

Public pension reform in the United Kingdom: what effect on the financial well being of current and future pensioners?

By

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Abstract

Unlike many tax and benefit changes, reforms to public pension programmes take many years to have their full effect. This paper examines the effect of reforms to the public pension programme in the United Kingdom on the state retirement incomes of current generations of pensioners and on the prospective state incomes of future generations of pensioners. For individuals on average earnings, the UK pension system was at its *most* generous to those reaching the state pension age around the turn of the present century, but for individuals on low incomes, the introduction of the State Second Pension and the Pension Credit changes this picture considerably. The paper considers how the 'mix' of benefits, particularly between the basic state pension, the second tier pension and income-tested benefits, will change over time, and the possible impact of the Pension Credit on incentives to save for retirement.

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1. Introduction

This paper examines the effect of recent reforms to the public pension programme in the United Kingdom (UK) on the financial well being of both current and (in particular) future generations of pensioners. Unlike other areas of taxation and public spending that affect *current* standards of living, policy decisions made now on pensions have an impact on people's retirement incomes well into the future. Just as the incomes of current pensioners depend on decisions made by past governments, so political decisions made in recent times can and will affect future generations of retired people. The incomes of today's pensioners could well prove to be a very poor benchmark for the future given the very different circumstances faced during the working lives of successive generations, and the way that the public pension regime evolves over time.

The UK's public pension programme contains a mixture of 'insurance' benefits, entitlements to which depend on past contributions, and income-related benefits, eligibility for which depends on accumulated pension rights and other wealth at retirement. Incomes in retirement therefore in part depend on past decisions, such as work histories, and partly on outcomes in retirement. How generously the government treats accrued 'rights', and what other sources of income will be available to pensioners, are certainly not fully revealed before retirement – and in fact have often changed during retirement. One central task of the paper is to explore the interaction between the different components of the pension programme, and in particular how the outcome-based part of the programme meshes with the 'insurance'-based component.

A major finding of our paper is that the common perception that pension generosity is decreasing over time – typically illustrated by the static or declining share of public pension spending in GDP over time – conceals large differences in prospective pension rights across generations. Our estimates suggest that, taking a man on average earnings, the UK pension system is at its *most* generous to those who have reached state pension age in recent years. But entitlements have changed as a

result of pension reforms, and the pattern of returns by generation across other types of individuals (such as women, or poorer men) is very different.

More precisely, this paper tracks expected average public pension replacement rates (that is a measure of state retirement income to earnings) for members of each generation at different points in the lifetime earnings distribution, and for both sexes. Such exercises have been carried out for past generations of pensioners in the UK (for example: Attanasio and Rohwedder, 2003; Banks, Blundell, Emmerson and Oldfield, 2004; Disney & Whitehouse, 1993a; Emmerson and Johnson, 2001). Sometimes these exercises have looked at a ‘representative’ member of each generation, sometimes at distributions of outcomes for everyone in a generation. Here we project forward to look also at the well being of future generations of pensioners.

It is important to note that the living standards of future pensioners do not depend solely on events that are, broadly, out of an individual’s own hands, such as changes in government legislation or the demand for his or her services in the labour market. Workers also make decisions that affect their living standards as pensioners – for example, when to retire, how much to save and (up to a point) how much they earn.

One of these decisions, as to when to retire, is the topic of a companion paper by Banks and Blundell, so this paper ignores the retirement issue (or, more strictly, considers only what replacement rate an individual would get if he or she was in paid work right up to a set age such as the state pension age). But a subsidiary aim of the paper is to consider other dimensions of individual behaviour – in particular, how the generosity and structure of eligibility for public pension benefits affects individual decisions to save for retirement, whether through private pension plans or through other routes.

To examine the impact of public pension provision on private retirement saving decisions, we make one simplifying assumption so as to abstract from an institutional complexity of the UK public program – the ability to *contract out* of the public program into a private pension. Although contracting-out has been a disproportionately attractive strategy to individuals in the past (Disney & Whitehouse, 1992a, 1992b), we are going to assume that, broadly speaking, the subsidy given to individuals to contract-out of part of the public programme (known as the rebate on

the National Insurance contribution) is such that the present value to the individual of the subsidy is approximately equal to the cost of public benefits foregone by that individual. Essentially, we assume that individuals are indifferent between staying in the public programme and buying a private pension, such as a Personal Pension, with the contracted-out rebate. This is a major simplification insofar as different types of pensions carry different kinds of risks, but it describes how the contracting-out procedure is *supposed* to work and allows us to focus on a different retirement saving issue: the ‘return’ on additional private retirement saving and seeing how this is affected by changes to the public pension programme.²

The remainder of the paper is therefore composed of five sections. Section 2 summarises the post-1945 reforms of the United Kingdom’s public pension program. This is not just ‘history for its own sake’ but is the key to the analysis contained in the paper as the incomes of current and indeed future retirees have been affected by past policies. The summary suggests that we can consider four periods of pension provision: first, the period of ‘pure’ Beveridge provision; second, a period in which the UK programme introduced earnings-related benefits in a move towards continental Europe (sometimes called ‘Bismarckian’ social security) but with mixed public-private provision; third, a period of public retrenchment and privatisation; and fourth the most recent period in which the programme has introduced greater and more explicit redistribution towards lower income individuals.

Section 3 presents key findings resulting from the modelling of replacement ratios for successive generations and example individuals, projecting forward the UK’s public pension programme until 2050. This is the analytical ‘core’ of the paper. Section 4 then focuses on the interaction between the different parts of the public pension programme, especially the relationship between the ‘insurance’-based component (broadly, the state retirement pension and the second tier public pensions) and the means-tested programme. The latter will become increasingly important as a result of the introduction of Pension Credit in October 2003 and decisions concerning the differential indexation of the two programmes. Section 5 then considers some potential implications for private retirement saving of the shift from a traditional guaranteed minimum income system to one where means-tested support is tapered

² If individuals are making voluntary informed decisions over whether to contract out then presumably they will only do so if it is making them better off. See Disney, Emmerson and Smith (2003) for a discussion of the effects of the contracting out arrangements.

such as Pension Credit. Finally, Section 6 widens the context to ask: are there other countries that have followed a similar reform trajectory to that of the UK and what can we learn from their experiences? It suggests that pension programmes in Australia and Canada may offer some lessons. A brief conclusion follows.

2. *Reform of UK's public pension programme 1946-2003*

The United Kingdom's public pension programme has been through a series of major reforms since universal National Insurance was established in 1946. Each of these reforms has had implications not just for current pensioners (through, for example, changes in the indexation of benefits paid to pensioners) but also for future pensioners (for example, rights accrued from the State Earnings-Related Pension Scheme (SERPS) introduced in April 1978 and in its successor, the State Second Pension (S2P) introduced in April 2002). To make sense of a complex history, we condense the variety of reforms into a sequence of four public pension 'regimes'. Of course, workers (subsequently pensioners) who live through several of these episodes derive overall pension entitlements from several regimes.

2.1. *The 'Beveridge' period, 1945 to the mid-1960s*

From the end of World War II to the mid-1960s, the public pension programme reflected the aims of its 'founding father': Sir William Beveridge. The 1946 National Insurance Act introduced universal contributory 'social insurance': a programme of flat rate benefits and contributions, run on a 'pay-as-you-go basis' – that is, current tax receipts paid for current for current spending on public pensions. The contributory programme was underpinned by a means-tested system of 'National Assistance (subsequently rebranded as 'Supplementary Benefit', then 'Income Support' and then, under new Labour the 'Minimum Income Guarantee' and then the 'Pension Credit Guarantee') designed for those who had incomplete work histories and, therefore, inadequate pensions in retirement.

Although some analysts misinterpret 'the Beveridge system' as one designed explicitly to redistribute towards the poor (in contrast to a 'Bismarck' system), the 1946 programme did not deliver this. Instead it was designed to provide a universal minimum for all with the flat rate benefits financed through flat rate contributions. Indeed in some respects the programme was regressive, in the sense that, taking men and women separately, the main beneficiaries were those that lived the longest and

these have always tended to be the more wealthy (see Attanasio and Emmerson, 2003).

The main intention of a programme providing a universal ‘floor’ of public provision was to leave scope for the development of voluntary funded occupational pensions over and above the National Insurance programme. However only about half of the workforce has ever been adequately covered by occupational pensions. This led to a common perception in the late 1950s and early 1960s of ‘Two Nations’ of prospective pensioners entering retirement, those with private pensions reflecting their lifetime (and sometimes final) earnings and those wholly reliant on flat rate public pensions. In particular, the continued reliance of many pensioners on means-tested pensions despite the affluence of the 1960s and beyond, due to the low level of the universal flat rate Basic State Pension, led to calls for more comprehensive public provision.

2.2. The ‘Bismarckian’ period from the 1970s to the late 1980s

Given the common demarcation of ‘Beveridge’ and ‘Bismarck’ systems of pension provision, it seems strange to categorise the UK programme at any period as being influenced by the system of comprehensive public earnings replacement that was enacted in many continental European countries. But that, arguably, was precisely the path of development of the UK’s public programme for two decades from the early 1960s. The introduction of earnings-related contributions in April 1961 was followed by political debate as to the state’s responsibility for providing earnings-related pension benefits.³

After much argument as to whether the state should insist on mandatory private coverage or whether instead the public sector should supersede private pensions with comprehensive public coverage, a compromise was evolved in the 1975 Social Security Act by which workers were required to belong to a new contribution-financed earnings-related public programme, the State Earnings-Related Scheme (SERPS), ultimately introduced in April 1978, unless they belonged to an occupational pension plan that was at least as generous as SERPS. If they did belong

³ April 1961 also saw the introduction of the Graduated Pension, which lasted until the introduction of SERPS in April 1978. While this was an earnings-related pension it was very ungenerous due to its lack of indexation.

to such a scheme, they would be ‘contracted out’ of SERPS, thereby foregoing benefits from the new plan but paying lower contributions.

A few points are worth noting. First, the post-1978 programme was redistributive, due to the original SERPS being relatively generous to those with broken earnings histories as benefits were based on contributions in the best 20 years, and also its relatively generous treatment of widows. Second, the scope for redistribution was limited by the ability of those who lost out in the redistribution to contract out of a major component of the public programme. There is some evidence that this contracting-out facility did reduce the potential for redistribution to poorer pensioners.⁴ Third, the 1986 Social Security Act and the 1995 Pension Act substantially reduced the future generosity of SERPS. As a result the generation who have done best out of SERPS are those that retired after 20 years of contributions to the programme in April 1999, as the cuts start to be phased in from that point onwards (see Section 3). Finally it is evident, as economic theory would predict, that the announcement of SERPS being introduced in the Social Security Act of 1975 to some extent ‘crowded out’ private pension saving (Attanasio and Rohwedder, 2003).

2.3. The phase of public retrenchment from the 1980s to the late 1990s

The ideological shift in policy accompanying the election of Margaret Thatcher affected public pension provision decisively. The Conservative administration harked back to the old liberal position that the state should revert to providing a ‘floor’ of pension provision rather than comprehensive earnings replacement. Moreover, in the UK, as in other countries, there was increasing concern as to whether comprehensive earnings replacement through public pensions was feasible once the ‘baby boom’ generation began to retire in the second quarter of the 21st century. In 1978 no official forecast had been made that allowed the UK government to forecast pension costs beyond the year 2007 and, once such projections became available, the implications for contribution rates of future ageing seemed dire (Hemming and Kay, 1982).

⁴ Although we have assumed in this paper that contracting-out is broadly ‘neutral’ on an aggregate basis, SERPS in practice was far from neutral. Those that did better from SERPS relative to a typical occupational pension plan tended to remain contracted-in and *vice versa*. Consequently the impact of SERPS on the distribution of lifetime incomes was less than would have been the case had there been no contracting out (Disney and Whitehouse, 1993b).

The government therefore introduced three major reforms. First, the formal indexation of the basic flat rate pension was cut back from earnings to price indexation after 1981. Second, the generosity of SERPS was more than halved in two reforms enacted in 1986 and 1995. Third, and finally, the provisions for contracting-out were relaxed so that individuals could leave the public programme and join 'defined contribution' pension plans, which could be employer-based or individual contracts with insurance companies – known as Personal Pensions. There has been much debate about the merits of Personal Pensions, but there is no doubt that the incentives to individuals to leave SERPS to join such plans were on average overgenerous given both the structure of the incentives offered and the investment performance throughout the 1980s and 1990s – see Disney and Whitehouse, 1992a).

Overall these reforms implied cutbacks in state pension replacement rates on well into the 21st century. This was somewhat alleviated by the maintenance of the income-tested sector which, in some ways, had become more pervasive as a result of the introduction of additional benefits such as housing benefit in the 1970s. Nevertheless the stated objective of increasing private provision for retirement was formally retained after the new Labour government came into power May 1997. Indeed the 1998 Pensions Green stated that while presently 40% of pension income came from private sources and that this should be increased to 60% by 2050 (Department of Social Security, 1998).

