

# **S E D A P**

**A PROGRAM FOR RESEARCH ON**

## **SOCIAL AND ECONOMIC DIMENSIONS OF AN AGING POPULATION**

**Pension Provision and Retirement Saving:  
Lessons from the United Kingdom**

**Richard Disney  
Carl Emmerson  
Matthew Wakefield**

**SEDAP Research Paper No. 176**

For further information about SEDAP and other papers in this series, see our web site:  
<http://socserv.mcmaster.ca/sedap>

Requests for further information may be addressed to:  
Secretary, SEDAP Research Program  
Kenneth Taylor Hall, Room 426  
McMaster University  
Hamilton, Ontario, Canada  
L8S 4M4  
FAX: 905 521 8232  
e-mail: [sedap@mcmaster.ca](mailto:sedap@mcmaster.ca)

**Pension Provision and Retirement Saving:  
Lessons from the United Kingdom**

**Richard Disney  
Carl Emmerson  
Matthew Wakefield**

**SEDAP Research Paper No. 176**

February 2007

The Program for Research on Social and Economic Dimensions of an Aging Population (SEDAP) is an interdisciplinary research program centred at McMaster University with co-investigators at seventeen other universities in Canada and abroad. The SEDAP Research Paper series provides a vehicle for distributing the results of studies undertaken by those associated with the program. Authors take full responsibility for all expressions of opinion. SEDAP has been supported by the Social Sciences and Humanities Research Council since 1999, under the terms of its Major Collaborative Research Initiatives Program. Additional financial or other support is provided by the Canadian Institute for Health Information, the Canadian Institute of Actuaries, Citizenship and Immigration Canada, Indian and Northern Affairs Canada, ICES: Institute for Clinical Evaluative Sciences, IZA: Forschungsinstitut zur Zukunft der Arbeit GmbH (Institute for the Study of Labour), SFI: The Danish National Institute of Social Research, Social Development Canada, Statistics Canada, and participating universities in Canada (McMaster, Calgary, Carleton, Memorial, Montréal, New Brunswick, Queen's, Regina, Toronto, UBC, Victoria, Waterloo, Western, and York) and abroad (Copenhagen, New South Wales, University College London).

## **Pension Provision and Retirement Saving: Lessons from the United Kingdom**

by

Richard Disney<sup>\*</sup>, Carl Emmerson<sup>†</sup> and Matthew Wakefield<sup>†</sup>

### **Abstract:**

We describe the trajectory of pension reform in the United Kingdom, which has focussed on keeping the cost of public pension programmes down during a period of steady population ageing whilst attempting to maintain an adequate minimum level of income security for low income households in retirement. Instruments for achieving these aims have been to target public benefits on low income households, permitting individuals to opt out of the second tier of the public programme into private retirement accounts, and the use of tax incentives to encourage additional private retirement saving. Frequent reforms to the pension programme raise the question of whether households can make reasonable private retirement saving provision in the light of growing complexity and potential shortcomings in individual decision-making. This paper sheds some light on these issues.

**Keywords:** pensions, social security, retirement saving

**JEL Classifications:** D91, H55

### **Résumé :**

Nous décrivons le cheminement de la réforme des pensions au Royaume-Uni, qui s'est concentrée sur l'abaissement des coûts du système de pension public durant une période de vieillissement soutenu de la population tout en essayant de garantir un niveau minimum de sécurité économique aux ménages retraités à faibles revenus. Les instruments pour réaliser ces objectifs ont été de cibler les prestations du système public sur les ménages aux plus faibles revenus, en permettant aux individus de se retirer du deuxième pilier du système de pension public à la faveur d'un plan d'épargne retraite privés, et au recours à des incitations fiscales afin d'encourager la formation d'une épargne de retraite privée complémentaire. Les réformes fréquentes du système de pension soulèvent la question de savoir si les ménages sont en mesure d'assurer un niveau d'épargne de retraite privée raisonnable à la lumière de la complexité croissante du système et des carences potentielles dans la prise de décision individuelle. Cet article jette une certaine lumière sur ces questions.

### **Acknowledgments:**

The paper draws on research conducted with colleagues, especially at the Institute for Fiscal Studies, and particularly Edward Whitehouse. They may not choose to be implicated in the views expressed here. The same applies to the comments of participants at the several conferences and seminars at which some of the results here have been presented, including the SEDAP Conference at McMaster University Hamilton in November 2006 for which this paper was written. Funding from the ESRC-funded Centre for the Microeconomic Analysis of Public Policy at IFS (grant number M535255111) is also very gratefully acknowledged.

---

<sup>\*</sup> School of Economics, University of Nottingham and Institute for Fiscal Studies, London. Corresponding address: School of Economics, Sir Clive Granger Building, University of Nottingham, NG7 2RD, United Kingdom. Tel: (44) 1159 515619. Fax: (44) 1159 514159. Email: richard.disney@nottingham.ac.uk

<sup>†</sup> Institute for Fiscal Studies, London

## **Pension Provision and Retirement Saving: Lessons from the United Kingdom**

### **1. Introduction**

With steady population ageing, the United Kingdom (UK) public pension programme faces challenges shared by many other European countries. These arise from the conflict between maintaining real income levels in retirement for current and future pensioners and at the same time not adding to public budgetary pressure; a conflict that has led to political gridlock and stalemate in pension reform in several countries. The UK, in contrast, seems to have embraced pension reform with enthusiasm – the frequency of major reforms, which occurred roughly every decade (1975, 1986, 1995) seems to have accelerated recently with significant reform measures announced in 1998, 2002 and 2006 and a series of major changes coming into force in 1999, 2001, 2002 and 2006.

The enthusiasm for pension reform in the UK is something of a puzzle – although it may be a combination of the flexibility of the UK's mixed (and complicated) system of public and private retirement provision coupled with a series of governments with dominant parliamentary majorities that have contributed to the reform impetus. It is striking, for example, given the 'short-termism' of much political debate, that reforms were introduced in 1986 in the UK explicitly raised costs of public pension provision to current taxpayers whilst reducing costs to future generations of taxpayers (although, as will be described shortly, in retrospect the current costs were understated and the future gains in terms of reduced public spending significantly overstated).

As a result of the UK's reform process, the Economic Policy Committee of the European Commission (2001) noted that, whilst the share of *public* pension spending on people aged 55 and over as a % of GDP was projected to rise on average among EU countries from 10.4% in 2000 to 13.6% in 2040, the share of public pensions in GDP in the UK would *fall* from 5.5% to 5.0% over the same period.<sup>1</sup> These disparate

---

<sup>1</sup> It should however be noted that several components of public transfer payments to pensioners are excluded from the EPC's definition and that total public pension spending in the UK (and indeed some other countries) is somewhat higher than suggested in this document. Moreover recent reforms in the UK will probably *increase* public pension spending by 2040 rather than reduce it, although the likely increase of around 1 percentage point is well below the average increase. The UK of course has a much higher share of spending on *private* pensions as a % of GDP than most other EU countries.

trends have arisen despite comparable demographic trends between the UK and the rest of Europe. And, while public pension spending is low in the UK by European standards, as will be demonstrated shortly the UK public pension programme is rather successful in delivering high replacement rates of pension benefits to working incomes for low income individuals, and seems likely to continue to do so.<sup>2</sup>

These substantial successes must be seen against the growing complexity of pension provision in the UK arising from the frequency of reforms and the resulting long transition periods. This inevitably raises the question of whether, in an environment where the majority of families will be required to engage in some private retirement saving in order to obtain a reasonable replacement rate in retirement, households are able to plan sensibly for retirement. In effect, the reforms that have been announced in 2006 (Department for Work and Pensions, 2006a) cast doubt on this premise by indirectly inducing a quasi-mandatory component to private retirement saving (whilst also proposing reforms which if implemented would bring about a welcome simplification to the public programme of pension provision).

In the light of these various issues, this paper is structured in the following manner. The next section gives some background on the evolution of the UK's public pension programme over time and on past and expected future pension replacement rates from the programme. Sections 3 and 4 focus on private pensions and retirement saving. The former examines the option by which individuals can contract-out of part of the UK public programme, the incentives implied by this feature of the programme and the evidence on individual behaviour. Section 4 examines the changes in tax reliefs applied to retirement saving and again how these have affected individual behaviour. The final section draws together the implications of these analyses and discusses briefly the plans for further reform of the UK programme that are being implemented at the end of 2006.

