Volume Title: Seeking a Premier Economy: The Economic Effects of British Economic Reforms, 1980-2000

Volume Author/Editor: David Card, Richard Blundell and Richard B. Freeman, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-09284-4

Volume URL: http://www.nber.org/books/card04-1

Conference Date: December 8-9, 2000

Publication Date: June 2004

Title: Pension Reform and Economic Performance in Britain in the 1980s and 1990s

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URL: http://www.nber.org/chapters/c6749

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Pension Reform and Economic Performance in Britain in the 1980s and 1990s

Richard Disney, Carl Emmerson, and Sarah Smith

6.1 Introduction

6.1.1 Overview of Reform Process

Over the last twenty years, successive governments of Great Britain have embarked on a series of reforms of the pension[1] program designed both to reduce the prospective costs of social security, and to permit more flexibility and individual choice in secondary pension provision.[2] Central to this

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We are grateful to participants at the preconference, the editors, a referee, and Alissa Goodman for comments on an earlier draft. Colleagues at IFS offered useful advice. The research was funded by the Economic and Social Research Council Centre for the Microeconomic Analysis of Public Policy at IFS. The Family Resources Survey is Crown copyright and the data archive is thanked for access to the British Household Panel Survey. The views expressed here do not necessarily represent the official view of the Financial Services Authority.

1. There are some important differences in nomenclature between the United States and Europe. In Europe, the term "pension" tends to refer to all pensions, whether provided publicly (by the state) or privately. "Social security," the term used for state-provided pensions in the United States, has a different connotation in Europe, generally referring to the whole social insurance program. "Occupational pension scheme" is a specific term in Great Britain, referring to an employer-provided (group) pension plan. The basic state retirement pension in Great Britain, which pays (broadly) the same weekly amount to all pensioners, is often referred to as a "flat rate" pension—although in the United States, "flat rate" is sometimes used as a term for a proportional tax system. Finally, the word "scheme" does not have the same negative connotation as in U.S. parlance. We have broadly tried to adopt U.S. terminology in this paper.

2. The structure of the first tier of coverage (the basic state pension) was unchanged by these reforms, though its generosity was reduced. See Dilnot et al. (1994), Disney, Emmerson, and Tanner (1999), and Banks and Emmerson (2000).

strategy has been an evolution of the mechanism of "contracting-out," introduced originally in 1978 as a means of integrating existing occupational pension plans into the new State Earnings-Related Pension Scheme (SERPS). In essence, contracting-out means that employers and employees obtain part of their social security pension through a private pension fund instead of the state. In compensation for establishing a private arrangement, employers and employees pay a lower payroll tax rate (known as the National Insurance contribution). An important consequence arises because the social security program is purely pay-as-you-go (PAYG) financed, whereas most pension plans, at least in the private sector, are fully funded. Thus, greater contracting-out implies greater prefunding of pension commitments.

Under the 1978 arrangements, individuals could opt out of part of the social security pension, SERPS, only if they worked for an employer who provided an approved defined benefit (DB) occupational pension plan. The approved employer's plan guaranteed to pay the employee a pension approximately equal to what they would have received from the state, known as the Guaranteed Minimum Pension (GMP).[3] In return, the employer would pay a lower combined rate of employee and employer National Insurance contributions to the government.[4]

However, a major innovation in pension policy occurred in 1988, as a result of the 1986 Social Security Act. The government was worried by the projected cost of SERPS once the baby boom generation began to retire in the first quarter of the twenty-first century (Hemming and Kay 1982; Department of Health and Social Security 1984), and sought to cut projected public pension expenditure. To do this, it needed ways to encourage a greater number of individuals to contract out of SERPS. The government adopted a "stick-and-carrot" strategy to this problem. The "stick" was to reduce the generosity of SERPS considerably, so giving a greater incentive to opt out. But coverage by existing DB occupational pensions was stagnating; therefore a "carrot" was needed. This took the form of giving individuals and employers new incentives to contract out, by permitting defined contribution (DC) pension plans also to opt out of SERPS, on what turned out be extremely favorable terms.[5] The government perhaps expected this extra "wave" of opting-out to occur through employer-based DC plans,

3. There were, however, some important differences – for example, indexation postretirement of the GMP was in part subsidized by the government; see Dilnot et al. (1994) for further details.