2.4. The shift to explicit redistribution from 1997 onwards

It was an established aim of 'old Labour' to restore the earnings indexation of the Basic State Pension in payment. This aim was abandoned by the incoming new Labour administration on grounds of being poorly targeted at their key objective of reducing pensioner poverty. Instead, the government rebranded the main income-tested benefit as the Minimum Income Guarantee (MIG) in April 1999 and increased its generosity substantially. The Government also announced its aspiration to index MIG to earnings rather than prices. As a result the 5 year period from April 1999 to April 2003 saw the after inflation value of this means-tested benefit increase by 33.4% for single individuals aged 60 to 74, compared to an increase of just 6.6% over the previous ten years from April 1989 to April 1998.

In the absence of other factors, this would of course mean that entitlement to MIG would rise among the retired population since the universal Basic State Pension continued to be formally indexed to prices. Indeed the increase in the generosity of the MIG between 1997–98 and 2001–02 would, if nothing else had changed, have increased the number of people aged 60 or over who were eligible by 40% (Brewer, Clark and Wakefield, 2002). Since the MIG was withdrawn at 100%, it was thought to be a discouragement to saving (and indeed work among families containing an individual aged 60 or over), and also unfair to those who had saved, as every £1 increase in private income led to a reduction in benefits of £1. Consequently, in a further important development, the MIG was renamed the ‘Pension Credit Guarantee’ (PCG) in October 2003, and a new ‘Pension Credit Savings Credit’ introduced for families containing an individual aged 65 or over. This essentially reduces the withdrawal rate from one pound in the pound to 40p in the pound for families with an individual aged 65 or over who were in receipt of a full Basic State Pension (for more details see Brewer and Emmerson, 2003 or Clark, 2002).⁵ At a stroke this has increased eligibility for the Pension Credit, since some families previously above the MIG/PCG level are now entitled to some benefit payments. The effects of this change, which increases eligibility substantially (and, as we show in sections 3 and 4, will do so in the future assuming the Government’s aspiration to index in line with earnings and not prices is met) but also reduces the marginal withdraw rate faced by some of those eligible for the Pension Credit Guarantee, are analysed at greater length in Sections 4 and 5.

The 1998 Green Paper also led to a major change to the ‘second tier’ public programme. SERPS was now abandoned (although existing contributors will receive SERPS benefits on retirement based on previous contributions) and a new pension, the State Second Pension (S2P), introduced in April 2002. Unlike SERPS, which was broadly proportional to earnings after the 1986 legislation, S2P is explicitly redistributive. Those with earnings below the Lower Earnings Threshold (£11,600 or 45% of mean full time male earnings in April 2004) accrue S2P worth 40% of this

⁵ Individuals who are also on the taper for other means-tested benefits could still face higher marginal withdrawal rates. Council Tax Benefit is withdrawn at 20p in the pound and Housing Benefit is withdrawn at 65p in the pound. Hence someone on the taper for both of these benefits would face a marginal withdrawal rate of 85p. The remaining 15p in the pound would potentially be subject to the Pension Credit taper – someone also on this taper would lose another 6p ($0.4 \times 15p$) leaving them from 9p from an additional £1 of income, or a marginal withdrawal rate of 91%.

value regardless of their actual earnings.⁶ Those with a child aged five or under will also accrue this amount of S2P.⁷ The accrual rate then drops to just 10% of additional earnings so that at average earnings S2P is as generous as SERPS. For higher earners both the accrual rate, and the generosity of S2P, is the same as SERPS. The objects of this rather complex benefit structure is to retarget the second pension on low earners whilst maintaining approximately the same benefit levels in the transition as would have been provided by SERPS.

2.5. Current Government projections for future state spending on transfer payments to pensioners

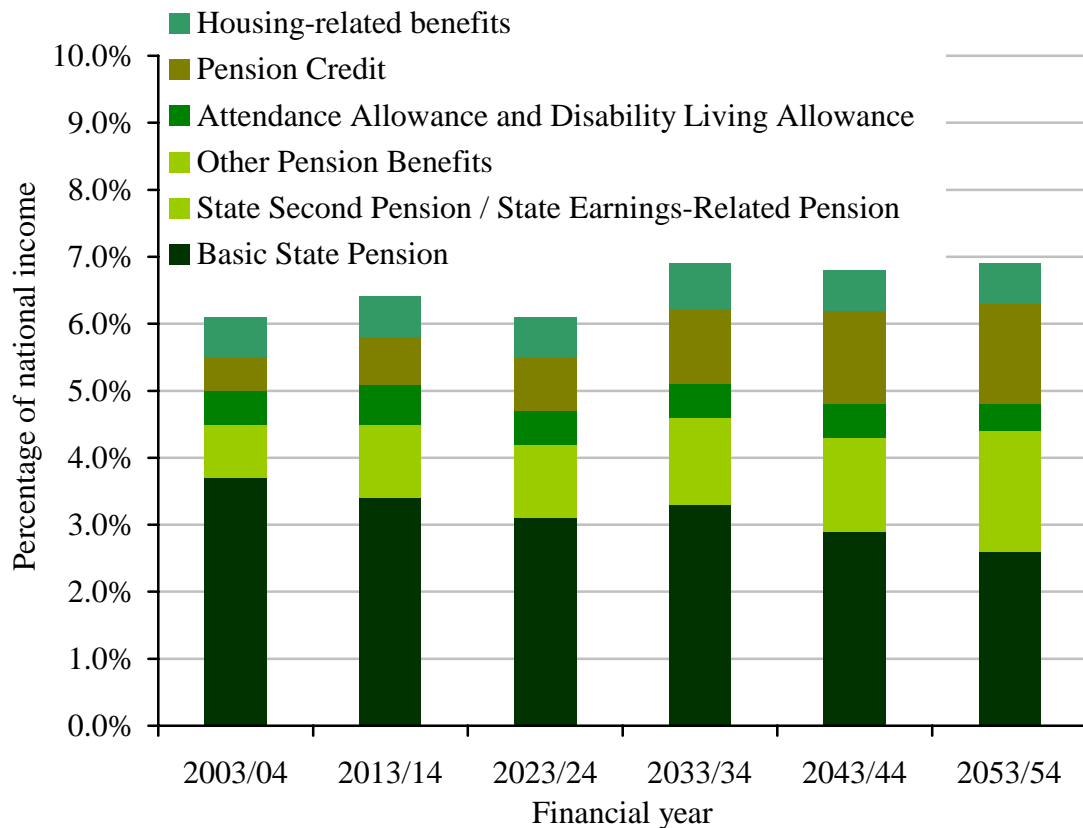
A useful summary of where the reforms to the UK state pension system have left us is provided by looking at the latest official projections for future state spending on transfer payments pensioners under the assumption that there are no further reforms to the system. This is presented in Figure 2.1. Overall spending as a share of national income is forecast to rise from 6.1% of national income in 2003–04 to 6.9% of national income in 2053–54. If these forecasts turn out to be accurate then this suggests that only a small tax increase will be required, despite the fact that the number of people aged 65 and over is forecast to increase by 79 percent from 9.4 million to 16.8 million. Hence the reforms made over the 1980s and 1990s appear to have left the UK pension system in a financially sustainable position.

Also shown in Figure 2.1 is the extent to which the composition of state spending on transfer payments to pensioners is expected to change over the next 50 years. Spending on non means-tested components of support (the bottom four bars) is expected to remain constant at around 5.0% of national income, with the importance of the Basic State Pension diminishing as spending on this falls from 3.7% of national income in 2003–04 to 2.6% of national income in 2053–54. This is in contrast to the means-tested elements of state support (the top two bars) where spending as a share of national income is forecast to double from 1.0% of national income in 2003–04 to 2.1% of national income in 2053–54. As a share of total support for pensioners means-tested components made up 17.0% in 2003–04 but are expected to comprise 29.9% of total support by the middle of this Century.

⁶ Minus the Lower Earnings Level (£4,108 or 16% of earnings) as this is covered by the Basic State Pension. A full 49 year contribution history is required to accrue full S2P.

⁷ An individual needs to do this for the whole financial year to qualify. Those with formal caring responsibilities for certain individuals with disabilities can also qualify.

Figure 2.1. Government’s projections of public spending on transfer payments to pensioners, 2003–04 to 2053–54.



Notes: ‘Other pension benefits’ include winter fuel payments, TV licences for those aged 75 or over and Christmas bonus. ‘Housing-related benefits’ include housing benefit, council tax benefit in Great Britain and rate rebates in Northern Ireland as well as discretionary housing payments.

Source: Department for Work and Pensions (2004).

At first sight, this growing role for means-tested benefit conflicts with the 1998 Green Paper, which claimed that

“anyone who works throughout their working life (including spells as a carer or off work through long-term illness or disability) will receive a total state pension above the rate of the minimum income guarantee. In this way, every bit that they save, however small and however infrequently, will count towards their final pension and will not need to be topped up by the new minimum income guarantee. This will reward both hard work and thrift.”

(Paragraph 20, Page 4 of the Summary to Department of Social Security, 1998)

A full entitlement to the Basic State Pension and the State Second Pension was, from 2050 at least, deemed to be sufficient to ensure that at retirement an individual would not have been eligible for the MIG. However individuals would

have become eligible for the MIG during their retirement as, once in receipt, S2P is only indexed in line with prices whereas the aspiration was that the MIG would continue to grow in line with average earnings (Disney, Emmerson and Tanner, 1999). Moreover recall that subsequently there have been increases in the generosity of the MIG and also the introduction of a taper on its replacement, the Pension Credit. There has not been a corresponding increase in the generosity of S2P. This is why it is possible that future generations will retire with benefits derived from the Basic State Pension, SERPS, S2P and yet still potentially be eligible for Pension Credit (quite apart from any private pensions or other retirement saving). Section 3 of the paper is in part designed to provide some understanding of the implications of this complex and possibly inconsistent structure of pension benefits, but this sub-section suffices to show the strong redistributive element that has now been incorporated into public pension provision.

3. *Modelling well being of pensioners cohort by cohort*

This section presents evidence on the replacement rates from the public pension programme, generation by generation, for four different profiles of earnings and employment. In order to model retirement income from the programme, we need to make a number of assumptions. We only look at never married individuals so that we can abstract from issues such as the dependent's addition, inheritance of the deceased partner's state pension and any pension sharing of state pensions on divorce. To model the Basic State Pension we assume that all individuals qualify for the full amount, which will be correct for the majority of never-married individuals.⁸ For entitlement to the earnings-related components of state pensions (SERPS and the State Second Pension)⁹ we follow the approach of Banks, Blundell, Emmerson and Oldfield (2004). This involves taking earnings profiles estimated using information on individuals born between 1921 and 1925 (inclusive).

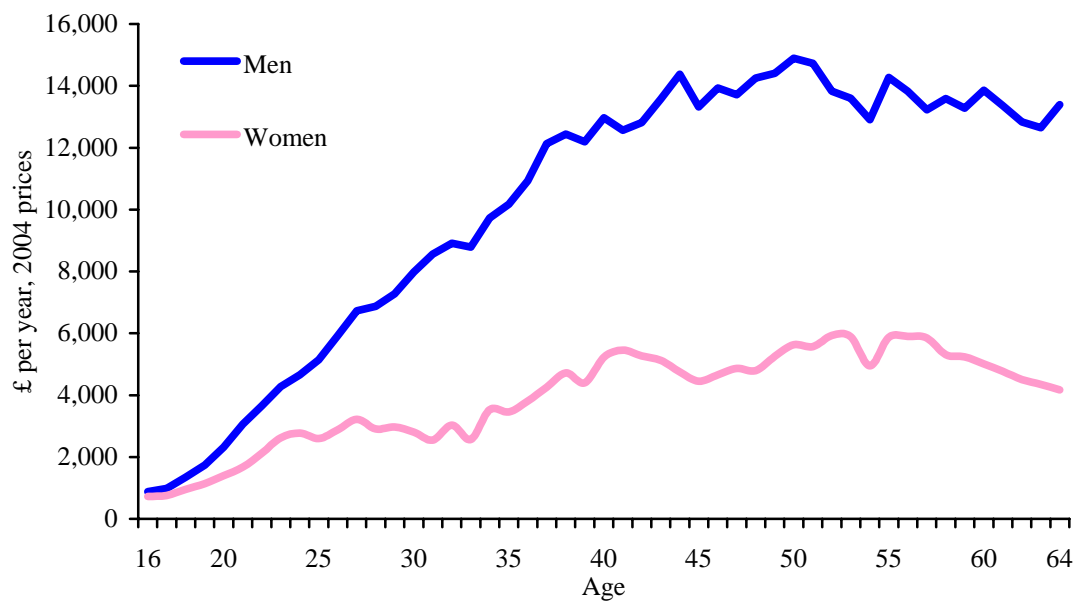
These earnings profiles are calculated in the following manner. Our chosen individuals were aged between 43 and 47 in the first year of *Family Expenditure Survey* (FES) data in 1968 and their cohort can be followed forwards over time in each subsequent years of the FES right through to retirement. For earnings between

⁸ But not necessarily our women with the 15 year gap from the labour market before the introduction of Home Responsibility Protection in 1978.