## **2. The UK's public pension programme: A brief evaluation**

The UK's public pension programme (social security programme in North American parlance) shares some similarities with Canada insofar as there are three

---

<sup>2</sup> Again the qualification is required that these replacement rate calculations often assume that households will claim all benefits to which they are entitled and this is not always the case where benefits are income-tested. This may be why several studies suggest that poverty rates are relatively high among UK pensioners but care is needed in drawing such conclusions: for an exhaustive analysis of the OECD data on cross-country pensioner poverty, see Disney and Whitehouse (2001).

components: a flat pension (the Basic State Pension), an earnings-related component (the State Earnings-Related Pension – SERPS – replaced in 2001 by the State Second Pension – S2P), and an income-tested component known most recently as the Minimum Income Guarantee and then the Pension Credit.

The flat pension is the oldest part of the programme, dating from 1946 and is the remaining vestige of the Beveridge plan introduced after World War 2. Paying a flat contributory pension to men after 65 and women after 60,<sup>3</sup> this pension in payment has been formally indexed to prices rather than earnings since November 1980 and has fallen as a share of retirement income since that time. Current (December 2006) proposals intend to restore the link to earnings in 2012.

The second component of the programme is the earnings-related pension. SERPS was introduced in 1978 under legislation in 1975 and was designed to provide an additional pension for those who did not have access to a company pension plan. The rules governing this component of the pension programme have undergone several changes since that time, with cutbacks in generosity in the mid-1980s and mid-1990s, and changes in formulae since 1998 (and a rebranding as S2P) that have tended to make the benefit formula more redistributive towards low earners (Disney and Emmerson, 2005, give fuller details). Another complexity is that while SERPS/S2P revalues past earnings in line with an index of earnings in calculating entitlements, the floors, ceilings and pensions in payment under this part of the programme have typically been revalued in line with price inflation.

The final component of the public programme is a means-tested benefit, which has existed in one form or another as a national programme since 1948. The most significant changes in this component of the programme have occurred recently: in an attempt to increase the overall generosity of the programme to poorer pensioners, in 1999 the government decided to index the then Minimum Income Guarantee (MIG) to earnings rather than prices. In a further important development, in 2003 the MIG was renamed the Pension Credit and the withdrawal rate of 100% relative to outside income was reduced to 40% on income above the value of the full Basic State

---

<sup>3</sup> Between 2010 and 2020, pension ages will be equalised between the sexes at age 65. Under current (December 2006) legislative proposals, this joint pension age will rise to age 68 by 2046. There is no scope for early retirement on reduced benefits in the contributory system although there may be other ‘routes’ into early retirement, notably disability benefits, whilst individuals with company pension plans may also choose to leave the labour market at an earlier stage. For example the majority of current public sector workers are able to receive unreduced occupational pensions from age 60.

Pension. The Pension Credit programme now took on the guise of a tax credit, reflecting the Chancellor of the Exchequer Gordon Brown's liking for such programmes. At a stroke, this increase in generosity extended current and future eligibility for means-tested benefits further up the pensioner income distribution.

This greater emphasis on means-testing rather than universality of provision has been a controversial measure given the budgetary cost (although the government has correctly argued that earnings-indexing the flat pension throughout this period would have been more costly and would have benefited relatively well off pensioners) and the perceived disincentives for individuals eligible for the Pension Credit to acquire additional retirement income (either by saving more or retiring later). A critique of price-indexing the flat pension while earnings-indexing the Pension Credit was a central plank of the so-called Turner Report (Pensions Commission, 2005) which has, to a large extent, underpinned the current reform proposals.

What has this multi-tiered programme delivered? Charts 1(a) and 1(b), taken from Disney and Emmerson (2005) illustrate past and prospective replacement rates from the UK's public pension programme, for two stylised individuals retiring at age 65 in each year from 1948 to 2050, relative to a person aged 50. One individual is assumed to be on the lifetime trajectory of male median earnings at each age of his (or her) life (Chart 1a). The second individual is assumed to be on female median earnings at each age of her (or his) life and also benefits from the relatively generous treatment of individuals who have caring responsibilities and thus accrue retirement pension credits during such periods of absence from the workforce (Chart 1b).<sup>4</sup> The charts do not take account of prospective changes announced in the White Paper of May 2006 and the subsequent Pensions Bill of November 2006.<sup>5</sup>

---

<sup>4</sup> To calculate these charts, data from a long series of Family Expenditure surveys were used to calculate the median earnings at every age for each individual retiring at age 65 in each year. Given these calculated age-earnings profiles, entitlements to the various benefits could be calculated. For periods outside the available sample data, projections and backcasts assumed average earnings growth and similarly shaped age-earnings profiles to those calculated within the sample data period.

<sup>5</sup> But, summarising the implications of these changes, from 2012 these should level out the replacement rate derived from the flat pension and thereby squeeze out the role of income-tested benefits for the person on median male earnings. A proposed simplification of the cohort-specific accrual rates in the earnings-related pension will tend to smooth out, but not eliminate the decline in its importance, since present proposals continue to price index benefits in payment from this component of the programme. For estimates of the increase in state pension income at state pension age see Emmerson, Tetlow and Wakefield (2006).

For the individual on average male earnings, the salient features are (i) the initial dependence on the flat pension until the late 1970s (ii) the decline in importance of the flat pension after its indexation to prices from 1981 and the growing importance of the earnings-related state pension until the turn of the century (iii) the decline in importance of the contributory programme as a whole after the turn of the century and the growing importance of benefits from the income-tested component and (iv) the overall low level of earnings replacement, peaking at around the turn of the century.

For the individual on average female earnings with credits for home responsibility (absence from the workforce) the key features are (i) the much higher replacement rate than the average earner (ii) the importance of the flat pension in the early years and the importance of the income-tested Pension Credit to later cohorts, and (iii) the shift towards a more redistributive structure to the earnings-related benefit for later cohorts, which again raises replacement rates for lower earners relative to Chart 1(a).

These charts illustrate both the success of the programme in targeting higher replacement rates on low lifetime earners and the relatively low replacement rates, by international standards, for the average earner. For the latter, additional retirement saving would seem essential in order to raise replacement rates to a sufficient standard.<sup>6</sup> The variations in overall replacement rates across cohorts and the changing composition of benefits illustrates clearly the effects of both the complexity of provision (including, for example, different accrual rates in SERPS for each cohort by birth date) and, crucially, the consequences of the vagaries of indexation procedures applied to the different pension components, and to the ceilings and floors in the programme.<sup>7</sup> (In this respect, recent Canadian policy to index all components of the programme to a single indicator seems more appropriate.) Some individuals will potentially retire with entitlements from four different public programmes in the next few years (the Basic State Pension, SERPS, S2P, the Pension Credit); indeed if they

---

<sup>6</sup> This of course begs the question of what is an appropriate replacement rate in retirement. Space does not permit a full discussion of this issue here.

<sup>7</sup> By way of illustration, at certain times the upper limit on earnings eligible for SERPS have been indexed to prices while the eligible earnings themselves are revalued in line with an earnings index; the limits on contributions have been differentially indexed from the limits on benefits, the thresholds for entitlement to means-tested benefits are indexed to earnings while the contributory system is indexed to prices, and so on. It is not always clear that policy-makers, let alone participants in the system, have at the time of implementing reforms understood the implications of these details for long run entitlements.



have low retirement incomes they may also be entitled to other income-tested benefits which provide support towards housing costs and local tax bills. It is hard for analysts, let alone programme beneficiaries, in such circumstances to work out the prospective retirement income (and the extent to which it is withdrawn against additional retirement income) to be obtained from the public system. This drawback must be weighed against the undoubted successes of the UK's public programme.