4. The difference between the "contracted-in" and "contracted-out" National Insurance rates is known as the "contracted-out rebate." Note that, in Britain, most income tax and National Insurance contributions, whether notionally levied on the employee or employer, are collected at source from the employer by the Inland Revenue.

5. See discussion below, and National Audit Office (1991). Of course, employers offering DC plans could not guarantee a target benefit, so the employer was instead required to make a guaranteed minimum *contribution* in such schemes.

but in fact the dominant new form of arrangement became the individually purchased retirement saving account known as a *personal pension.*[6]

Contracting-out works in a somewhat different manner in an individually purchased personal pension. Here the individual makes a contract with an approved private insurance company. The Department of Social Security (DSS) acts as the "clearinghouse," so that the full National Insurance contribution is paid by the employer to the Inland Revenue, and the contracted-out rebate component is then transferred and paid directly by the DSS to the individual's approved personal pension provider.[7]

Personal pensions were also encouraged by the fact that the 1988 legislation made membership of a pension plan, whether state provided or employer provided, entirely a matter of choice. This meant that an individual *had* to have an approved contracted-out pension or belong to SERPS, but could not be forced by the employer to join the employer's plan, if one was offered.[8] Roughly 25 percent of the workforce (over 6 million employees) opted to purchase personal pensions over the period 1988–1992, including some 1 million who opted to leave or not to join an existing employer's pension plan. By the middle of the 1990s, roughly three-quarters of the workforce had contracted out of SERPS into some form of private plan, whether DB or DC, or whether employer provided or individually purchased.[9]

It should be noted, finally, that individuals are also free to switch in their working lives between different types of pension plans. Crucially, and unlike some other countries that have gone down this road, contracting-out of the social security program need not be permanent.[10] Indeed, between

6. Defined benefit plans are plans that guarantee a nominal benefit, typically related to a measure of salary. Defined contribution plans simply promise to pay an (unknown) annuity based on the accumulated fund of contributions plus investment returns. A reason for the popularity of personal pensions was that they were heavily advertised and sold. They offered greater flexibility and very generous tax reliefs, but a contributing factor arose because the government had just eliminated tax relief on life insurance. Many insurance companies therefore switched their sales forces to the pension market, and this decision contributed a good deal to the subsequent controversy concerning the "mis-selling" of personal pensions.

7. Thus the contracted-out rebate can be varied across individuals, which is not possible in a group scheme, where the same percentage rebate is paid for all scheme members.

8. An individual could not contribute to a different company plan—say, that of a previous employer. Benefits from such a plan would be "preserved" (deferred) and are revalued in line with price inflation. However, some pension plans, especially in the public sector, are sector specific rather than company specific. At the same time, an employer could not refuse to let an employee join the company plan on the grounds of, say, being part-time, as this constituted a form of indirect discrimination (against women). For the same reason, differential vesting on grounds of gender is not permitted, and indeed, vesting periods in employer-provided plans are not a big issue in Britain, being very much shorter than in, say, the United States.

9. Somewhat surprisingly, it is impossible to find any official data that provide the proportions of workers contracted-in or contracted-out to different types of pension plans, over time.

10. For an analysis of opting-out arrangements in a number of countries, see Disney, Palacios, and Whitehouse (1999).

1988 and 1995, there were incentives for individuals who contracted out of SERPS to contract back in to the social security program at a later age (Disney and Whitehouse 1992b).

These reforms, augmented by further substantial measures in 1995, are far from the end of the pension reform program in Great Britain. Indeed, in 1998 and 1999 the new Labour government proposed a number of further reforms, including yet another "route" for contracted-out private provision (alongside occupational and personal pensions) known as "stakeholder pensions" (DSS 1998). These will basically be benchmarked personal pensions, which all employers employing five or more people will be required to make available to their employees at the workplace (although they will not be directly provided by employers). The idea of this reform is to provide a low-cost pension for those not covered by traditional employer plans, thereby reducing administrative charges relative to individual plans and making pension arrangements more transparent. While this is in some ways a positive step, given some of the difficulties with the other pension routes, there must be some concern as to whether further augmenting choice of individual pension arrangement assists in clarifying or simplifying Great Britain's pension system. At the same time, over a long transition period, SERPS will be replaced by a more explicitly redistributive public pension benefit known as the State Second Pension (or, in some quarters, as S2P).[11]