⁹ We do not model entitlements to the Graduated Pension.

16 and 42 we assume that real growth in earnings by age for this cohort is the same as that observed in the FES for those born between 1951 and 1955. The assumed path for earnings, uprated to 2004 prices using the retail price index, is shown in figure 3.1 for both men and women. Note that at the median, women in paid employment earn substantially less than men at all ages, with the majority of this difference likely to be caused by the fact that a much larger percentage of women than men work part-time. No attempt is made to control for non-random selection out of the labour market.¹⁰ The earnings shown in figure 3.1 are assigned to the cohort born in 1923. For earlier and later cohorts we assume real earnings growth of 2% a year, which is in-line with average past productivity growth in the UK.¹¹

Figure 3.1. Median real earnings of those born between 1921 and 1925, by age and gender.



Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

In order to capture some of the non-linearities in the reforms to the state pension system we look at four individuals. These are: (1) a man who works from 16 to the state pension age (65); (2) a woman who works from 16 to the state pension age (which is 60 to the year 2010 and then increases by 1 month every 2 months until it reaches 65 in 2020); (3) a man who works from 16 to 60 and (4) a woman who works

¹⁰ Strictly speaking, the earnings profile may only be correct if movement out of the labour market occurs in equal proportions among those who would have earned below median earnings and those who would have earned above the median.

¹¹ 2% productivity growth is the historic benchmark in, for example, HM Treasury (2000).

from 16 to 60 except for a 15 year period out of the labour market from 26 to 40. Note that the main difference between men and women in our model is that women are assumed to have lower levels of earnings while in work (a less important difference for our model being their state pension age). So another interpretation of the male-female difference in the impact of the reforms is as to how those reforms differ across the life-time earnings distribution. Another key part of the State Second Pension reform is that those whose youngest child is aged five or under (and those with certain other caring responsibilities) accrue some benefit. This is captured by assuming that our fourth example (the second woman) qualifies for caring credits for the full 15 years of their gap from the labour market.

Our modelling takes into account reforms made to state pensions, in particular the reforms legislated in 1986, 1995 and 2000. Many of these reforms, which introduced a number of (non-linear) changes to state pension entitlements, seem wholly technical but in fact have significant impacts on prospective pensions.¹²

- The 1986 Social Security Act reduced the accrual rate on SERPS for contributions made by younger individuals from April 1988 onwards. This was phased in for those reaching the state pension age between April 2000 and April 2009, but it means that it will not be until 2037 when the full impact of this reform is felt when individuals reaching the state pension age have a full history of contributions post April 1988.
- Under the 1986 Social Security Act, those reaching the state pension age from April 2000 received SERPS based on the average of a full contribution history (16 to the state pension age). Previously SERPS had been based on the contributions made in the best 20 years. For those with the earnings path set out in figure 3.1 this will reduce growth in entitlements through to 2027 (49 years after SERPS was introduced) as each subsequent cohort has earnings at a younger age, which are lower, included in the calculation of their benefits.
- The 1995 Pensions Act announced a complicated change in the indexation of the Lower Earnings Limit effective for all those reaching the state

¹² For more details of these reforms see, for example, Pensions Policy Institute (2004).

pension age from April 1999. (This was a substantial cut in generosity that was not phased in and individuals were given very little notice.)

- The 1995 Pensions Act also announced an increase in the state pension age for women from 60 in 2010 by 1 month every 2 months so until it reaches 65 in 2020. This will reduce the overall generosity of state pensions paid to women (as they will not be able to receive state pensions between the ages of 60 and 64).¹³
- The 2000 Child Support, Pensions and Social Security Act which introduced the State Second Pension and which will be phased in over 49 years from April 2002. This is more generous to lower earnings, and also provides credits for individuals with some formal caring responsibilities – for example those in receipt of child benefit for a child aged 5 or under.

Other non-linearities are introduced as a result of changes in the indexation of the Lower Earnings Limit (LEL), Lower Earnings Threshold (LET), Upper Earnings Threshold (LET) and Upper Earnings Level (UEL):

- The over indexation of the UEL in April 2000 and April 2001 increased NI contributions for higher earners, but also their entitlements to SERPS / S2P. As a result higher earning individuals entering the labour market after this date will have paid relatively higher NI contributions and also received relatively higher second tier pensions. This means that second tier pension receipt will grow over each cohort through to 2050 as a result of this change (i.e. 49 years after the change).
- The UET (which is indexed to earnings) will, if real earnings grow by 2% a year, meet the UEL (which is indexed to prices) in 2010–11 after which date the State Second Pension will become relatively more generous to higher earners, and this will increase second tier pensions through to 2059–60. The LET (which is also indexed to earnings) will, if real earnings grow by 2% a year, reach the level of the UEL in 2055–56 which will mean that the State Second Pension will then gradually become a flat

¹³ Although payments from age 65 will be increased for women whose NI contributions paid between the ages of 60 to 64 are high relative to those made early in their working life.

rate pension that becomes relatively less generous for higher earners over the following 49 years.

Our modelling also incorporates the maximum amount of Pension Credit that an individual could qualify for. In his Foreword to the 1998 Green Paper the Prime Minister announced that the MIG “will be increased year by year as resources allow. Over the longer term our aim is that it should rise in line with earnings so that all pensioners can share in the rising prosperity of the nation” (Department of Social Security, 1988). Hence for the analysis in this section we assume that the Prime Minister’s stated objective to earnings-index this benefit is met.

To make these calculations we also have to make the unreasonable assumption that the individual has no income in retirement other than that from state pensions. It does, however, serve to illustrate the potential growing importance of means-tested payments other time which is something that we return to in section 4. We now turn to describing the findings from the modelling of each of the four types of individuals’ retirement incomes.

3.1. Type 1 – Male average earner, full working history

The estimated entitlements to the Basic State Pension, SERPS/State Second Pension and Pension Credit for our first example person are shown in figure 3.2. The figures shown represent income from the state at age 65 as a share of the individuals assumed earnings at age 50. The graph goes from 1948 (which is when the Basic State Pension was introduced) through to 2050. Relative to earnings the Basic State Pension is found to have been at its most generous level in 1979 when it offered a replacement rate of 27.2% (defined as a percentage of earnings at age 50). By 2004 it has fallen to 19.0% and is set to fall to 7.8% if the Basic State Pension continues to grow in line with prices while real earnings grow at 2% a year.

SERPS was only introduced in 1978 and under the original scheme a full entitlement required 20 years of contributions. As a result of the cuts to SERPS (in particular the 1986 legislation) SERPS is found to offer the most generous replacement rate for those individuals reaching age 65 in 1998 at 22.4%. The total replacement rate offered by state pensions is also found to have peaked in this year at 42.2%, and is predicted to decline to just over 25% for those reaching age 65 in the 2040s. This is because the generosity of the State Second Pension declines until 2027

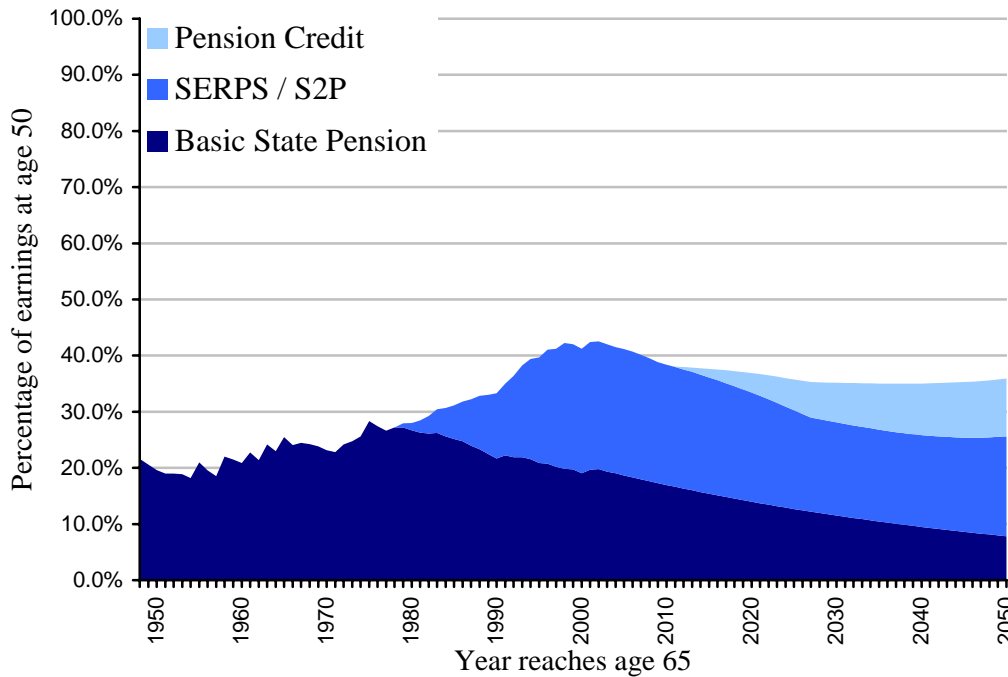
and is flat until 2038 before increasing for those who reach age 65 after this date, but not by enough to outweigh the decline in the generosity of the Basic State Pension.

Also shown in figure 3.2 is entitlement to the Pension Credit (both Guarantee and Savings Credit components) under the extreme assumption that the individual has no income from other sources. This shows that individuals with a full working life and relatively high earnings in each year would still potentially qualify for the Pension Credit if they reach age 65 from 2011 onwards. Individuals who reach age 65 before this date might well become eligible for the Pension Credit later in their retirement (which is a point that we will return to in section 4). Depending on their housing costs and council tax they might be eligible for other means-tested benefits sooner than this. Over time, entitlement to the Pension Credit increases as it is indexed relatively more generously than either the Basic State Pension or SERPS/S2P. As a result their total replacement rate provided by the state does not fall below 35%.

Figure 3.3 provides more details on the impact of the various reforms on second tier state pension entitlements. In particular it shows how relatively generous the original SERPS was – for example entitlements for those reaching the state pension age in 2030 are estimated to be two-thirds greater than they are estimated to be under the reformed system. For someone with a full working history on male average earnings, by far the largest part of this cut is a result of the reduction in accrual rates introduced in the 1986 Social Security Act. The impact of the 1995 Pension Act (the change in indexation of the LEL) is also not insignificant as it reduced estimated entitlements by 3½% from April 1999.

For individuals of this type, the increased generosity of the State Second Pension does not mean that entitlements to second tier pensions increase over subsequent cohorts – until 2037 they only *fall* at a slower rate. Beyond 2037 (which is 49 years after 1988 so the cuts from the 1986 Social Security Act are fully phased in) entitlements to the State Second Pension do increase over subsequent cohorts, and by 2050–51 entitlements are around 80% of what they would have been from the original SERPS.

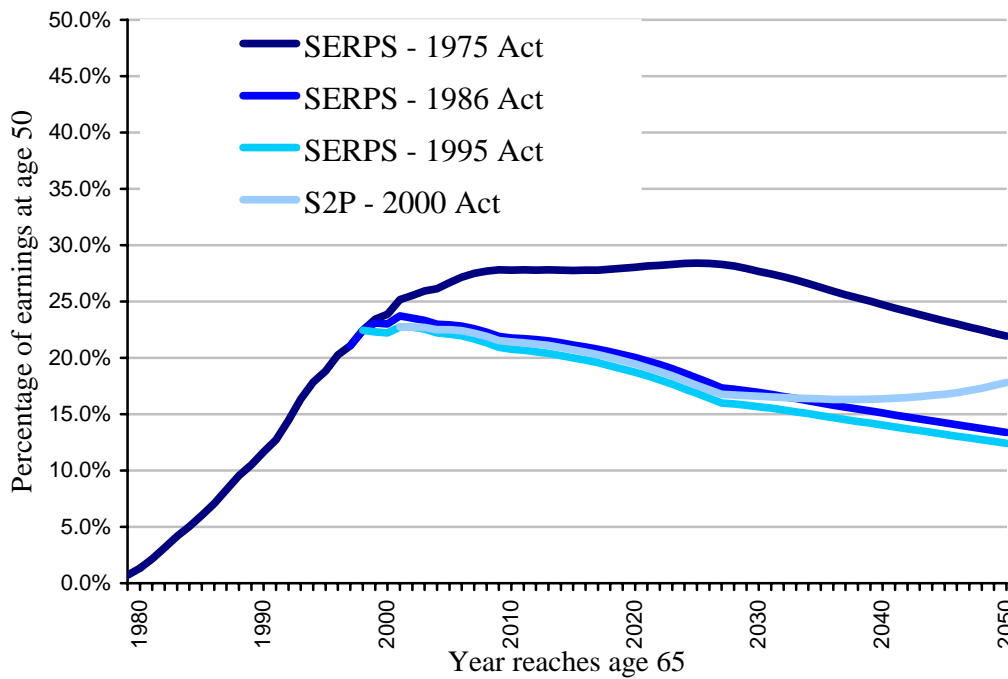
Figure 3.2. State pension and Pension Credit at 65 for male with median (age-specific) earnings and no private income, 1948 to 2050.