### **3. Private provision 1: Opting-out of public provision**

An unusual aspect of the UK's programme is that it permits individuals to opt out of part of the public pension programme – the earnings-related component – for all or part of their working lives, either as a member of an opted-company pension plan or through purchase of an individual retirement plan from a private insurer. By opting-out, known as 'contracting-out' in UK parlance, individuals lose entitlement to the SERPS/S2P component for so long as they remain opted out, but during that time pay lower social security contributions (called the National Insurance contribution) into the programme. If they opt-out as part of a company pension plan, the joint employer-employee National Insurance contribution is simply reduced *pro rata*. If the individual has purchased an approved personal pension, the contracted-out 'rebate' (the difference between the opted-in and opted-out social security contribution) is transferred by the Department for Work and Pensions directly to the insurer with whom the individual has contracted, and then paid into that individual's account. In both cases, the company plan and the individual account, the employee and their employer are able to make additional tax-relieved contributions to their private pension (which is the subject of the next section).<sup>8</sup>

Historically, contracting-out arose because company pension plans pre-dated the introduction of SERPS in 1978. The government was anxious not to drive private defined benefit company plans out of business by providing a competing product, and so provided for a reduction in contributions to approved company plans so long as they took responsibility for paying second-tier benefits in retirement.<sup>9</sup> The normal public economic theory critique of allowing contracting-out of a publicly-provided

---

<sup>8</sup> And of course individuals can contribute tax-relieved amounts to private retirement accounts whether they are contracted-out or not.

<sup>9</sup> In fact the rebate was over-generous to the average company plan – see Disney and Whitehouse (1993).

good – that it allows the low risk individuals to opt out – is arguably less appropriate here as the higher earning employees who were typically covered by company plans were likely to be long-lived and thus the ‘higher risk’ in terms of pension (annuity) insurance.

The novel policy, and the starting point of our analysis of retirement saving incentives, arose in the late 1980s when the Thatcher administration wished to encourage greater opting-out from the public pension programme, and so permitted not just existing occupational defined benefit plans but also group defined contribution pensions and individual retirement accounts known as Personal Pensions to opt out of the public programme. The latter (unexpectedly) proved much the most popular. As mentioned before, individuals who opted-out in order to buy a Personal Pension from an insurer could have their rebate of social security contributions transferred to their privately administered pension account and could supplement this, if they chose, with additional tax-relieved saving. Individuals could at any time re-contract back into SERPS, in which case their personal pension fund would continue to accrue and they would also accrue SERPS entitlements for the period during which they remained in SERPS. Alternatively individuals could remain contracted-in to SERPS but start up a personal pension account and contribute their own saving just as with a North American account such as an IRA or RRSP.

The government’s Department of Social Security used a working assumption that half a million people would choose to contract out of SERPS and opt to put their contracted-out rebate into a Personal Pension, although a contingency plan allowed for up to one and three quarter million optants (Disney and Whitehouse, 1992). In the event, roughly six million personal pension contracts had been approved by 1992 from their introduction in 1988, the bulk of them in the first year. The cost to the government of this mass exodus from the public pension programme, in terms of the reduction in public pension contributions arising from the transfer of contracted-out rebates to personal pension optants over the period 1988-1993, was estimated to be £9.3 billions in 1991 values. It was simultaneously estimated by the government’s spending ‘watchdog’, the National Audit Office, that this would lead to a prospective reduction in future spending on public pensions (SERPS) of £3.4 billion (National Audit Office, 1991). Overall, this policy therefore represented a net cost to the

government of almost £6 billion, labelled by the *Financial Times* on 4<sup>th</sup> January 1991 as ‘The pensions débâcle’.

Why was take-up so underestimated? The total rebate of contributions that the individual could choose to put in a Personal Pension or retain in the public programme, SERPS, was 5.8% of earnings. As an extra ‘bonus’ to start up the new personal pension programme, for a finite period the government offered an additional 2% contribution to those individuals who chose a Personal Pension. Since these rebate contributions were exempt from income tax, tax relief was added to the sum invested, so that the opted-out individual was effectively being given 8.46% of earnings to invest in the private pension market, at a time when pension funds were accumulating double-digit annual real returns, albeit in equity-dominated portfolios. Conversely, the 5.8% ‘invested’ in SERPS could expect an internal rate of return of little more than 1% in real terms.<sup>10</sup> This policy was therefore seen as a one-way bet, and it is not surprising that so many people took advantage of the new opportunity to opt out of the social security programme.

There is, however, a more subtle incentive issue, insofar as the incentive to switch from SERPS to a Personal Pension was much greater for young people – indeed at plausible rates of return (net of investment risk), older workers had no incentive to switch at all. This is a rather more stringent test of consumer ‘rationality’ in as much as younger people are typically portrayed as having little interest in pensions, high discount rates, myopia and so on and might be expected to be relatively indifferent to pension incentives. The reason why the incentive was greater for younger workers is reasonably intuitive. In a defined benefit pension plan such as SERPS, the return, in terms of higher pension, from one more year’s membership depends on the trajectory of earnings and the number of accrued years of rights. Since earnings rise over the lifetime but past accrued rights in the public programme are revalued in line with average earnings growth, the marginal accrual from remaining in the public programme is roughly invariant to age. Conversely, by the simple fact of compound interest, investment in a personal pension is front-loaded: a contribution at a younger age on average accumulates a greater return by retirement

---

<sup>10</sup> For international evidence on internal rates of return to public pension contributions in the UK and elsewhere (including Canada) see Disney (2004, 2006).

than a later contribution, so giving a disproportion incentive to young people to take-up the contracting-out option.

Charts 2a and 2b examine the age structure of new optants for Personal Pensions in each year from 1987-88 (tax year) to 2003-04, taken from administrative data, for men and women respectively. Around 90% of new contracts until the mid-1990s were taken up by individuals aged under 40, well over half by individuals aged under 30 and, remarkably, a significant proportion of optants were aged under 20. It should be noted that many of these contracts, at least in the initial years, were 'rebate only': that is the individuals did not add any extra contributions of their own; nevertheless these figures imply that young individuals, or their advisers, were by no means as short-sighted as is often asserted by advocates of greater compulsion in retirement saving provision. The age structure of optants also contrasts strongly with similar studies of take-up of retirement accounts in North America although the incentives there are of course quite different.

It will also be noticed from Chart 2 that the age structure of new contracts began to change in the latter part of the 1990s for both men and women. Indeed there is evidence of a distinct break in the series for men in 1997, with a shift in the proportion of older new optants. This is no coincidence as another reform was introduced in that year which changed the relative incentives by age. The background to this reform can be understood by noting our earlier comment that flat incentives to opt-out are 'front-loaded' towards younger age groups. Clearly, if we allowed the contracted-out rebate to vary by *age*, it would be possible to minimise the intra-marginal subsidies to younger earners by reducing the rebate for younger age groups, while raising the rebate for older age groups so as to give an incentive to opt-out (or remain opted-out rather than re-contract back in to SERPS). Research at the Institute for Fiscal Studies (Disney and Whitehouse, 1992) and elsewhere in financial institutions demonstrated what this optimal structure of age-related contracted-out rebates would look like, and such a policy was introduced in 1997 under 1995 legislation. This amendment to the relative incentives changed the age structure of new optants towards older people of working age, as demonstrated in Chart 2. It also reduced the number of Personal Pension holders to lower levels since the 'one way bet' had been eliminated and the loss of current contribution revenue minimised.

Nevertheless, some commentators took this fall in the number of Personal Pension optants as evidence of ‘policy failure’.

What was the impact of all this on saving in Personal Pensions? Initially, net new retirement saving in Personal Pensions was very probably low given the high level of the contracted-out rebate. Rebate contributions (indicated by the line ‘DSS’ in Chart 3) far exceeded contributions from employees and employers in the early 1990s. Permitting individuals to invest their contributions in a pension fund accruing high returns rather than a public programme with low returns induced a sizeable positive wealth effect which might have been expected to reduce overall retirement saving despite the incentives to contribute additional amounts arising from the tax reliefs described in the next section. However, as the value of rebates was cut back in the late 1990s, arising in part from the change to age-related contracted-out rebates described previously, we observe a steady rise in Chart 3 in the value of additional contributions by employees or employers. Some of this amount may of course have substituted for other kinds of saving, including other pension saving, but this nevertheless strongly implies that the cut in rebates also increased the amount of ‘free’ retirement saving channelled through Personal Pensions.