The main thrust of this paper, however, is not to go through the intricacies of Great Britain's pension reform process in the 1980s and 1990s, which would require a whole volume. We do indeed sketch out Britain's pension program in section 6.2, mentioning some other important facets to the reform process, such as cutbacks in the flat basic state pension, and greater targeting on poor pensioners. The primary purpose, however, is to ask what impact these reforms might have on Britain's economy.[12] The shifts to a greater share of private pension provision and to greater choice of pension provision reflect the central tenets of the Conservative administrations of the 1980s and the first half of the 1990s. However, the Labour administration that came to power in 1997 showed no inclination to reverse this process of opting out of state provision, preferring instead further to focus public resources available on poorer pensioners by increasing the generosity of the main means-tested benefit, through the Minimum Income Guarantee. While 60 percent of pensioner income is currently provided by the state, the current government has stated that it expects this to fall to 40 percent by the middle of this century (DSS 1998).

11. For further discussion of all these issues, see Disney, Emmerson, and Tanner (1999).

12. For some interesting details on the political process, see Lawson (1992) and Peacock (1992).

6.1.2 Pension Reform in Great Britain: The Issues and Summary of Our Main Findings

This chapter therefore examines some of the implications of the sequence of pension reforms for Britain's economy. Given space constraints, we focus on impacts on the *real* economy, leaving aside developments in the *financial* economy, such as the consequences of greater private pension provision for the British capital market. In particular, we examine five aspects of the economy where pension arrangements, and pension reform, might be expected to have some effects. These areas, with a summary of the main findings are as follows:

- *The effect on macroeconomic performance through its impact on household savings rates.* Contributions to occupational pension funds have significantly contributed to household saving for many years in Britain. The introduction of personal pensions in 1988 had both a positive substitution effect, increasing household saving rates, and a positive effect on wealth that will have reduced household saving rates. Our tentative conclusion is that personal pensions contributed a negligible net amount to household saving at the end of the 1980s, despite massive take-up. But a decade later, due to the fact that contributions direct from individuals and their employers had become more important than those from the DSS-paid, contracted-out rebate, personal pensions are likely to have contributed more substantially to household saving.
- *The effect on public finances, and especially the government's intertemporal budget constraint.* Permitting individuals to opt out of part of the state pension program has both intertemporal effects (current versus future tax rates) and intragenerational effects (the relative tax rates paid by opted-out [contracted-out] and contracted-in individuals). These effects arise from the PAYG nature of the financing of the state pension program. Our conclusion is that the contracting-out arrangements have raised payroll tax rates by around 2 1/2 to 3 percentage points, relative to the status quo. It will reduce payroll tax rates by somewhat less as opted-out pensioners retire later in this century. Note that it is inherent in rational voluntary switching that the government never recoups fully its initial payroll tax reductions designed to encourage opting out.
- *The impact on the distribution of incomes.* Ideally, we need a lifetime perspective to trace the impact of greater contracting-out on lifetime incomes. In static comparisons, for example of pensioner inequality, we might expect greater contracting-out to lead to greater inequality for two reasons. First, private pension incomes may be more volatile.

Second, in the 1980s and 1990s, average private pensions grew much faster than the contracting-out arrangements had assumed. This made them worth more than state pensions, and better-off earners tend to contract out. The future impact of personal pensions on income inequality will depend not just on future investment returns but also on the retirement behavior of optants.