Notes: Calculations for individuals with full contribution history with median male age specific earnings and 2% annual economy-wide real earnings growth.

Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

Figure 3.3. State pension at 65 for male with median (age-specific) earnings, 1978 to 2050.



Notes: Calculations for individuals with full contribution history with median male age specific earnings and 2% annual economy-wide real earnings growth.

Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

3.2. *Type 2 – Female average earner, full working history*

The equivalent calculations for a female with a full employment history on median earnings are presented in figures 3.4 and 3.5. The first striking feature is that the replacement rates in figure 3.4 are much higher than those shown in figures 3.2. This is not because the state pension incomes are much higher in absolute terms but instead due to the Basic State Pension being higher relative to the substantially lower level of (assumed) average female earnings. These lower earnings mean that the Basic State Pension is far more important to this type of individual than the earnings-related components. As a result the most generous replacement rate is 72.0% in 1979 when the level of the Basic State Pension peaked relative to earnings.

Turning to SERPS entitlements it is also important to note that the figure shows weekly entitlement by cohort at age 65. Only women reaching 65 from 1984 will be able to receive any SERPS as it was introduced in 1978 and those in work beyond the state pension age do not pay any employee NI and as a result do not build an entitlement to this benefit. Hence, a women reaching age 65 prior to 1984 would not be able to qualify as their state pension age is 60. Entitlements to second tier pensions grow through to those reaching age 65 in 2004 (i.e. after 20 years of contributions) and then remain roughly stable until 2010 when they increase again through to 2020. This latter increase is a result of the increase in the female state pension age that, despite reducing the generosity of the State Pension System to women dramatically, does increase entitlements from age 65 for those paying employee National Insurance contributions between the ages of 60 to 64. This is particularly true as earnings in these years are, on average, higher than those seen over the whole working life (see figure 3.1) and increase entitlement to the earnings-related components of state pensions.

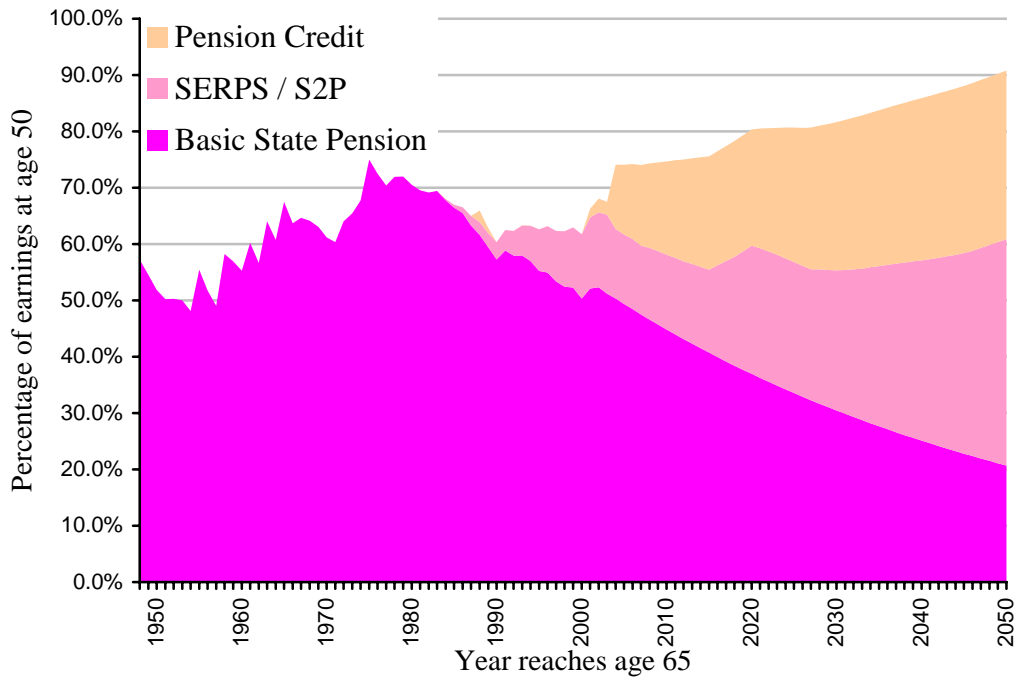
Comparing figure 3.4 to 3.2 it is also clear that the State Second Pension offers a higher replacement rate to someone on female average earnings than someone on male average earnings – this is due to the progressive nature of the State Second Pension, and the fact that average female earnings are so much lower than average male earnings. Despite this higher replacement rate from state pensions, estimated entitlements to the Pension Credit (again under the assumption of no other income) are also much higher. This reflects the progressive nature of means-tested benefits.

The impact of each of the reforms to second tier pensions to our type 2 person is shown in figure 3.5. The most striking feature in this graph is that the progressive nature of the State Second Pension means that for this low earning individual, her second tier pension entitlement will be higher in cohorts reaching age 65 after 2017 than it would have been under even the initial SERPS scheme. Moreover the impact of the change in indexation of the LEL announced in the 1995 Pension Act is more significant – entitlements from April 1999 are reduced by 12%. This is a large reduction – particularly given that some of the affected individuals were only given 4 years notice (assuming that they understood the complicated change). The increase in the state pension age for women can be seen to *increase* entitlements between 2010 to 2020 – this is due to higher NI contributions being made, as noted above. Of course this increase in the state pension age substantially reduced the generosity of the state pension system for women as it meant that no state pension could be received between the ages of 60 and 64.

Comparing figure 3.5 to figure 3.3 we can see that the replacement rates towards the end of the period offered by SERPS (under any of the regimes) are very similar for men and women with full working lives. This is due to all of the SERPS regimes being not too far from being close to proportional to earnings for individuals with full working lives.¹⁴ In contrast the replacement rate offered by the State Second Pension is estimated to be more than twice as high for someone on female average earnings than someone on male average earnings. Again this demonstrates the progressive nature of the State Second Pension.

¹⁴ And note that the equalisation of the state pension age means that the only difference between ‘men’ and ‘women’ is that the latter are assumed to have lower earnings.

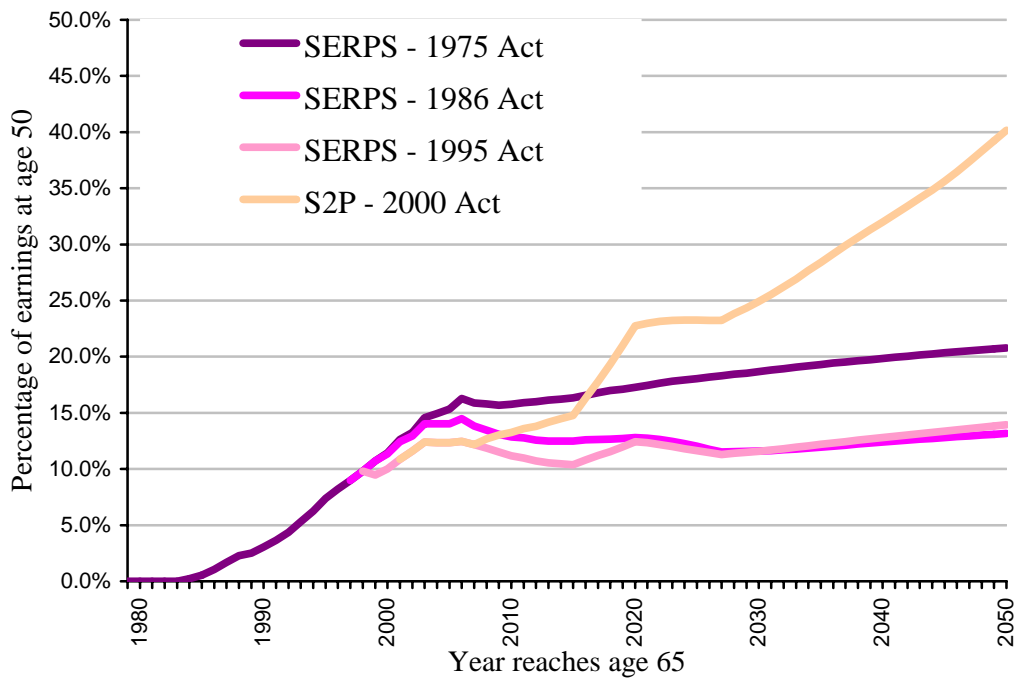
Figure 3.4. State pension and Pension Credit at 65 for female with median (age-specific) earnings and no private income, 1948 to 2050.



Notes: Calculations for individuals with full contribution history with median female age specific earnings and 2% annual economy-wide real earnings growth.

Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

Figure 3.5. State pension at 65 for female with median (age-specific) earnings, 1978 to 2050.



Notes: Calculations for individuals with full contribution history with median female age specific earnings and 2% annual economy-wide real earnings growth.

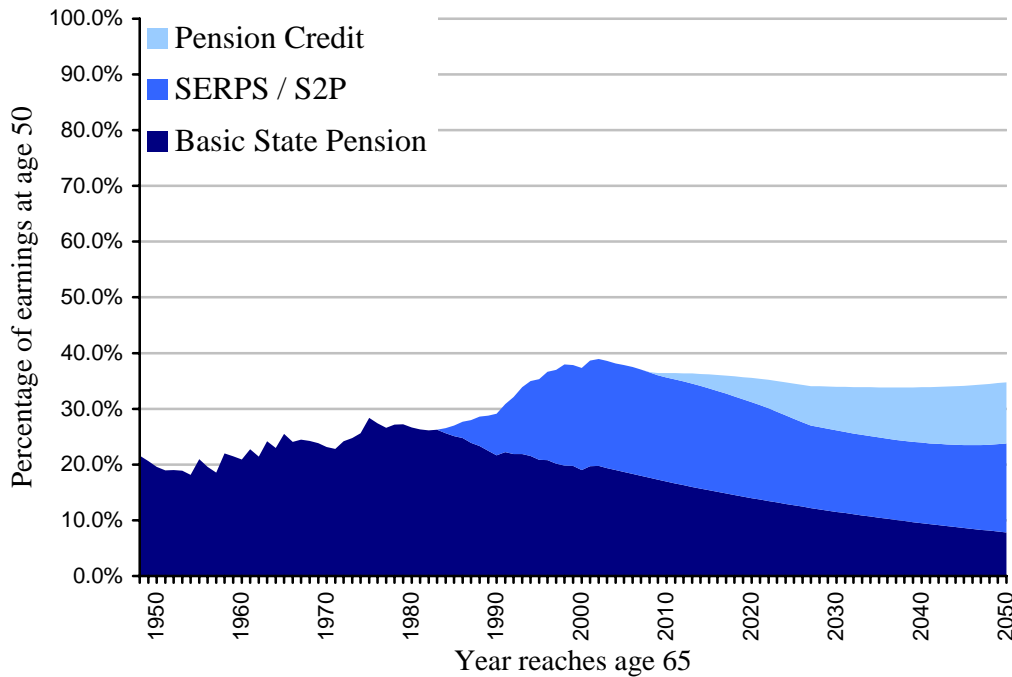
Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

3.3. *Type 3 – Male average earner, retiring at age 60*

The equivalent calculation for a male on median earnings leaving the labour market at age 60 is presented in figures 3.6 and 3.7. As we assume he still qualifies for the full Basic State Pension, this is the same as figure 3.2. Entitlement to state second tier pensions is zero for those reaching age 65 before 1984 (as they have not made NI contributions since SERPS was introduced in 1978) and climbs until it peaks for those reaching age 65 in 2004 (when they will have achieved 20 years of contributions). From 2004 onwards his replacement rate from state pensions is around 92% of what it would have been had he stayed in work until age 65. As he has a lower state pension income, entitlement to the Pension Credit is estimated to be higher – from around 2010 onwards his total replacement rate is around 96% of what it would have been had he remained in work until age 65.