#### **4. The effect of tax reliefs on retirement saving in the UK**

In 2001, the Labour government introduced an alternative to existing Personal Pensions: the Stakeholder Pension. The Green Paper (Department of Social Security, 1998) that proposed Stakeholder Pensions argued that provision of private pensions was inadequate in significant respects – employer-provided pension plans predominantly covered only public sector workers and higher earners in the private sector, and coverage was no longer growing. Labour had also criticised Personal Pensions for their high upfront administrative charges, and they were seen as suitable only for persistent and higher income savers. In contrast, low earners were thought to be better off contracted in to the public second tier pension (the State Earnings-Related Pension Scheme, SERPS, superseded in April 2002 by the more redistributive State Second Pension, S2P). The Green Paper therefore argued that:

“People on middle incomes want to save more for retirement but current pension arrangements are often unsuitable or expensive. Our new secure, flexible and value-for-money stakeholder pension schemes will help many middle earners to save for a comfortable retirement.” (*ibid*, p. 48)

Like Personal Pensions, Stakeholder Pensions are ‘defined contribution’ schemes, in that pension benefits depend on the accumulated value of the fund. They differ from Personal Pensions, however, in having compulsory minimum standards, a different governance structure, guaranteed workplace access for those working for moderate or large employers, and a simpler and more uniform charging structure.

Since 2001, companies employing at least five people that do not offer occupational pensions are required to: nominate a Stakeholder Pension provider after consultation with employees; provide employees with information on Stakeholder Pensions; and, channel employees’ contributions to the nominated pension provider. Neither employees nor employers are compelled to contribute to a Stakeholder Pension and indeed firms employing less than five people were completely exempted from the requirement to nominate a provider. Nor are employees ‘auto-enrolled’ into the nominated Stakeholder Pension – the default option in such companies is S2P (the public pension programme). Finally, Stakeholder Pensions had a simple charging structure: an initial annual cap on charges was set at 1% of the fund, with no charges either upfront or on withdrawals from the fund.<sup>11</sup>

Despite the fanfare of the launch of this new retirement saving instrument, the evidence suggests that the introduction of Stakeholder Pensions failed to increase the overall proportion of individuals saving through pension plans for retirement. In the two years preceding Stakeholder Pensions (1999 and 2000), on average 61% of the workforce belonged to a pension plan of some type. In the two years after the introduction, 60% belonged to a pension plan. Among the ‘target’ group of middle earners, coverage by private pension plans in general actually fell by 2.4 percentage points between these periods. The general consensus in the finance industry and in government was that Stakeholder Pensions had had little or no effect on retirement saving or on pension plan coverage. Unlike Personal Pensions, where policy failure apparently took the form of excessive take-up, here the apparent policy failure was insufficient take-up. The Stakeholder Pension outcome may have strongly influenced the views of the Pensions Commission (2005) that voluntarism was of limited use in encouraging retirement saving and that individuals should be presented with a ‘default

---

<sup>11</sup> In 2004, after lobbying from the finance industry, the Treasury increased this charge cap from 1% to 1½% for the first 10 years that a product is held. For more details see HM Treasury (2004).

option' of saving through an employer-provided retirement saving account unless they made some suitable provision of their own.

Chung *et al* (2006) analyse the trends in Stakeholder Pension coverage by earnings band formally using a 'treatment model' (taking high earners as the 'control') on household data from the Family Resources Survey. They confirm the aggregate data and the general consensus that Stakeholder Pensions did not increase coverage among the middle-earning group. Interestingly, however, they find evidence that take-up of private pensions increased among low earners after the introduction of Stakeholder Pensions, with a 3.6 percentage point (ppt) increase in coverage among low earners. Further investigation in that paper shows that the strongest effect is a 5.2 ppt increase among low earners married to medium or high earners. These are not trivial changes in coverage. Do they lead us to revise our opinion on the impact on coverage of Stakeholder Pensions?

To understand the likely reasons for this change, it is useful to examine how the UK tax system treats contributions to retirement saving accounts such as Personal and Stakeholder Pensions. Contributions to retirement saving accounts made by individuals in the UK attract relief against income tax up to a ceiling (the UK direct tax system is individual-based). This means that money contributed to retirement saving accounts obtains a tax rebate added to the contributions to the account.<sup>12</sup> Until the advent of Stakeholder Pensions, the ceiling was proportional to earnings and more generous for older individuals. It is illustrated in Chart 4a. As discussed in the previous section, compound interest implies that older savers need to save more to obtain a given target retirement income than younger savers (starting from identical assets) and this perhaps provided a rationale for the increase in contribution limits as a percentage of earnings with age.

An important difference between the post-Stakeholder Pension tax regime and the previous tax regime, also introduced in 2001, is that *all* individuals, irrespective of earnings or age, are able to make gross contributions of up to £3,600 a year to their private pension (whether it be a stakeholder pension or another form of private pension). This change in tax reliefs, illustrated in Chart 4b, disproportionately affects low and zero earners, and especially younger workers. Those with very low earnings

---

<sup>12</sup> The rebate is credited at the basic rate of income tax – higher tax rate payers can claim additional relief.

would need a source of resources in order to save in a pension, and the Green Paper (1998) noted one possible consequence of the change in tax reliefs:

“The changes will also make it easier for partners to contribute to each other’s pensions, again within the overall contribution limits, should they choose to do so.” (*ibid*, p.63)

Evidence in current ongoing research by the authors of the present paper confirms that the changing take-up of personal pensions since 2001 is almost certainly a result of the change in tax reliefs depicted in Chart 4. The reform allows us to undertake a straightforward ‘treatment model’ that differentiates the post-2001 behaviour of households affected by the change in contribution limits from the behaviour of households that are unaffected by this change. Our results suggest that take-up of private pensions increases by some 3 percentage points more among non-zero earners who were affected by the reform than among those who were not affected. Take-up in both single households and couples increases by more among those affected by the reform; in the latter case, women are more likely to increase their take-up rate than men. Our evidence also suggests an increase in contributions to private pensions among those affected by the reform: only around £0.8 (C\$1.5) per week for singles but around £4.3 (C\$8) per week *per individual* in couples. The latter figure, in particular, is again not small. These results indicate that the reform may have had a redistributive aspect from men to women, but also implies that couples with one high earner and one low earner can engage in tax planning so as to minimise their tax liability by exploiting the higher joint ceilings on pension tax reliefs arising from the change. If increased retirement saving by low earning wives is a beneficial side-effect of the reform, this is to be encouraged; however it is arguable that there might be other, more direct, instruments which would obtain an increase in women’s pensions without the potential for tax avoidance that may lie behind the observed behaviour.

Whatever the pros and cons of the change in tax reliefs, the evidence from the treatment model suggests, again, that individuals who stood to gain from the reform responded to it. Although middle earners as whole were the headline ‘target’ of the reform, there is no evidence of a response among that group as a whole. This is not surprising as there was no extra incentive for this group to benefit from the reform (and in fact private pension coverage was already relatively high among this group).



Unlike Personal Pensions, the reform has been largely labelled a failure because it had no effect on aggregate take-up and because there was no evidence of additional take-up among the ‘target’ group. However, our analysis implies that private pension coverage would have fallen faster than it actually did between 1999 and 2002 had it not been for this reform. Nor should it be too surprising that overall coverage, and contributions to pension plans in general, fell over this period with falling annuity rates and equity returns, greater uncertainty over pensions, and rising house prices all combining to induce households to change the structure of their wealth portfolio.<sup>13</sup> Nevertheless, there is no doubt that this episode influenced the next change in direction of UK pension policy, which is discussed briefly in the next, and final, section.

## **5. Implications, and the current direction of UK reform**

Our analysis has described a series of policy initiatives intended to increase private retirement saving by the introduction of new instruments. For different reasons, described in the previous two sections, the original Personal Pension and Stakeholder Pension reforms were subsequently seen as inadequate policy responses to the retirement saving issue.

At the heart of the analysis of the Pensions Commission (2005), which underpinned the round of pension reforms that began in 2006, were two central tenets. First, the public programme was too complex and had, since 2002, placed too much reliance of means-testing as a means of raising the incomes of future generations of lower income pensioners with the result that many middle-income individuals had a significant disincentive to save for retirement.<sup>14</sup> The response of the Commission, and of legislation before Parliament in 2006, was to simplify the programme and to reduce the emphasis on means-testing, as described previously in Section 2 of the present paper.

---

<sup>13</sup> For a discussion of the implications of all this for the adequacy of wealth among those approaching retirement in England, see Banks *et al* (2005).