- *Effects on labor supply (and especially retirement behavior).* Different types of pension plans have different effects on retirement behavior. There has been a trend to earlier retirement, especially among men, in Great Britain in the 1980s and 1990s. This has been encouraged by the use of existing occupational pension plans and by the relative generosity of the public disability system—since somewhat reduced (Blundell and Johnson 1999; Disney 1999). The majority of optants to personal pensions are somewhat younger than the average workforce and the effect on retirement behavior cannot yet be seen. It is clear that DB plans will discourage early retirement relative to DC plans, due to the fact that the former are back-loaded while the latter are front-loaded (Blundell, Meghir, and Smith 2001). However, contracting out of state pensions into a personal pension has both a wealth effect and a substitution effect that work in opposite directions for the labor supply of older workers. The net impact on labor supply could go either way.
- *Effects on the general operation of the labor market—in particular, how pension reforms might have affected labor market flexibility.* Here we focus on job mobility and take-up of personal pensions, the hypothesis being that individualized personal pensions encourage more mobility, or at least, are taken up by more mobile workers. Given the inherent simultaneity of this issue, it is hard to identify causation. Nevertheless, the introduction of personal pensions offers an unusual "natural experiment," arising from the ability of individuals to choose a personal pension in preference to a company pension plan, if offered. We show that individuals that chose to opt out of a *company* pension plan did indeed exhibit significantly higher subsequent job mobility. In principle, further analysis of this experiment will offer a more precise test than the existing (largely inconclusive) literature on pension plan tenure and job mobility.

6.2 Overview of Reforms in Great Britain

6.2.1 Broad Framework of Britain's Pension Provision

This section briefly outlines Britain's current pension system, and the reforms made over the last twenty years. A more detailed description can be found in, among others, Budd and Campbell (1998); Dilnot et al. (1994);

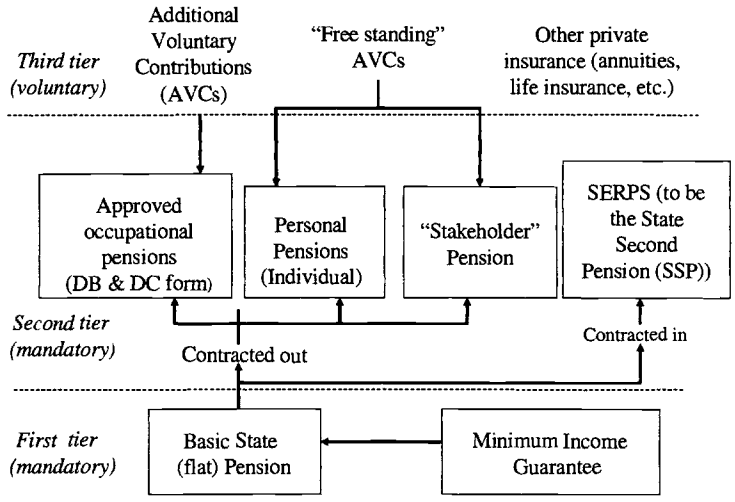

Fig. 6.1 Schema of Great Britain's pension scheme, 2001
Source: Disney, Emmerson, and Tanner (1999).

Banks and Emmerson (2000), and Emmerson and Johnson (2002). Figure 6.1 provides a diagrammatic representation of the current pension system.

Britain's pension system is split into three tiers. The first is provided by the state, and consists of the basic state pension and a significant means-tested (noncontributory) benefits sector. The basic state pension is a flat contributory benefit that is financed on a PAYG basis. The basic state pension in 2001–2002 was worth £72.50 a week for a single pensioner,[13] which is about 15 percent of average male earnings. This is down from around 20 percent of average earnings in the early 1980s, which is as a result of the basic state pension's having been increased broadly in line with price inflation since 1981 while average earnings have grown in real terms.

Those on low incomes are eligible for the Minimum Income Guarantee (MIG), which in 2001–2002 was worth £92.15 a week for a single pensioner, nearly £20 more than the basic state pension (Her Majesty's Treasury 2000c). In addition, pensioners on low incomes may be eligible for housing benefit and council tax benefit, which are means-tested benefits designed to provide assistance toward housing costs and local taxes, respectively. In 1998–1999 some 21 percent of pensioner couples and 47 percent of single pensioners were in receipt of means-tested benefits (DSS 2000c). Government policy is, in the medium term at least, to continue increasing the basic state pension in line with prices while increasing the MIG in line with average earnings. Since the MIG is withdrawn at a rate of

13. The rate for couples was £115.90 (Her Majesty's Treasury 2000b).

100 percent, those with small amounts of income are left no better off than those with small amounts of income from savings. In response, the government has proposed the introduction of a new "pension credit" from October 2003, which will also be targeted at those with relatively low incomes.[14]

The social security system is financed on a PAYG basis. There is no equivalent of the U.S. Social Security Trust Fund, although the National Insurance fund has accrued surpluses over recent years (House of Commons 2000). There are no plans to prefund social security, other than through the indirect route of contracting out. Formally, the basic state pension and SERPS are financed from an earmarked payroll tax, the National Insurance contribution, notionally levied on employees up to an earnings ceiling and on employers with no earnings ceiling. Income-tested benefits are funded out of general taxation.