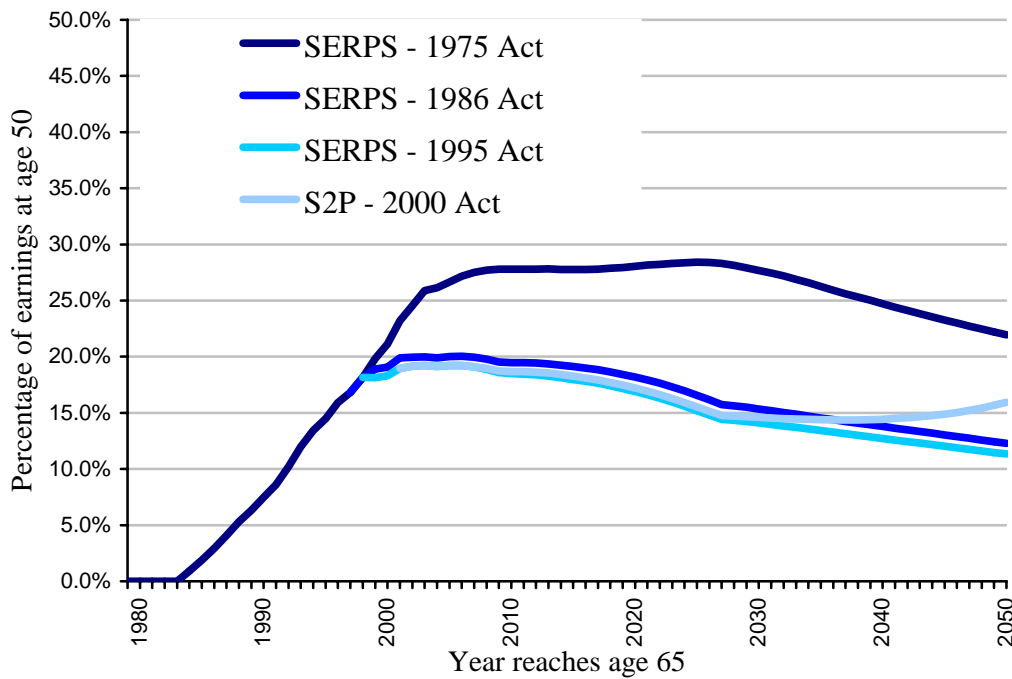
The impact of the reforms is shown in figure 3.7. Under the original SERPS scheme for cohorts reaching the state pension age after 2004 there would have been no reduction in state pension as a result of retiring at age 60. This is because the best 20 years of contributions would have been unaffected. Under the subsequent SERPS and State Second Pension schemes, second tier pension would be reduced to about 44/49 of what it would have been (as he would have contributed for 44 out of a maximum 49 years).

Figure 3.6. State pension and Pension Credit at 65 for male with median (age-specific) earnings, retiring at 60, and no private income, 1948 to 2050.



Notes: Calculations for individuals with full contribution history with median male age specific earnings and 2% annual economy-wide real earnings growth.
Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

Figure 3.7. State pension at 65 for male with median (age-specific) earnings, retiring at 60.



Notes: Calculations for individuals with full contribution history with median male age specific earnings and 2% annual economy-wide real earnings growth.
Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

3.4. Type 4 – Female average earner, retiring at age 60 and out of paid employment from age 26 to age 40.

The calculation for a female on median earnings who leaves the labour market at age 60 and also spends 15 years with caring responsibilities between the ages of 26 and 40 (inclusive) is shown in figures 3.8 and 3.9. Again we continue to assume that she still qualifies for the full Basic State Pension – hence these values are the same as in Figure 3.4. For those reaching age 65 before 2003, her entitlement to SERPS is also unaffected by the period out of the labour market. This is because she will have returned to work before 1978 when contributions started to build an entitlement towards SERPS. For a person reaching age 65 from 2003 onwards, her entitlement to second tier state pensions is reduced by the exit from their labour market. As a result income from state pensions falls over successive cohorts to 86% of what it would have been without the period out of the labour market for those reaching age 65 in the early 2020s.

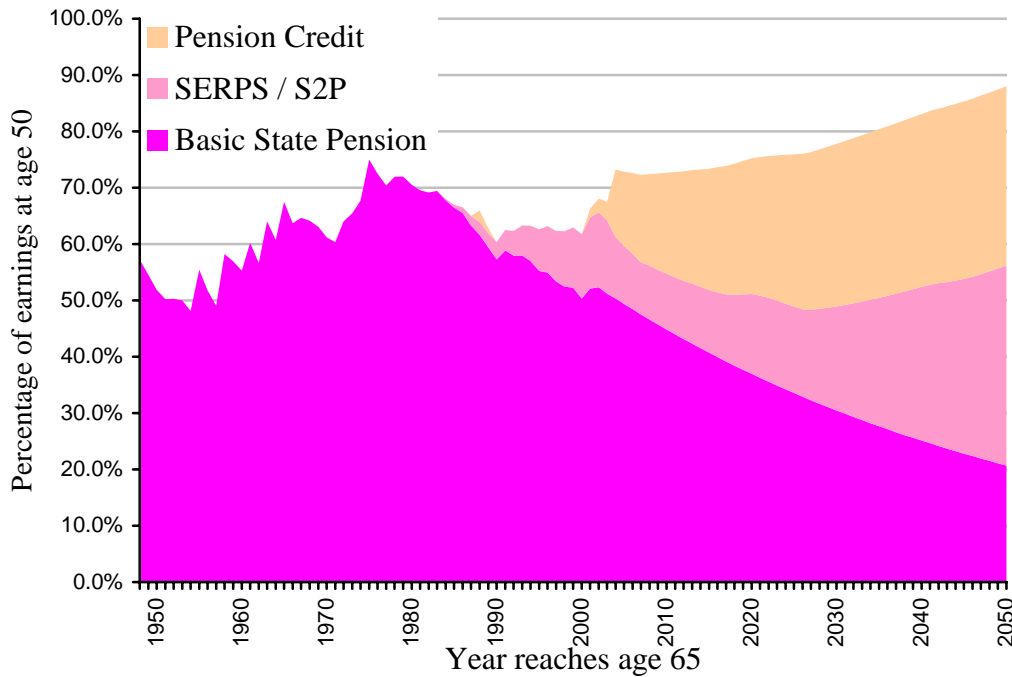
For even later cohorts the state pension income relative to what it would have been without the spell out of the labour market increases. For those reaching age 65 in 2050, state pension income is 92% of what it would have been with a full contribution history. This is a result of the gains from the credits available in the State Second Pension. As she has a lower state pension income, entitlement to the Pension Credit is estimated to be higher – throughout the period from 2004 to 2050 the total replacement rate from the state is between 94% and 98% of what it would have been had she not had a spell out of the labour market. This small reduction in total income is virtually identical to that seen for our previous example of men who leave the labour market at age 60.

The impact of the reforms is shown in figure 3.9. The original SERPS scheme would have led to a smaller reduction in entitlements as a result of the spell out of the labour market. Entitlements under this scheme are always at least 86% of what they would have been without the spell out of the labour market – and for those reaching age 65 after 2018 they are always 93% or higher. After the Social Security Act of 1986 the spell out of the labour market led to a larger reduction in state pension entitlements. This is because of SERPS became based on average contributions over a full working life rather than across the best 20 years. As a result income tends to fall

to around 29/44 (i.e. 29 years out of a full working life of 44 years) of what it would have been without the 15 year gap from the labour market: for those reaching age 65 after 2020 entitlements would be around 63% of what they would have been with a full working life under the original scheme.

After the Pension Act of 1995 entitlements fell further to 60% of the original 1978 scheme. This is a result of retirement at 60 starting to reduce entitlements when the state pension age for women is increased from 60 to 65. The credits in the State Second Pension for periods out of the labour market with formal caring responsibilities (for which we assume these individuals qualify) leads to the reduction in pension entitlement being much smaller than it would have been under the post 1986 SERPS schemes. This effect begins for those reaching age 65 in 2008 (as they would have reached the state pension age in 2003 and therefore able to build some entitlement to the State Second Pension). For those reaching age 65 from 2020 onwards entitlements under the State Second Pension increase from 62% of what they would have been without any spells out of the labour market to 88% (and still climbing) for those who reach age 65 in 2050. It is worth noting though that the original SERPS would still have delivered a higher retirement income than the State Second Pension for individuals reaching age 65 prior to 2029. This shows the extent to which the best 20 years rule was more generous for this example individual than the credits available in the State Second Pension.

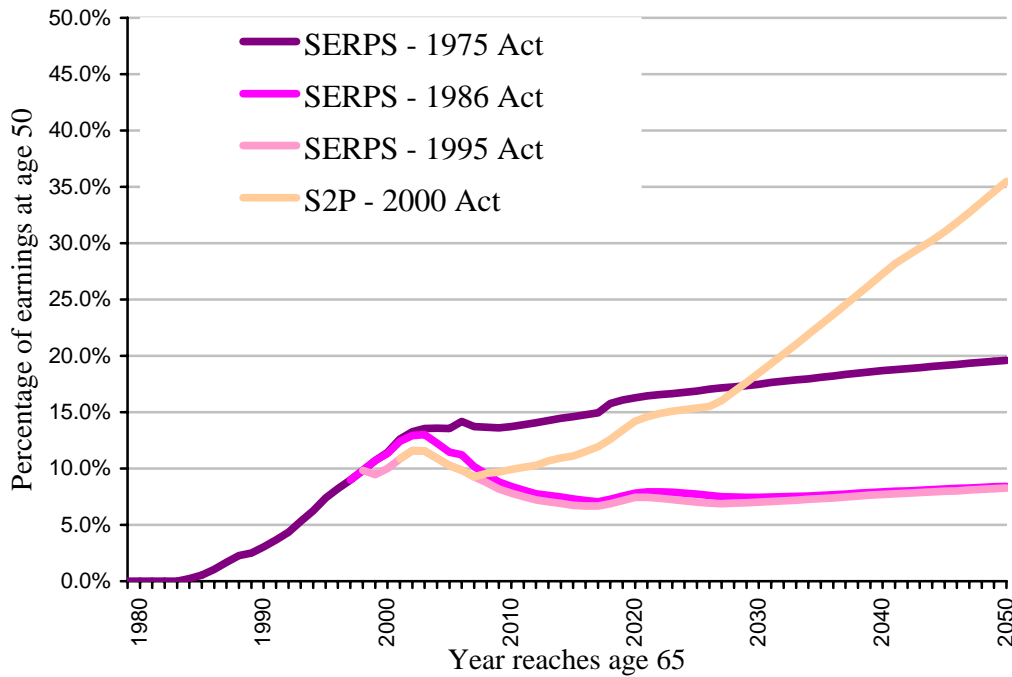
Figure 3.8. State pension and Pension Credit at 65 for female with median (age-specific) earnings, caring responsibilities from 26 to 40, retiring at 60, and no private income.



Notes: Calculations for individuals with full contribution history with median female age specific earnings and 2% annual economy-wide real earnings growth.

Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

Figure 3.9. State pension at 65 for female with median (age-specific) earnings, caring responsibilities from 26 to 40, retiring at 60, 1978 to 2050.



Notes: Calculations for individuals with full contribution history with median female age specific earnings and 2% annual economy-wide real earnings growth.

Source: Age profiles estimated from *Family Expenditure Survey 1968 to 2000*.

4. *The implications of public pension reform for household behaviour*

One of the most significant changes to the public pension regime in recent times has been the introduction of Pension Credit. This Section, and the next, considers two issues arising from this reform. In this section, we examine an issue arising from the simulated replacement rates derived in Section 3. These tell us, for some stylised calculations, what proportion of the income of an individual or household of a given type retiring at a certain date is likely to derive from Pension Credit. The calculations do not tell us what fraction of individual households at any given time are likely to be eligible for Pension Credit. We need to know this for our second issue, considered in the next section, as to which households' saving decisions are most likely to be affected by introducing the Pension Credit.

To model eligibility for Pension Credit, a different methodology is needed. We take data on the current distribution of income among pensioners and model the proportions that would be eligible for means-tested benefits under different *current* systems. The potential impact of *future* systems – for example under different rules for indexation – are then investigated by looking at what would happen if these systems were applied to the current generation of pensioners with their incomes suitably uprated.

4.1. *The extent of means-testing among pensioners*

4.1.1. *The current pensioner population*

The percentage of individuals in families entitled to means-tested benefits (i.e. Pension Credit, housing benefit or council tax benefit) is shown in figure 4.1. These are estimated using detailed information on incomes from the 2002–03 *Family Resources Survey* uprated to 2004–05, and then applying different tax and benefit systems using TAXBEN, the IFS tax and benefit model.¹⁵ The first panel shows that, before the introduction of the Pension Credit Savings Credit (i.e. when this benefit was withdrawn at 100%), 55.0% of individuals in families with someone aged 65 or over were eligible for at least one means-tested benefit. Older individuals are found to be more likely to be eligible for means-tested benefits than younger individuals (nearly two-thirds of individuals in families with an individual aged 75 or over compared to under half of families whose oldest member was aged 65 to 74).