<sup>14</sup> There is of course a trade-off between a high overall tax burden arising from a generous universal public programme and a selective (means-tested) programme that has high disincentives for a small section of the programme. Welfare analysis (Feldstein, 1987), and empirical comparisons (Disney, 2006) might suggest that a selective programme might then be preferable. The problem with the UK programme, described in Section 2, was that the differential indexation of benefits meant that a growing proportion of pensioners would be subject to potential income-testing of saving over time. Sefton, *et al* (2006) use a stylised a simulation model and conclude that the introduction of the Pension Credit was welfare improving, but that extending the Pension Credit further up the income distribution, as implied by indexation prior to the 2006 proposals, might not be welfare improving.

Second, the Commission argued, there was a proliferation of evidence from surveys and experimental methods, as well as the outcomes of the Personal Pension and Stakeholder Pension ‘experiments’, to suggest that a purely voluntary approach to retirement saving was inappropriate. Individuals had poor information and used it poorly; previous policies had failed to increase retirement saving to any significant extent. This analysis places little weight on the evidence adduced here: that people *did* respond to the actual incentives embedded in previous reforms, and that if actual outcomes were sub-optimal, this might reflect failures of past policy rather than failures of individual rationality. Of course, there is always a problem of looking at ex-post outcomes to assess the appropriateness of ex-ante decisions. Nevertheless it is apparent that the knowledge required for a household to implement an appropriate saving strategy is considerable and so it is not easy to dismiss the argument that greater prescription is required alongside simplification.<sup>15</sup>

A shift towards more prescription was embedded in the Pensions Commission’s proposal for a *National Pension Saving Scheme* (NPSS) and the Department for Work and Pensions accepted this proposal and will implement what it calls *personal accounts*. Under these proposals, as of December 2006 (DWP, 2006b), all employees who are offered an occupational pension that meets certain minimum standards will be defaulted into that scheme – i.e. they have to choose to not join the scheme as opposed to having to choose to join the scheme. Those employees who are not offered such a scheme will, if they are aged over 21 and earn above £5,000 per year, be enrolled into a personal account to which they will, by default, contribute 4% of their earnings between £5,000 and £33,500. In addition their employers will contribute 3% and a 1% ‘contribution’ will come from the government on the same band of earnings.<sup>16</sup> Individuals are allowed to choose to change their own contribution level and even not to contribute at all – although if they contribute less than 4% then their employer will not have to contribute. The DWP estimates that there will be between 6 and 10 million members of personal accounts contributing £8 billion a year, of which £4-5 billion will represent new saving.

The contributions will be paid into a central clearing house, reducing costs of administering the fund. As a result the recent White Paper on personal accounts states

---

<sup>15</sup> But see Scholz et al (2006).

<sup>16</sup> The self-employed will not be defaulted into a personal account, but they can choose to join if they wish. They will not of course, receive the 3% employer’s contribution.

that “The Government believes that personal accounts could deliver an AMC [annual management charge] possibly as low as 0.5 per cent in the short term and below 0.3 per cent in the long term” (DWP, 2006b). The asset management and portfolio structures are, at the time of writing, still the subject of consultation. Unlike the Stakeholder Pension reform, this reform will apply to employers regardless of their size (and under these reforms employers with 5 or more employees will no longer have to designate a Stakeholder Pension scheme). Finally, contracting-out is to be abolished for defined contribution (DC) schemes (although, at least for now, retained for approved defined benefit (DB) pension plans).

How this will all be implemented, and the effects of the plan on retirement saving, are issues to be discussed in the future. The traditional UK Treasury hostility to compulsory retirement saving plans has been reduced in relation to this reform for two reasons: first, because in the past contracting-out or similar incentives to private saving implied that the government was trading lower revenue now for lower pension payments in the future. Here, however, contracting-out is to be abolished for all but DB pension plans so the burden of this reform falls squarely on individual employees and employers (bar the 1% government ‘contribution’). This also produces greater uncertainty for existing DC plans where participants had contracted-out, as the incentive to continue saving in such plans is reduced by the lower annual management charges and the relative ease of operation of the new personal accounts.<sup>17</sup> Second, greater private saving by low and middle earners through personal accounts will reduce future claims on the means-tested sector, especially of Pension Credit, so reducing government spending.

The counterpoint to this last argument, of course, is that individuals who are enrolled in personal accounts are effectively forgoing future public pension benefits, such as Pension Credit, so considerably reducing the effective ‘return’ on their own contributions.<sup>18</sup> The ‘cost’ in terms of lost means-tested benefits arising from auto-enrolment is somewhat ameliorated by the greater generosity of the Basic State Pension under the new proposals, as described in Section 2.<sup>19</sup> The government has also argued that employees will be compensated for the 40% withdrawal rate of the

---

<sup>17</sup> However as a result of the reform to rebates described in Section 3, many DC plans are no longer contracted-out in any event.

<sup>18</sup> This assumes that the Pension Credit programme would have remained in place in the future in its present form.

<sup>19</sup> For further discussion of all these points, see Pensions Policy Institute (2006).

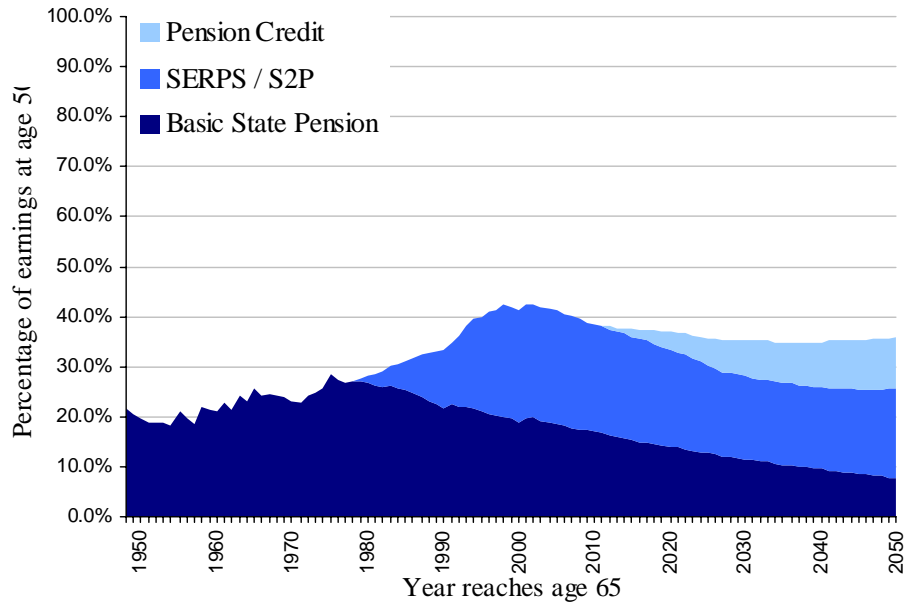
Pension Credit by the mandatory employer's contribution to the new saving scheme. While this is true, it is also true that the costs of this increase in (contingent) compulsory employer contributions will lead to a combination of higher prices, lower wages or lower investment returns, all of which, in isolation, will tend to reduce consumption.

At the start of this paper, we noted the United Kingdom's predilection for pension reform. As the discussion of the Pensions Commission proposals and current legislative initiatives suggests, this enthusiasm for reform shows no sign of abating. The simplification of the public pension regime, and the move towards consistent indexation of different parameters ensuring that the system is stable over the longer term, that is contained in current legislation is to be welcomed. However the proposals come with a higher financing cost which will only be partially abated by progressively raising state pension age to 68 over the next three decades, and it remains to be seen whether this higher financing cost will be seen as acceptable. The proposal for personal accounts is more interesting (especially in the North American context, where there has been much argument about the costs of developing a mandatory programme of individual retirement accounts). This proposal has also been hotly debated in the UK, with some parts of the existing private pension industry and small businesses far from enthusiastic, and analysts pointing to the low return implicit in contributions to this scheme for low income earners if it is thought that the incidence of the employer contribution is actually to reduce wages.

For the economist, the new reforms offer yet more, perhaps unwanted, opportunities for policy evaluation. It is perhaps disappointing that new reforms in this field are proposed without taking account of a proper evaluation of past reform outcomes; certainly our analysis here suggests that unexpected or undesirable outcomes of previous reforms have arisen from poor policy design rather than from clear 'economic irrationality' of participants. This suggests that the present reform proposals will require further detailed analysis and possible revision. With a long transition period during which there will certainly be changes in political leadership in the UK, it would be unwise to assume that current proposals will bring an end to the process of pension reform in the UK.