As described in the introduction, the second tier of mandatory pension provision is split between both state provision, in the form of the SERPS, and private pension provision, in the form of occupational pensions and personal pensions. The original SERPS scheme was introduced in 1978. This paid an individual one-quarter of his or her earnings between a lower and an upper limit from the best twenty years of the individual's lifetime. Earnings were to be uprated to pension age by growth in average earnings, with payments in retirement then being indexed to prices. The Social Security Act of 1986 reduced the generosity of SERPS by lowering the payments to 20 percent of an individual's average earnings, with the average now to be calculated over the individual's entire lifetime, rather than his or her best twenty years.[15]

Individuals were able to contract out of SERPS into an employer's occupational pension plan as long as it guaranteed a retirement income at least as high as SERPS—hence these plans had to operate on a DB basis. In return for opting out, both they and their employers paid a lower rate of National Insurance contribution. The 1986 Social Security Act took the principle of opting-out further by allowing individuals to choose to contract out of SERPS into a DC pension. In return for opting out of SERPS in this way the government paid part of an individual's National Insurance contribution into his or her pension fund. Since this payment was relatively generous, this led to an enormous growth in personal pension take-up. More controversially the 1986 Social Security Act also allowed individuals the right to opt out of an occupational pension plan and into a personal pension. This underlay the "mis-selling" scandal of the late 1980s–early

14. For more information, see DSS (2000b) and Clark (2001, 2002).

15. For more details see, for example, Emmerson and Johnson (2002). The original SERPS scheme could also be inherited in full by a surviving spouse. The 1986 Social Security Act reduced this to 50 percent for those widowed after April 2000. However, this change is now being phased-in over a longer period as a result of government documentation failing to inform individuals of this change. See National Audit Office (2000) for more details.

1990s. This involved cases of people who were badly advised to take out personal pensions when they would have been better off staying in—or joining—their employers' occupational pension plans. A large number of people were affected. By August 1999, some 400,000 people had been offered more than £2.6 billion compensation for having been mis-sold a personal pension.[16]

Further reform is also underway. SERPS is set to be replaced by the State Second Pension—which will be a flat rate-top up to the basic state pension and hence more redistributive toward lower earners.[17] In addition, the government is introducing a "stakeholder pension," which is essentially a personal pension with a heavily regulated charging structure, including an overall cap on charges. Every employer will have to designate a pension provider (such as an insurance company) to the employees and allow individuals to make contributions direct from their wages. Employers will not, however, have to make any contribution on their employees' behalf.[18]

Finally, there is a third tier of voluntary private retirement saving. This can involve making additional voluntary contributions (AVCs) into occupational pension plans, or additional saving through personal pensions or in close substitutes among other financial assets (see Emmerson and Tanner 2000).

6.2.2 Demographic Trends and Projections of Pension Costs

As in most developed countries, the ratio of those over pension age to those in work is set to rise in Great Britain over the next thirty years. However, aging of the population is set to be less severe than in many Organization for Economic Cooperation and Development (OECD) countries (Bos et al. 1994). Moreover, due to the reforms made to Britain's pension system over the last twenty years, the cost of the current system is not projected to require higher rates of National Insurance, as shown in table 6.1. This is a result of reforms such as the change to price indexation of the basic state pension in 1981, the substantial reduction in SERPS generosity in the Social Security acts of 1986 and 1995, and the increase in the state pension age for women aged sixty to sixty-five, which is being phased in by 2020. The reforms to SERPS reduce expenditure on SERPS in 2030–2031 to around just 30 percent of the level implied by the original scheme (Banks and Emmerson 2000). While the replacement of SERPS with the State Sec-

16. See Financial Services Authority (2000) for more details.

17. Under current policies, while the State Second Pension will be a flat-rate pension, the rebates paid to those opting out of this scheme will remain related to earnings. This will provide greater incentives for lower earners to stay in, or return to, the state scheme and for middle and higher earners to opt out of the state scheme. In future the rebate structure could be changed to mitigate these effects.