¹⁵ The authors are extremely grateful to Stuart Adam for assistance in producing these figures.

Eligibility is lower among those in couples than it is among single men or single women: among individuals in families with someone aged 65 or over estimated eligibility is 45.5% of those in couples, 62.9% of single men and 72.8% of single women. It is important to note that these figures all apply to eligibility for means-tested benefits – actual receipt will be lower due to take-up being far from complete, with take-up of council tax benefit being particularly low.¹⁶

Increasing the generosity of the Pension Credit – for example through reducing the rate at which it is withdrawn – inevitably increases the number of individuals who are eligible. The second panel of Table 4.1 shows that under the current system, where the Pension Credit is withdrawn at a rate of 40 pence in the pound¹⁷ eligibility for means-tested benefits among of individual families with someone aged 65 is estimated to have increased from 55.0% to 59.6%. This 4.6 percentage point increase is spread fairly evenly by both age and family type. Similarly the bottom two panels of table 4.1 show what eligibility would have been had the Pension Credit taper been reduced from 100% to less generous levels than the 40% that the Government chose. Relative to a 100% taper, eligibility to means-tested benefits among those in families with someone aged 65 or over would have increased by 1.6 percentage points with a taper rate of 80% and by 3.0 percentage points with a taper rate of 60%. This suggests that the increase in eligibility is fairly linear for taper rates between 100% and 40%.

¹⁶ See Department for Work and Pensions (2004b).

¹⁷ In the Government's terminology the Pension Credit Guarantee is still withdrawn at a rate of 100 pence in the pound, but the Pension Credit Savings Credit is applied at a rate of 60 pence in the pound.

Table 4.1. Percentage of individuals in families entitled to means-tested benefits, without and with Pension Credit reform and under alternative reforms.

	<i>Age</i>			<i>All 60+</i>	<i>All 65+</i>
	<i>60–64</i>	<i>65–74</i>	<i>75+</i>		
Without Pension Credit (100% taper)					
Single males	58.8	58.9	66.3	61.9	62.9
Single females	51.6	63.4	79.1	69.7	72.8
Couples	28.7	40.1	54.9	40.5	45.5
<i>All</i>	<i>35.1</i>	<i>46.6</i>	<i>65.4</i>	<i>49.9</i>	<i>55.0</i>
With Pension Credit (40% taper)					
Single males	60.1	62.9	70.2	65.2	66.8
Single females	52.2	68.7	82.6	73.5	77.0
Couples	29.6	45.2	59.4	44.1	50.4
<i>All</i>	<i>36.0</i>	<i>51.6</i>	<i>69.4</i>	<i>53.5</i>	<i>59.6</i>
Alternative reforms					
<i>Pension credit with 60% taper</i>					
Single males	60.1	61.1	68.6	63.9	65.1
Single females	51.8	67.0	81.8	72.4	75.9
Couples	28.9	43.2	58.2	42.7	48.7
<i>All</i>	<i>35.4</i>	<i>49.7</i>	<i>68.3</i>	<i>52.2</i>	<i>58.0</i>
<i>Pension credit with 80% taper</i>					
Single males	59.6	60.0	68.2	63.2	64.4
Single females	51.6	65.0	80.4	71.0	74.2
Couples	28.8	41.5	56.9	41.6	47.1
<i>All</i>	<i>35.2</i>	<i>48.0</i>	<i>67.1</i>	<i>51.1</i>	<i>56.6</i>

Note: In couples, age refers to the age of the oldest person in the couple.

Source: The IFS tax and benefit model, TAXBEN, using data from the 2002–03 Family Resources Survey.

These figures only relate to receipt among the current generation of pensioners. To a large extent these will be individuals whose retirement saving and labour supply decisions will be unaffected by the Pension Credit reform as they will have already retired. To the extent that this is true the Pension Credit will achieve the Government's objectives of increasing the incomes of lower-income pensioners and rewarding saving without having any adverse affects on incentives to work or save.¹⁸ In terms of the potential disincentives involved what matters is whether currently

¹⁸ However the increase in means-testing would still distort individuals portfolio decisions – in particular they provide a strong disincentive to unlock owner occupied housing wealth either through equity release schemes or downsizing as the former is disregarded in the means-test whereas other forms of capital and income are included.

working age individuals expect to be in receipt of means-tested benefits during their retirement. As shown in Section 3 the current system and Government aspirations for indexation implied that all of the four example types we considered would, over successive cohorts, be entitled to larger amounts of Pension Credit. This strongly suggests that more individuals will be entitled to the Pension Credit in the future – we now turn to trying to quantify the extent to which eligibility might increase.

4.1.2. Future pensioners

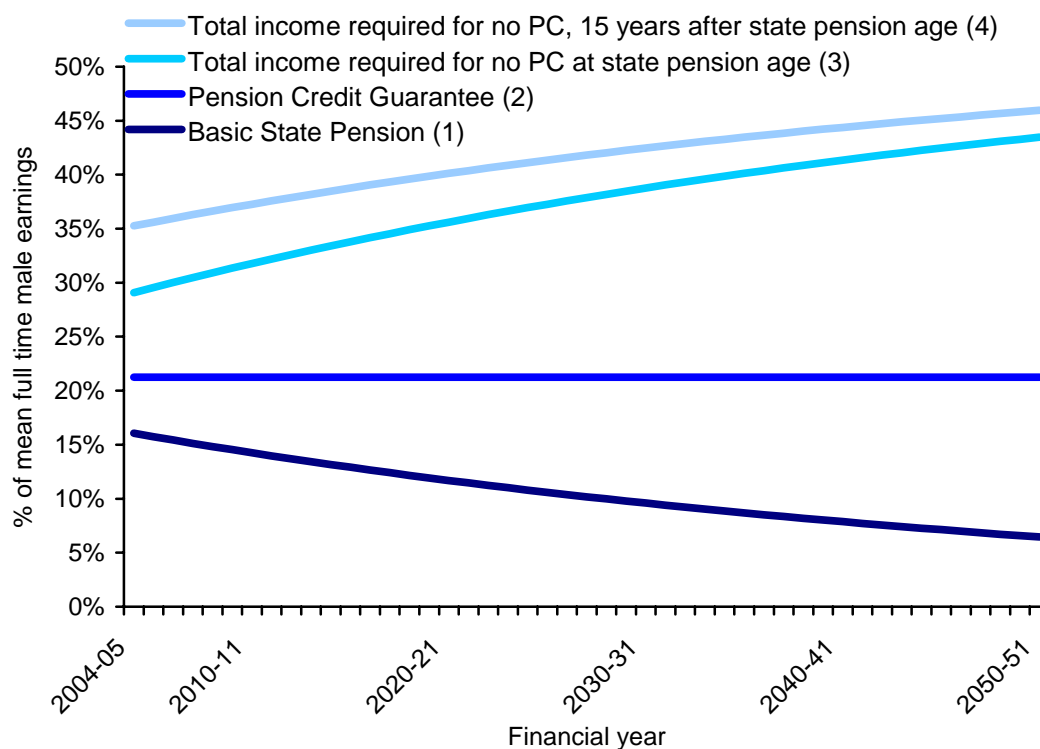
As stated in Section 3 current Government policy is to index the Basic State Pension in line with prices whereas there is an aspiration to index the Pension Credit Guarantee in line with average earnings. Figure 4.1 provides details of how the system would evolve if policy is not changed and this aspiration is met. The Pension Credit Guarantee would remain at 21.3% of average male full-time earnings (line 2 on figure 4.1) while real earnings growth would cause the Basic State Pension to fall from 16.1% of average earnings in 2004–05 to 6.5% by the middle of this century (line 1 on figure 4.1). The total amount of income from non-means-tested sources required to ensure that an individual is not entitled to the Pension Credit (either the Guarantee or the Savings Credit components) is currently £144.23¹⁹ or 29.1% of average earnings. Figure 4.1 also shows how this would grow to 43.5% of average earnings by 2050–51 (line 3). The amount of income on top of the Basic State Pension required would grow faster than this (as shown by the difference between the line 3 and line 1) climbing from 13.0% of average earnings in 2004–05 to 37.0% by 2050–51.

These figures also show the amount of private income needed at any point in time to avoid being eligible for the Pension Credit. In practice many individuals who are not eligible for the Pension Credit when they reach age 65 might find that they become eligible later in their retirement as not only will value of the Basic State Pension fall relative to the Pension Credit Guarantee, but their private income might also fail to grow in line with average earnings. Line 4 of figure 4.2 shows how much price indexed non-means-tested income is required to ensure that an individual does not become eligible for the Pension Credit over the next 15 years. In 2004–05 this is

¹⁹ This is equal to the Basic State Pension plus the difference between the Basic State Pension and the Pension Credit Guarantee divided by the Pension Credit taper rate i.e. $£79.60 + (£105.45 - £79.60) / 0.4 = £144.23$.

35.3% of average earnings (or 23.3% of average earnings plus the Basic State Pension) whereas by 2050–51 this is estimated to grow to 46.0% of average earnings (or 41.2% of average earnings plus the Basic State Pension).

Figure 4.1. Basic state pension and Pension Credit guarantee over time, as a share of average earnings.



Note: Assumes real earnings growth of 2 per cent a year. Male average full-time earnings of £496 per week taken from the Spring 2004 Labour Force Survey.

The extent to which the relative increase in the generosity of the Pension Credit shown in Figure 4.1 leads to an increase in the proportion of pensioners entitled will depend on how quickly pensioners' incomes from other non means-tested sources grows and the density of the pension income distribution. By taking the information on the current distribution of pension incomes and making assumptions over how these sources of income will differ in future it is possible to give some indicative figures on how eligibility for the Pension Credit might change over time under alternative indexing arrangements. We make the assumption that all income, other than that from the Basic State Pension and the Pension Credit, grows in line with average earnings.

This could understate growth in incomes if, for example, subsequent generations of pensioners have significantly higher entitlements to either private

pensions or to second tier state pensions. If so, this will mean that our analysis here will tend to overstate the growth in the number of pensioners that might be eligible for means-tested benefits. The analysis we presented in Section 3 shows that, for those whose earnings are around male median earnings, second tier state pensions are actually at their most generous now (see figures 3.3 and 3.7), but that they are forecast to be significantly more generous to lower earners in the future (see figures 3.5 and 3.9). However it is also possible that private incomes might not keep pace with the growth in average earnings – particularly if the increased generosity of means-tested benefits causes individuals to choose to save less for their retirement (which is discussed in detail in section 5). Furthermore it is important to note that here we only consider the proportion of pensioners who will be eligible for the Pension Credit and others are likely to be eligible for Housing Benefit and Council Tax Benefit. Future entitlement to these benefits is excluded from this analysis as its inclusion would require further assumptions over future growth in rents and local tax bills.

The results of this exercise are presented in table 4.2. This shows that 45.8% of individuals in families with someone aged 65 or over are currently eligible for the Pension Credit, compared to the 27.4% who would have been eligible had the taper rate not been cut from 100% to 40%. (These figures are lower than those contained in table 4.1 as here we exclude entitlement to housing benefit and council tax benefit). Assuming that the Government's aspiration to index the Pension Credit in line with earnings is met, while the Basic State Pension continues to be indexed in line with prices then eligibility among individuals in families with someone aged 65 or over would grow to 63.6% in 2025–26 and to 71.1% in 2050–51. This compares to an increase from 27.4% in 2004–05 to 48.5% in 2050–51 under the system with a 100% taper.²⁰

²⁰ These figures update previous estimates produced in Clark and Emmerson (2002) which suggest that the increase in Pension Credit entitlement under a 40% taper would be from 52% in 2002–03 to 73% in 2025–25 and 82% in 2050–51. (Note that the percentage increase in the percent eligible is virtually identical to our estimates – 40% to 2025 and a further 12% to 2050). There are a number of possible reasons for the reduction in estimated entitlement over the last two years. Most obviously entitlements will have been affected by reforms to the tax and benefit system made since the last estimates were produced. Other potential factors include such as non-uniform changes in the income distribution (for example caused by an increase in employment rates or pension coverage). Estimates published by the DWP suggest that entitlement will increase from 50% in 2002 to 65% in 2050, but this assumes that real earnings growth will only average 1½% a year (Department for Work and Pensions, 2002a). These DWP figures are produced using a similar model to the one used here. It will be of interest to see what figures are produced by the DWP's new dynamic microsimulation model, PenSim2. For details see Emmerson, Reed and Shephard (2004).