**Chart 1a**

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



**Chart 1b**

**State pension and Pension Credit at 65 for person with female median (age-specific) earnings, caring responsibilities from 26 to 40, retiring at 60, and no private income, 1948-2050**

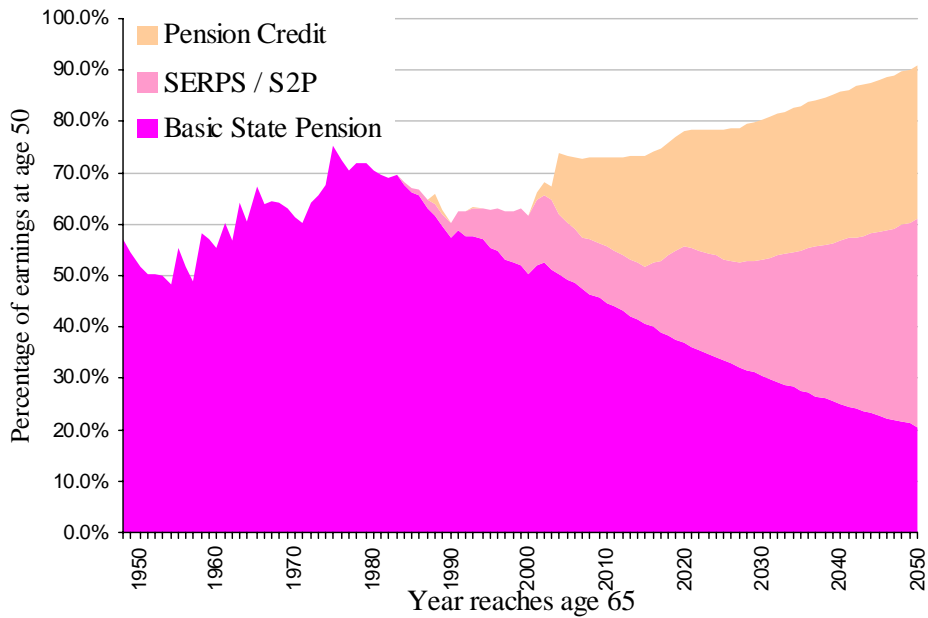


Chart 2a

**% New Approved Personal Pension contracts by age group and year: Men**

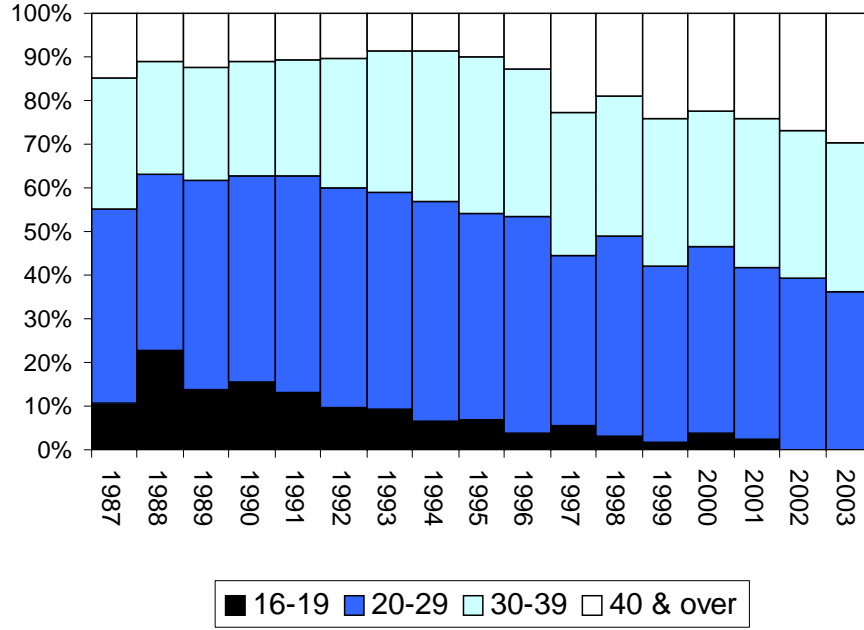
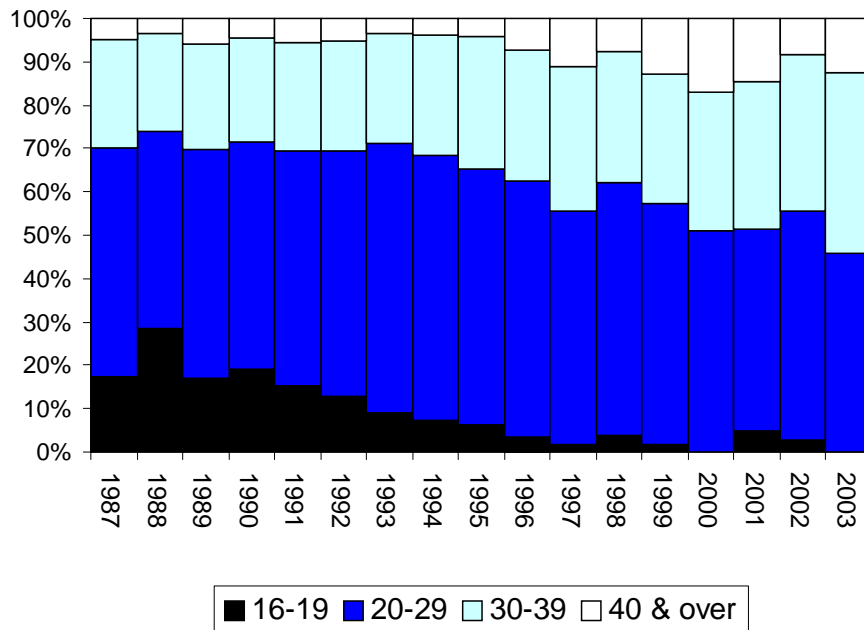
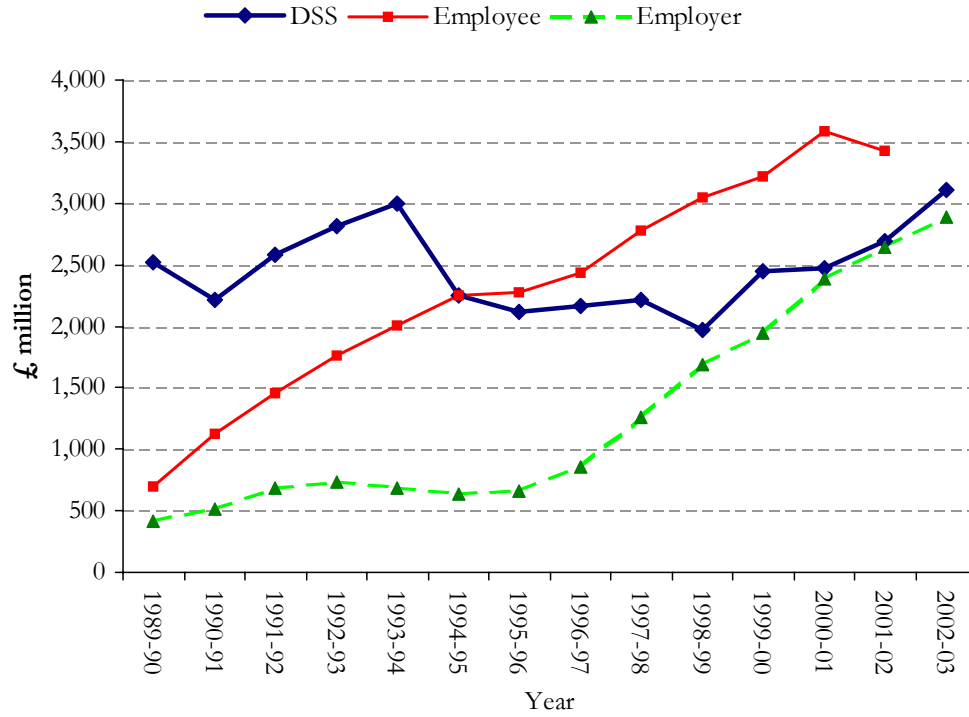


Chart 2b

**% New Approved Personal Pension contracts by age group and year: Women**



**Chart 3**  
**Contributions to personal pensions by type of contribution, 1989-2000.**



Note: All values are in current prices.

Source: Disney, Emmerson and Wakefield (2001), updated HM Revenue and Customs Statistics, (Tables 7.1 and 7.2).