18. For a more detailed description of the government's proposed pension reforms see, for example, Disney, Emmerson, and Tanner (1999), Emmerson and Tanner (1999), and Agulnik et al. (1999).

Table 6.1 Long-Term Projections for the National Insurance Fund (July 1999)

	2000–01	2010–11	2020–21	2030–31	2050–51
Demographic forecasts (millions)					
Contributors	20.2	21.6	22.2	21.5	21.3
Pensioners	11.0	12.3	12.6	15.2	15.8
Support ratio	1.8	1.7	1.8	1.4	1.4
State expenditures (£billions, 1999–2000 prices)					
Basic state pension	34.4	38.0	41.3	49.4	51.2
SERPS	5.2	9.9	12.6	14.9	15.8
Total expenditure[a]	48.6	57.7	65.9	76.2	79.0
Total expenditure as a share of GDP (%)	5.4	5.6	5.5	5.5	4.2
Joint employee and employer contribution rates[b]	19.9	18.9	18.1	18.6	15.2
GDP per pensioner spending (1999 – 2000 = 100)	99.5	93.0	87.8	75.4	56.2

Source: Government Actuary's Department (1999). These costings do not include the government announcement that the basic state pension was set to rise by more than inflation in April 2001 and April 2002. These increases do not stop National Insurance contribution rates' being able to fall in future.

Notes: See text for explanation of abbreviations.

[a]Includes incapacity benefit, jobseeker's allowance, and some other (more minor) benefits and expenses.

[b]Contribution rates exclude the 1.95 percent currently payable to the National Health Service, and are based on the rate structure introduced in the Social Security Act 1998.

ond Pension will lead to an increase in state expenditure, the required National Insurance contribution rate is still projected to fall by 2030.

6.2.3 The "Pension Burden": Comparison with Other Countries

The reforms to Britain's pension system have ensured that future liabilities will, at the very least, not require substantial rises in tax rates. This is in contrast with many other developed countries, as shown in table 6.2. Great Britain is the only country in which state pension expenditures are forecast to fall. The table also shows that only the United States, of the countries considered, spends a smaller percentage of national income on public pension benefits.

While these reforms have led Britain's pension system to sustainability in terms of costs it remains to be seen whether it is politically sustainable, with the proportion of national income given in public pensions to each pensioner falling to 75 percent of the current level by 2030 and 56 percent by 2050. It should also be remembered that these costings do not include the cost of means-tested benefits to pensioners, which in 1998–1999 was some 1.0 percent of gross domestic product (GDP; Banks and Emmerson 2000). The government's long-term aim to increase the MIG in line with average earnings, and the introduction of the pension credit in October 2003, will

Table 6.2 **Projected Future State Spending on Pensions, as a Percentage of GDP**

	2000	2010	2020	2030	2040	2050	Net Liability, 1995–2050[a]
Canada	5.0	5.3	6.9	9.0	9.1	8.7	67.8
France	9.8	9.7	11.6	13.5	14.3	14.4	113.6
Germany	11.5	11.8	12.3	16.5	18.4	17.5	110.7
Italy	12.6	13.2	15.3	20.3	21.4	20.3	75.5
Japan	7.5	9.6	12.4	13.4	14.9	16.5	106.8
New Zealand	4.8	5.2	6.7	8.3	9.4	9.8	20.4
Great Britain	4.5	5.2	5.1	5.5	4.0	4.1	4.6
United States	4.2	4.5	5.2	6.6	7.1	7.0	25.7

Sources: Roseveare et al. (1996); Chand and Jaeger (1996) for net pension liabilities.

[a]The sum of projected future deficits, each expressed as percentage of projected future GDP.

add to these future liabilities. Also, previous demographic forecasts have tended to underestimate improvements in longevity and hence underestimate pension liabilities (Disney 2000).