Also presented in table 4.2 is how eligibility would change under alternative indexation rules. Due to the way in which we are simulating future pensioner incomes if both the Basic State Pension and the Pension Credit were indexed to average earnings then estimated eligibility would be unchanged – this is because as a share of average earnings all the relevant parameters will have been frozen. It is interesting to note that were both the Basic State Pension and the Pension Credit to be indexed in line with prices then entitlement is also estimated to be left largely unchanged. The alternative possible indexation method is to index the Basic State Pension in line with average earnings and the Pension Credit in line with prices. In the short term at least this has been proposed by the Conservative Party (Willets and Yeo 2003). Under this scenario, eligibility for the Pension Credit would decline quite quickly – after 14 years the Basic State Pension would exceed the value of the Pension Credit Guarantee and therefore only those without a full Basic State Pension could be eligible for the Pension Credit (Chote and Emmerson, 2003). By 2025–26 just 13.5% of individuals in families with someone aged 65 or over would be eligible for the Pension Credit and by 2050–51 this would fall further to just 3.8%.

Table 4.2. Simulations of the percentage of individuals in families containing an individual aged 65 or over entitled to the Pension Credit under different taper rates and different indexation rules.

Pension Credit taper	Indexation of		<i>Year</i>		
	Basic State Pension	Pension credit	<i>2004–05</i>	<i>2025–26</i>	<i>2050–51</i>
40% taper	prices	earnings	45.8	63.6	71.1
40% taper	prices	prices	45.8	46.8	45.8
40% taper	earnings	earnings	45.8	45.8	45.8
40% taper	earnings	prices	45.8	13.5	3.8
100% taper	prices	earnings	27.4	41.2	48.5
100% taper	prices	prices	27.4	26.9	26.6
100% taper	earnings	earnings	27.4	27.4	27.4
100% taper	earnings	prices	27.4	9.5	3.6

Note: Assumes real earnings growth of 2 per cent a year.

Source: The IFS tax and benefit model, TAXBEN, using data from the 2002–03 Family Resources Survey.

This section has highlighted that over time an ever increasing income on top of the Basic State Pension would be required to make an individual ineligible for the Pension Credit, and that as a result an increasing percentage of individuals might

expect to be eligible for this benefit in their retirement. We now turn to discuss the possible impact on incentives to work and save.

5. Impact of replacement of MIG by Pension Credit on saving incentives

This section focuses on the impact of public pensions on individual's private retirement saving decisions. As mentioned in the introduction, it abstracts from the specific issue of contracting-out, which we assume (somewhat unrealistically) to have completely neutral effects on prospective pension incomes. Instead we focus on incentives for 'voluntary' or discretionary saving – for example, making contributions to a Personal Pension over and above the contracted-out rebate, investing extra amounts in an occupational pension, or saving in an ISA or other financial asset.

There is a good deal of literature that suggests that more generous public pension programmes 'crowd out' private savings (for a survey of macroeconomic and microeconomic results, see Disney, 2000). This should not be surprising, since tax-financed public pension programmes both reduce the after-tax income of workers, thereby reducing aggregate private saving, and increase post-retirement income, so reducing the need for additional retirement saving. However, the effect of public pensions on private saving is likely to be enhanced where they contain explicit disincentives to save, such as means-testing of public pension benefits on unearned income or asset values. The same may also apply to earned income after state pension age: unlike a number of countries, the United Kingdom has not operated a 'retirement test' as a condition of receipt of the contributory pension for some years (since 1989) but it is still true that greater means-testing of the public pension will discourage pensioners from engaging in any paid work after state pension age.²¹

In these circumstances, the greater role attached to income-tested pension benefits in the United Kingdom since April 1999, and the projections derived in Section 4, may have implications for private pension saving. Raising saving rates for retirement among middle income groups remains a priority of the current government, and it is of some interest to see how such a policy can co-exist with measures designed to introduce a more generous means-tested component into the public pension programme (Clark and Emmerson, 2003).

²¹ The Pension Credit Guarantee (and its predecessors the MIG and Income Support) are available for families containing an individual aged 60 or over regardless of gender. The 2002 Pensions Green Paper announced that this is to be increased in line with women's state pension age from 60 to 65 between 2010 and 2020 (Page 101, Department for Work and Pensions, 2002b).

Recall from Sections 2 and 3 that post-1999, New Labour choose to increase the generosity of the MIG significantly, and that the Prime Minister has announced that the MIG should rise in line with earnings. Since the MIG is withdrawn at a 100% rate as outside income increases, the potential disincentive effects are transparent. Consequently, the government decided to replace MIG with the Pension Credit, withdrawn at a rate of 40% (although implicitly sometimes higher if combined with withdrawal of other income-tested benefits such as housing benefit – see footnote 5 for more details).

Government statements on the transition from a MIG to a Pension Credit programme have tended to highlight the fact that, because the highest marginal withdrawal rates are significantly reduced, the reform will increase the reward to retirement saving. This is true only insofar as after the Pension Credit reform the more an individual saves for their retirement the greater their retirement income, whereas previously some individuals in receipt of the MIG would have been left no better off in retirement. However this is not the same as saying that the net incentive effects of the reform (on saving and labour supply from age 65 onwards) are unequivocally positive.

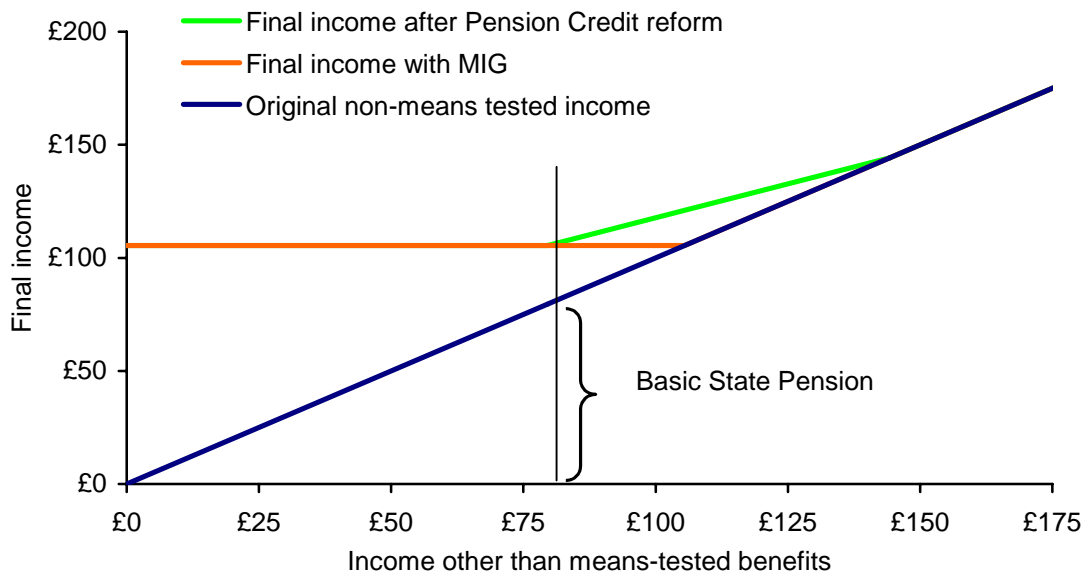
To understand first the impact on marginal withdrawal rates of the reform, we follow Clark (2002) who analyses the change in effective withdrawal rates (including taxes and other means-tested benefits) facing those aged 65 and over as a result of the Pension Credit reform. Pre-reform, roughly one third of those aged 65 and over faced effective marginal withdrawal rates of over 50%; the vast majority of those being at 100% (or above), due to the MIG. Post-reform just under one third still face marginal rates of over 50%, but less than 6% of these face rates of 100% (or more) – a decline of 26 percentage points. The mean tax rate declines from 47% to 39% and rather more individuals see their withdrawal rates decline than increase (30% v.25%) (*ibid* p.16). There are, of course, increases in the proportions paying 40% and also in the 90-99% band (who were previously paying 100% or more).

Knowledge of marginal effective withdrawal rates is not however sufficient to characterise the incentive effects of a reform of this type. And even if that knowledge were sufficient, the *overall* effect of the reform on saving or labour supply would depend on the density of the prospective income distribution of pensioners and the distribution of saving and labour supply across that distribution. Put simply, if

pensioners on the MIG were too poor in their working lifetime to have saved, a reduction in their marginal tax rate below 100% might have no effect on aggregate private saving, whereas raising effective withdrawal rates to 40% or more for a large number of low-to-middle income pensioners might have significant disincentive effects. However this type of discussion also ignores the *wealth* (income) effects of reforms of this type. A change from guaranteed minimum income provision to one where the means-tested support is withdrawn more gradually will have both wealth and substitution effects that impact on saving and labour supply behaviour, as a graphical illustration of the two types of programmes – and of a transition between them – can demonstrate.

An individual's budget constraints under both the MIG and the Pension Credit are shown in figure 5.1. Without any means-testing an individual in receipt of a full Basic State Pension and no other income would, in 2004–05, receive £79.60 a week in income. Under the MIG (or Pension Credit Guarantee) this income would be topped up to £105.45 a week, as shown by the horizontal line. For individuals who are on this line there is no incentive for the household to obtain outside income, either by continuing to work, or by having previously saved unless they can increase their income beyond the point at which they are eligible for the MIG (£105.45 a week). The green line upward sloping line shows how this changes after the Pension Credit reform. For individuals who are in receipt of a full Basic State Pension, increases in their outside income does lead to an increase in their after benefit income.

Figure 5.1. Budget constraint for a single person aged 65 or over, without any means-testing, under the MIG regime and under the Pension Credit regime in 2004–05.



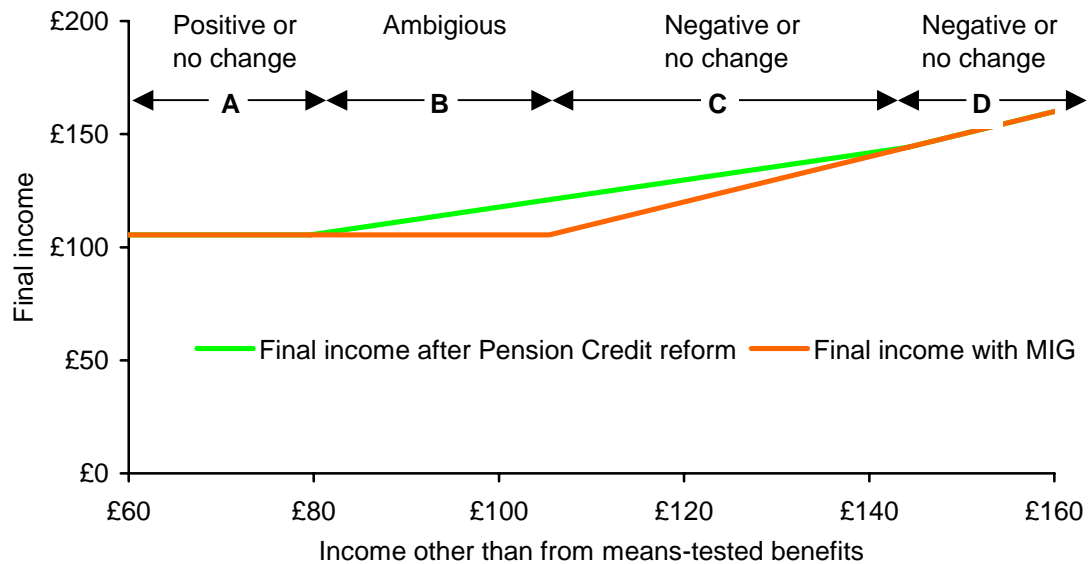
Note: Income disregards, taxation and other means-tested benefits ignored.

Also shown in figure 5.1 is the fact that, under the Pension Credit, individuals are receiving means-tested benefits on incomes up to £144.23 a week, whereas previously the MIG was only received for those with incomes of up to £105.45 a week. The incentive implications of this are considered in Figure 5.2. Using economic theory we can identify four different areas on the graph where incentives to work or save can be affected differently. In segment A, where individuals have an income of not more than the full Basic State Pension the Pension Credit reform does not directly increase their retirement income and if anything they face an increased incentive to save from the reform (as increases in their before benefit income might lead to a greater increase in their final income than it did before the reform). Hence individuals in this part of the budget constraint curve might choose to save or work more, or they might not change their behaviour.

In section B, which is implicitly the focus of most Government statements on the Pension Credit, the withdrawal rates are reduced (the reward to saving is increased). But the individual also has higher income as a direct result of the reform, as shown by the fact that the Pension Credit line lies above the MIG line. The substitution effect (lower marginal rate) operates as an incentive to save/work more whereas the wealth effect induces individuals to save/work less. We cannot say *a*

priori which effect dominates – so for individuals in this range of income the impact of the Pension Credit reform on their incentives to work or save is ambiguous.