Chart 4a

Maximum contributions (pre-2001)

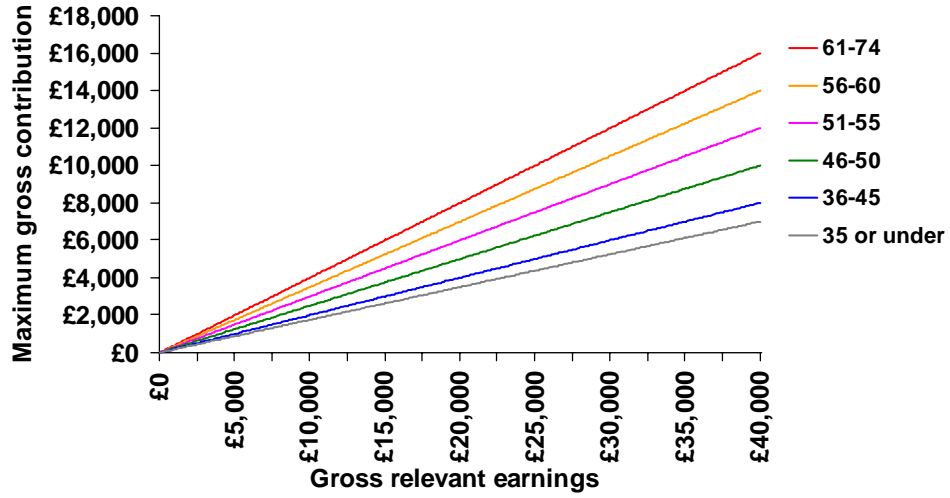
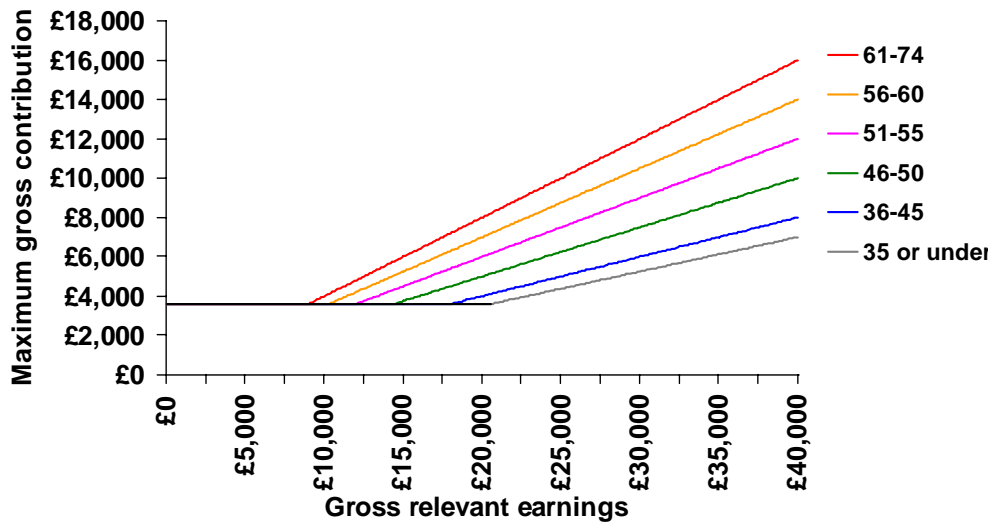


Chart 4b

Maximum contributions (post-2001)





## References

- Banks, J., Emmerson, C., Oldfield, Z., and Tetlow, G. (2005) *Prepared for retirement? The adequacy and distribution of retirement resources in Britain*, Institute for Fiscal Studies Report no. 67, London.
- Chung, W., Disney, R., Emmerson, C., and Wakefield, M. (2006) 'Public policy and retirement saving incentives in the UK' in De Menil, G., Pestieau, P. and Fenge, R. (eds), *Strategies for Pension Reform*, Cambridge: MIT Press: *forthcoming*.
- Department of Social Security (1998), *A new contract for welfare: Partnership in Pensions*, Cm 4179, London: Department of Social Security.
- Department for Work and Pensions (2006a), *Security in retirement: towards a new pensions system*, Cm 6841, London: The Stationery Office, <http://www.dwp.gov.uk/pensionsreform/whitepaper.asp>
- Department for Work and Pensions (2006b), *Personal Accounts: A new way to save*, Cm 6975, London: The Stationery Office, [http://www.dwp.gov.uk/pensionsreform/pdfs/PA\\_PersonalAccountsFull.pdf](http://www.dwp.gov.uk/pensionsreform/pdfs/PA_PersonalAccountsFull.pdf)
- Disney, R. (2004) 'Are contributions to public pension programmes a tax on employment?' *Economic Policy*, 39, July, 269-311.
- Disney, R. (2006) 'Household saving rates and the design of public pension programmes', *National Institute Economic Review*, 198, October, 61-74.
- Disney, R. and Emmerson, C. (2005) 'Public pension reform in the United Kingdom: what effect on the financial well being of current and future pensioners?' *Fiscal Studies*, 26 (March), 55-82.
- Disney, R. and Whitehouse, E. (1992) 'Personal Pensions and the review of the contracting-out terms', *Fiscal Studies*, 13, February, 38-53.
- Disney, R. and Whitehouse, E. (1993) 'Contracting-out and lifetime redistribution in the UK state pension system' *Oxford Bulletin of Economics and Statistics*, 55, (February), 1993, 25-41.
- Disney, R. and Whitehouse, E. (2001) *Cross-country Comparisons of Pensioner Incomes*, Occasional Paper Series, No. 142, UK Department of Work and Pensions, London: HMSO.
- Disney, R., Emmerson, C. and Wakefield, M. (2001) 'Pension reform and saving in Britain' *Oxford Review of Economic Policy*, 17, 1 (Spring), 2001, 70-94.
- Economic Policy Committee of the European Commission (2001) 'Budgetary challenges posed by ageing populations', EPC/ECFIN/655/01-EN, 24 October 2001, *mimeo*, European Commission, Brussels.
- Emmerson, C., Tetlow, G. and Wakefield (2006), *The Pensions White Paper: Who Wins and Who Loses?* London: PMI News, August ([http://www.ifs.org.uk/nw/pmi\\_aug06.pdf](http://www.ifs.org.uk/nw/pmi_aug06.pdf)).
- Feldstein, M. (1987) 'Should public pension benefits be means-tested?' *Journal of Political Economy*, 95, June, 468-484.
- National Audit Office (1991) *The Elderly: Informational Requirements for Supporting the Elderly and Implications of Personal Pensions for the National Insurance Fund*, London: HMSO.
- Pensions Commission (2005) *A New Pension Settlement for the Twenty-First Century, The Second Report of the Pensions Commission*, London: [www.pensionscommission.org.uk](http://www.pensionscommission.org.uk)

- Pensions Policy Institute (2006) *Are Personal Accounts suitable for all?* London: [www.pensionspolicyinstitute.org.uk](http://www.pensionspolicyinstitute.org.uk)
- Scholz, J.K., Seshadri, A., and Khitatrakun, S. (2006) 'Are Americans saving 'optimally' for retirement?' *Journal of Political Economy*, 114, 4, 607-643.
- Sefton, J., van de Ven, J, Weale, M. (2006), *The Effects of Means-Testing Pensions on Savings and Retirement*, London: Department for Work and Pensions (<http://www.niesr.ac.uk/pubs/dps/dp265.pdf>)

SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
(2004)		
No. 114:	The Politics of Protest Avoidance: Policy Windows, Labor Mobilization, and Pension Reform in France	D. Béland P. Marnier
No. 115:	The Impact of Differential Cost Sharing of Non-Steroidal Anti-Inflammatory Agents on the Use and Costs of Analgesic Drugs	P.V. Grootendorst J.K. Marshall A.M. Holbrook L.R. Dolovich B.J. O'Brien A.R. Levy
No. 116:	The Wealth of Mexican Americans	D.A. Cobb-Clark V. Hildebrand
No. 117:	Precautionary Wealth and Portfolio Allocation: Evidence from Canadian Microdata	S. Alan
No. 118:	Financial Planning for Later Life: Subjective Understandings of Catalysts and Constraints	C.L. Kemp C.J. Rosenthal M. Denton
No. 119:	The Effect of Health Changes and Long-term Health on the Work Activity of Older Canadians	D. Wing Han Au T.F. Crossley M. Schellhorn
No. 120:	Pension Reform and Financial Investment in the United States and Canada	D. Béland
No. 121:	Exploring the Returns to Scale in Food Preparation (Baking Penny Buns at Home)	T.F. Crossley Y. Lu
No. 122:	Life-cycle Asset Accumulation and Allocation in Canada	K. Milligan
No. 123:	Healthy Aging at Older Ages: Are Income and Education Important?	N.J. Buckley F.T. Denton A.L. Robb B.G. Spencer
(2005)		
No. 124:	Exploring the Use of a Nonparametrically Generated Instrumental Variable in the Estimation of a Linear Parametric Equation	F.T. Denton
No. 125:	Borrowing Constraints, The Cost of Precautionary Saving, and Unemployment Insurance	T.F. Crossley H.W. Low

SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
No. 126:	Entry Costs and Stock Market Participation Over the Life Cycle	S. Alan
No. 127:	Income Inequality and Self-Rated Health Status: Evidence from the European Community Household Panel	V. Hildebrand P. Van Kerm
No. 128:	Where Have All The Home Care Workers Gone?	M. Denton I.U. Zeytinoglu S. Davies D. Hunter
No. 129:	Survey Results of the New Health Care Worker Study: Implications of Changing Employment Patterns	I.U. Zeytinoglu M. Denton S. Davies A. Baumann J. Blythe A. Higgins
No. 130:	Does One Size Fit All? The CPI and Canadian Seniors	M. Brzozowski
No. 131:	Unexploited Connections Between Intra- and Inter-temporal Allocation	T.F. Crossley H.W. Low
No. 132:	Grandparents Raising Grandchildren in Canada: A Profile of Skipped Generation Families	E. Fuller-Thomson
No. 133:	Measurement Errors in Recall Food Expenditure Data	N. Ahmed M. Brzozowski T.F. Crossley
No. 134:	The Effect of Health Changes and Long-term Health on the Work Activity of Older Canadians	D.W.H. Au T. F. Crossley M.. Schellhorn
No. 135:	Population Aging and the Macroeconomy: Explorations in the Use of Immigration as an Instrument of Control	F. T. Denton B. G. Spencer
No. 136:	Users and Suppliers of Physician Services: A Tale of Two Populations	F.T. Denton A. Gafni B.G. Spencer
No. 137:	MEDS-D USERS' MANUAL	F.T. Denton C.H. Feaver B.G.. Spencer

SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
No. 138:	MEDS-E USERS' MANUAL	F.T. Denton C.H. Feaver B.G. Spencer
No. 139:	Socioeconomic Influences on the Health of Older Canadians: Estimates Based on Two Longitudinal Surveys (Revised Version of No. 112)	N.J. Buckley F.T. Denton A.L. Robb B.G. Spencer
No. 140:	Developing New Strategies to Support Future Caregivers of the Aged in Canada: Projections of Need and their Policy Implications	J. Keefe J. Légaré Y. Carrière
No. 141:	Les Premiers Baby-Boomers Québécois font-ils une Meilleure Préparation Financière à la Retraite que leurs Parents? Revenu, Patrimoine, Protection en Matière de Pensions et Facteurs Démographiques	L. Mo J. Légaré
No. 142:	Welfare Restructuring without Partisan Cooperation: The Role of Party Collusion in Blame Avoidance	M. Hering
No. 143:	Ethnicity and Health: An Analysis of Physical Health Differences across Twenty-one Ethnocultural Groups in Canada	S. Prus Z. Lin
No. 144:	The Health Behaviours of Immigrants and Native-Born People in Canada	J.T. McDonald
No. 145:	Ethnicity, Immigration and Cancer Screening: Evidence for Canadian Women	J.T. McDonald S. Kennedy
No. 146:	Population Aging in Canada: Software for Exploring the Implications for the Labour Force and the Productive Capacity of the Economy	F.T. Denton C.H. Feaver B.G. Spencer
(2006)		
No. 147:	The Portfolio Choices of Hispanic Couples	D.A. Cobb-Clark V.A. Hildebrand
No. 148:	Inter-provincial Migration of Income among Canada's Older Population:1996-2001	K.B. Newbold
No. 149:	Joint Taxation and the Labour Supply of Married Women: Evidence from the Canadian Tax Reform of 1988	T.F. Crossley S.H. Jeon
No. 150:	What Ownership Society? Debating Housing and Social Security Reform in the United States	D. Béland

SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
No. 151:	Home Cooking, Food Consumption and Food Production among the Unemployed and Retired Households	M. Brzozowski Y. Lu
No. 152:	The Long-Run Cost of Job Loss as Measured by Consumption Changes	M. Browning T.F. Crossley
No. 153:	Do the Rich Save More in Canada?	S. Alan K. Atalay T.F. Crossley
No. 154:	Income Inequality over the Later-life Course: A Comparative Analysis of Seven OECD Countries	R.L. Brown S.G. Prus
No. 155:	The Social Cost-of-Living: Welfare Foundations and Estimation	T.F. Crossley K. Pendakur
No. 156:	The Top Shares of Older Earners in Canada	M.R. Veall
No. 157:	Le soutien aux personnes âgées en perte d'autonomie: jusqu'où les baby-boomers pourront-ils compter sur leur famille pour répondre à leurs besoins ?	J. Légaré C. Alix Y. Carrière J. Keefe
No. 158:	Les générations X et Y du Québec, vraiment différentes des précédentes ?	J. Légaré P.O. Ménard
No. 159: French	La diversification et la privatisation des sources de revenu de retraite au Canada	L. Mo J. Légaré L. Stone
No. 159: English	The Diversification and the Privatization of the Sources of Retirement Income in Canada	L. Mo J. Légaré L. Stone
No. 160:	Evaluating Pension Portability Reforms: The Tax Reform Act of 1986 as a Natural Experiment	V. Andrietti V.A. Hildebrand
No. 161:	Estimating a Collective Household Model with Survey Data on Financial Satisfaction	R. Alessie T.F. Crossley V.A. Hildebrand
No. 162:	Physician Labour Supply in Canada: A Cohort Analysis	T.F. Crossley J. Hurley S.H. Jeon
No. 163:	Tax Incentives and Household Portfolios: A Panel Data Analysis	S. Alan S. Leth-Petersen

SEDAP RESEARCH PAPERS: Recent Releases

Number	Title	Author(s)
No. 164:	The Healthy Immigrant Effect and Immigrant Selection: Evidence from Four Countries	S. Kennedy J.T. McDonald N. Biddle
No. 165:	Well-Being Throughout the Senior Years: An Issues Paper on Key Events and Transitions in Later Life	M. Denton K. Kusch
No. 166:	Satisfied Workers, Retained Workers: Effects of Work and Work Environment on Homecare Workers' Job Satisfaction, Stress, Physical Health, and Retention	I.U. Zeytinoglu M. Denton
No. 167:	Contrasting Inequalities: Comparing Correlates of Health in Canada and the United States	H. Armstrong W. Clement Z. Lin S. Prus
(2007)		
No. 168:	Health human resources planning and the production of health: Development of an extended analytical framework for needs-based health human resources planning	S. Birch G. Kephart G. Tomblin-Murphy L. O'Brien-Pallas R. Alder A. MacKenzie
No. 169:	Gender Inequality in the Wealth of Older Canadians	M. Denton L. Boos
No. 170:	The Evolution of Elderly Poverty in Canada	K. Milligan
No. 171:	Return and Onwards Migration among Older Canadians: Findings from the 2001 Census	K.B. Newbold
No. 172:	Le système de retraite américain: entre fragmentation et logique financière	D. Béland
No. 173:	Entrepreneurship, Liquidity Constraints and Start-up Costs	R. Fonseca P.-C. Michaud T. Sopraseuth
No. 174:	How did the Elimination of the Earnings Test above the Normal Retirement Age affect Retirement Expectations?	P.-C. Michaud A. van Soest
No. 175:	The SES Health Gradient on Both Sides of the Atlantic	J. Banks M. Marmot Z. Oldfield J.P. Smith

SEDAP RESEARCH PAPERS: Recent Releases

---

Number

Title

Author(s)

---

No. 176: Pension Provision and Retirement Saving: Lessons from the  
United Kingdom

R. Disney  
C. Emmerson  
M. Wakefield