyle choice, a reward earned through a lifetime's work. For others retirement is an unwanted condition, forced on them by employment legislation and labour market practices rather than as the result of individual choice. And for an

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(less marginalised) people.

236 Note that, in contrast to state pensions, Inland Revenue rules currently allow private pensions to be taken from age 50. In practice this is about the age when labour force participation rates begin to decline, particularly amongst men (Campbell 1999, pp. 8-13). In recognition of this connection a recent Cabinet Office report into non-employment among older workers recommended increasing the minimum age to 55 (see PIU, 2000a), and at the time of writing the government are still consulting on this proposal.

237 See Macnicol (1998, Table 2.1), PIU (2000a, pp. 13-17) or Campbell (1999, pp. 14-16) for historical data on employment patterns among older people in the UK. Thane (1984, pp. 4-9) discusses more generally how the concept of 'retirement' came to be a norm over the course of the twentieth century.

unfortunate minority the onset of disability makes retirement from work inevitable, whether it is sought for or not. Creating policies which allow for this diversity, and help individuals to shape their own life courses as best they are able, is the real challenge for pension reform.

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"... it may well be that this bright day of summer which is now dawning upon us is no image of the beginning of the day that shall be; but rather shall that day-dawn be cold and grey and surly; and yet by its light shall men see things as they verily are, and no longer enchanted by the gleam of the moon and the glamour of the dreamtide. By such grey light shall wise men and valiant souls see the remedy, and deal with it, a real thing that may be touched and handled, and no glory of the heavens to be worshipped from afar off. And what shall it be, as I told thee before, save that men shall be determined to be free; yea, free as thou wouldst have them, when thine hope rises the highest, and thou art thinking not of the king's uncles, and poll-groat bailiffs, and the villeinage of Essex, but of the end of all, when men shall have the fruits of the earth and the fruits of their toil thereon, without money and without price. The time shall come, John Ball, when that dream of thine that this shall one day be, shall be a thing that men shall talk of soberly, and as a thing soon to come about..."

From *A Dream of John Ball* by William Morris.