Figure 5.2 The key groups for whom economic theory suggests that the Pension Credit will alter retirement saving incentives.



Note: Income disregards, taxation and other means-tested benefits ignored.

For the remaining groups economic theory is (slightly) more conclusive about the direction of individual incentives to work or save as a result of the Pension Credit reform. Individuals who are further up the pensioner income distribution in segment C have become eligible for means-tested benefits as a result of the reform. Hence their marginal effective tax rate has increased and there is also a positive income effect. Taken together these effects imply that individuals in this area will either work or save less, or not change their behaviour at all. Those in segment D are not made directly better off as a result of the reform (there is no income effect) but they could choose to work or save less as doing so could result in a smaller drop in their income than it would have done before the Pension Credit was in place.²²

Taking these effects together, it is apparent that we cannot assert that the Pension Credit reform will increase aggregate private saving. Effects on different households are either unknown *a priori* or are associated with a disincentive to save.

²² Additionally there is the issue of how the £2bn a year net cost of the Pension Credit is financed. Assuming that borrowing and other public spending is left unchanged then the required increase in taxation could also lead to a reduction in private saving.

Naturally, this is a simplified model assuming that workers make saving decisions that are consistent with the budget constraint that they will face when retired. Saving is a forward-looking decision that involves a calculus not just of outcomes but of risks attached to outcomes. For example, if households thought that a future government might reverse its policy, positive saving would still be desirable despite the disincentives implicit in current policy. On the other hand, if capital markets are perceived to be highly risky, low-to-middle income working households might argue that a strategy of accumulating wealth, notably through homeownership as wealth held in an individual's own home is ignored in asset-tests for means-tested benefits, coupled with reliance on public pensions in retirement, is a desirable strategy.

6. Can the United Kingdom learn any lessons from elsewhere?

Despite the frequency of pension reform proposals in the United Kingdom, there is some reluctance to examine the policies of other countries on any consistent basis with a view to learning lessons for UK policy. Perhaps it is assumed that, because the UK was one of the earliest providers of public pensions, no lessons need be learnt. Moreover, it is often assumed, correctly, that many other European public pension programmes have severe problems of macroeconomic sustainability that have been, to some extent, by-passed in the United Kingdom given its system of mixed public-private provision. Yet there should be food for thought in the fact that the trajectory of reform in many other countries (for example, towards a closer link between individual contributions to, and benefits from, public programmes) seems to be in a very different direction to that of the United Kingdom.

The United Kingdom pension system can be characterised as a public programme that co-exists with substantial private provision, and in which the public programme contains a strong means-tested element. Can we find any other countries with such characteristics to their programmes? How have their programmes evolved and have some of the issues raised here proved pertinent in those settings? Although there are other countries with, for example, multi-pillar provision of public benefits as well as private provision (such as Switzerland), two OECD countries stand out for having somewhat similar pension regimes: Canada and Australia. So we conclude with a brief discussion of the evolution of pensions in those countries.

6.1. *Canada*

Canada shares with the United Kingdom the mixed public-private provision of benefits and also a multi-pillar public programme that contains a means-tested component (see Hoffman and Dahlby, 2001, for a discussion of the Canadian programme).

The oldest part of Canada's public programme is the flat rate Old Age Security pension (OAS), available at age 65, indexed in payment to prices and residency rather than contributions based. It was worth about 19% of *median* male earnings in 1995 (Gruber, 1999) and has probably fallen as a proportion of earnings since that date.

A second tier on the Canadian public programme is the Guaranteed Income Supplement (GIS). Originally introduced in 1967 but with substantial increases in generosity (eligibility) in the 1970s and early 1980s, GIS is a means-tested benefit which, for pensioners with no income other than the OAS pension could potentially double household income. It is withdrawn at 50 cents in the dollar for every dollar of additional income from private and public sources above the OAS. The benefit has been price-indexed since the mid-1980s, so that the real values of the OAS and eligibility for the GIS move together. The impact of GIS on replacement rates of course depends on the position of the pensioner in the income distribution but, in combination with OAS, average replacement rates have been raised to the range 25-30% of male median earnings by combining OAS and GIS.

The final part of the public programme is the Canadian Pension Plan (CPP)/Quebec Pension Plan (QPP) introduced in 1996. This is a contributory earnings-related programme that determines benefits by average lifetime earnings relative to average earnings in the economy for 85% of the working life (i.e. eliminating the 15% of 'worst years' of the individual's earnings history). There is scope for retirement as early as 60 in CPP/QPP although normal retirement age is 65. Benefits are price-indexed and taxable. The contribution rate was initially set above that required to finance outgoing but has had to be raised as the initial 'fund' of accumulated contributions was exhausted.

There are significant funded pension plans. Most public sector workers, and around a third of private sector workers, belong to Registered Pension Plans. As in the

UK, most public sector plans are defined benefit, with a mixture of defined benefit and defined contribution in the private sector. In addition, there are Registered Retirement Saving Plans, which are somewhat similar to Personal Pensions. Around 50% of Canadians contribute to such plans and they are typically from the upper part of the earnings distribution.

6.1.1. Lessons from Canada

What can we learn from Canada? At first sight, the structure looks very similar to that for the United Kingdom (abstracting from the institutional feature of ‘contracting-out’) but there are some important differences.

First, the sequence of reform in Canada was to supplement the flat rate pension by income-tested benefits, subsequently followed by the development of the earnings-related programme. Eligibility for GIS by age group (effectively, by generation) is therefore declining as new retirees build up entitlements through CPP/QPP that supersedes their reliance on GIS. According to Gruber (1999), roughly 25% of men and 35% of women pensioners received some GIS in 1981 whereas by the early 1990s, this had declined to less than 20% and 30% respectively. Conversely, eligibility for CPP/QPP has increased by over 10 percentage points for men and almost 20 percentage points for women over the same period.

The reason for this is not just that successive retiring cohorts have accumulated greater CPP/QPP entitlements, so reducing their need for income-tested supplements, but also that all the public programmes are indexed consistently, to prices. Thus, in steady state, GIS will only be received by those who have highly interrupted work careers, unless CPP/QPP generosity is cut back considerably. Contrast this with the United Kingdom, where the Government wants to index the Pension Credit in line with earnings and the Basic State Pension in line with prices while, on average, successive cohorts are set to receive reduced entitlements from SERPS/S2P.

A second lesson lies in the implications of the GIS for retirement saving. Since the role of GIS appears to be diminishing, it is hard to find current evidence that potential GIS eligibility affects saving behaviour. Nevertheless it appears to be universally accepted among commentators (e.g. Hoffman and Dahlby, 2001) that lower income workers do not engage in retirement saving because of the potential

adverse impact on their GIS entitlements. Retirement saving occurs because the Canadian programme appears to be moving away from means-testing, not affording means-testing a greater role.

6.2. *Australia*

The illustration of Canada, with a multipillar public programme and limited private saving, provides a useful comparison with the United Kingdom. The programme in Australia, which is in some respects much simpler (although not in its tax treatment of pensions) also provides a useful benchmark.

The old age pension, introduced in Australia as long ago as 1909, is universal with eligibility governed by residency requirements, receivable at age 65 (for men, with the age for women raised in stages to 65 by the year 2014). It is legislated to be around 25% of total male average earnings. It is flat rate, and means-tested by both income and capital tests. Above an income threshold, the pension is withdrawn at 50c for each Aus\$ of outside income, and by Aus\$1.50 per week for every Aus\$1000 or asset income above thresholds that differ for homeowners and non-homeowners. In 2000, 80% of pensioners received some old age pension of which around 66% received the full rate (Bateman *et al*, 2001). At first sight, this might suggest that the means-testing of the pension has little effect on behaviour, but this would be a misleading inference.

6.2.1. *Mandatory retirement saving and the means test*

An additional striking feature of the Australian programme is that, since 1992, there has been mandatory private saving for retirement (known as ‘Superannuation’ in Australia). The Superannuation Guarantee requires that employers make payments into private retirement saving accounts on behalf of employees to accounts of the employee’s choice, currently at a rate of 9% of earnings (it should not however be thought that, because the employer pays the contribution, the *effective* incidence of the contribution necessarily falls on the employer – indeed it was negotiated in the national wage settlement as an alternative to an immediate wage increase). Superannuation funds can be taken as annuities or as lump sums from the age of 55 (which will be raised to age 60 by the year 2025).

Note that superannuation funds can be withdrawn before the age at which the individual is eligible for the old age pension. Moreover, many funds are taken in the

form of lump sums rather than annuities. This decision is of course affected by the subsequent means test on income, although it is also affected by historical practice and partly by the tax treatment of annuities *versus* lump sums. Although the tax treatment marginally favours annuitisation, this is likely to cause the individual to be subject subsequently to the means testing of the old age pension. Therefore, investing superannuation lump sums in assets, especially homeownership, is attractive so long as the household can avoid the capital asset test. Thus the fact that a minority of pensioner households are affected by the means test in retirement should not be taken as evidence of the lack of impact of the means test, but rather that individuals have an age ‘window’ between choosing how to use superannuation and receipt of the old age pension in which to allocate their resources in such a way as to avoid the impact of the means test (Atkinson *et al*, 1996).

The Australian ‘model’ has been examined by a number of UK policymakers, including politicians and administrators. At first sight, the combination of a tapered means-tested benefit with greater mandatory retirement saving seems to by-pass one dilemma associated with the disincentives to save that may arise from the Pension Credit. But the complexity of tax structure in Australia, coupled with the preference for taking lump sums, means that mandatory retirement saving induces changes in asset holdings (and distortions in the asset market) rather than providing substantial annuities. By introducing *less* flexibility into the annuity market (for example, raising the age at which funds can be withdrawn, by distorting the tax treatment of funds in favour of annuitisation, and so on), the Australian government has attempted to create a ‘culture’ of annuitisation rather than lump sum disbursement but, of course, the means testing of the pension does not easily encourage participants to change their behaviour.

7. Conclusion

This paper has considered the evolution of the public pension programme in the United Kingdom, how successive reforms have affected the living standards of past and current generations of pensioners, and how they are likely to affect future generations. Although we have attempted to describe these reform periods as a series of stylised ‘regimes’, we show that the highly complex details of pension arrangements, such as changes in floors and ceilings, types of post-retirement

indexation and so on, have significant implications for pension entitlements, even if these were not fully understood at the time.

Our analysis of replacement rates focuses on four stylised types of pensioners. For pensioners with lower lifetime earnings, replacement rates are much higher given the redistribution intrinsic to the system design, and future replacement rates are projected to be at least as high as current rates given reforms since 1997, such as the introduction of the State Second Pension and the Pension Credit, that have tended to target low income families. In contrast, peak replacement rates for those on average and higher earnings have probably passed, being around the turn of the century. Another striking finding is the growing importance of Pension Credit in future pensioners' incomes, arising in large part from the decision to index it more generously than benefits in the National Insurance system.

The remainder of the analysis of the United Kingdom focussed on some implications of the introduction of Pension Credit. We project that the proportion of the pensioner populations eligible for Pension Credit could rise to around 70% by the middle of this century given the current rules. This means that the income-tested component of the public programme will come to play a much more important role than was envisaged either by Beveridge or by the architects of the moves to comprehensive social insurance provision in the UK in the mid-1970s.

This forecast increase in the relative importance of means-testing benefits in state support for pensioners is also contained in official projections for state spending. The paper then discussed a consequence of this trend, assuming it was understood by workers. It has sometimes been suggested that the reduction in the marginal effective rate of tax (the 'taper rate') from 100% to 40% (or values in between when account is taken of other income-tested benefits) arising from replacing the MIG with Pension Credit increases saving incentives. Our analysis shows that caution must be exercised in making any such assertion – for some individuals and households, the lower taper may indeed induce increased saving, but for other households, the reform has directly the opposite effect. This is demonstrated in a straightforward way using economic analysis.

Finally, we examined international experience to see if there were other countries that exhibited the UK's fairly unusual combination of contributory public

pension programmes, a significant income tested sector, and private retirement saving. The cases of Canada and Australia were discussed. In Canada, *all* public pension benefits are indexed to prices, and the importance of means-tested benefits has declined as participants have accrued rights to public earnings-related pensions. In Australia, in contrast, means-testing is the dominant form of public pension provision, coupled with mandatory retirement saving. However annuitisation is not compulsory there, and participants have used asset accumulation as a means of by-passing the means test. It has been argued that this combination of income-testing and mandatory saving has distorted Australian asset markets and lies behind the highly complex tax regime governing superannuation benefits. There are therefore lessons that can be drawn from both these countries when considering how the United Kingdom pension programme might be developed in the future.

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