6.2.4 Economics of the Choice of Private Pension Provider

The decision to opt out of the social security program involves assessing the present value of the alternatives (Disney, Palacios, and Whitehouse 1999). For an individual offered the chance of joining an occupational pension plan, the decision will depend on the likely time path of salary and expected job tenure. For an individual choosing between a personal pension and some form of DB plan—whether publicly or employer provided—age and expected returns are key determinants. Simply put, contributions put into a DC plan such as a personal pension earlier in the working life compound over a longer period, while the fund will cumulate over both negative and positive investment shocks the longer the period to retirement. Moreover, predicted returns to the social security program for later cohorts are expected to decline significantly (Disney and Whitehouse 1993b).

In contrast, in any DB plan where there are penalties to early leaving and where pension benefits are in some way related to length of tenure and to final salary, later contributions "earn" a greater prospective pension (for illustrations, see Bodie, Marcus, and Merton 1988; and, in the British context, Disney and Whitehouse 1996). Consequently, we should expect optants for personal pensions to be relatively young, in contrast to, say, the age structure of purchasers of individual retirement accounts in the United States, where there is no similar choice-based structure of second-tier pension provision.

This finding is confirmed in figure 6.2: the median age of personal pension optants is the early thirties. This is important if we are to understand where personal pensions might have had an impact (e.g., on job mobility)

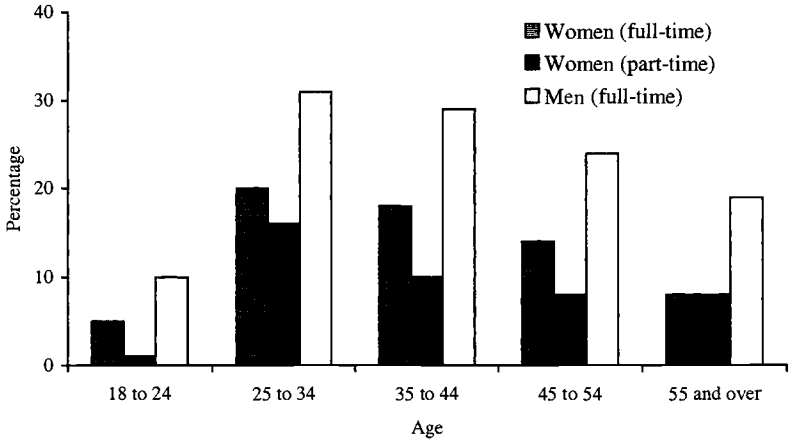

Fig. 6.2 Personal pension coverage, by age, gender, and employment status, 1998
Source: Office for National Statistics (2000).
Notes: Employees in Great Britain aged 18 and over, excluding those in youth training and employment training. Part-time male employees not shown due to small sample sizes.

and where they might not (e.g., on observed retirement behavior). Of course it is hard for people to make this type of forward-looking calculus, and Britain's program is overly complex. Nevertheless, the evidence on the age distribution of optants and on the association of pension choice with subsequent job tenure described in section 6.6 do suggest that people make some effort to understand the consequences of the pension choices that they make.[19]

Private pension coverage also varies by earnings. Those in more highly paid jobs are more likely to be members of an occupational pension plan. As shown in figure 6.3, coverage of personal pensions is distributed more widely across the earnings distribution. Only among those not in paid employment and those in the lowest 10 percent of the earnings distribution does personal pension coverage fall below 20 percent.[20]

19. We reiterate that it is important to differentiate between people choosing to buy a personal pension instead of joining SERPS, where most evidence (such as Disney and Whitehouse 1992b) suggest that optants made the "right" choice given expected returns and tax incentives in the early 1990s, and those choosing to opt out of a company plan to buy a personal pension, where there was some evidence of overenthusiastic "mis-selling" for which some optants subsequently received compensation.

20. Before April 2001, people with no earnings could not contribute to a personal pension since contributions were earnings related. The fact that personal pension coverage among non-earners is nonzero reflects the fact that the question on personal pensions asks about the previous twelve months. From April 2001 the annual contribution limit is a flat £3,600 per year or an earnings-related amount, whichever is greater (subject to a cap on pensionable earnings). This means that non-earners will be able to contribute to a personal (or stakeholder) pension for the first time. There is also no age limit, so some babies will find themselves with a pension taken out on their behalf.

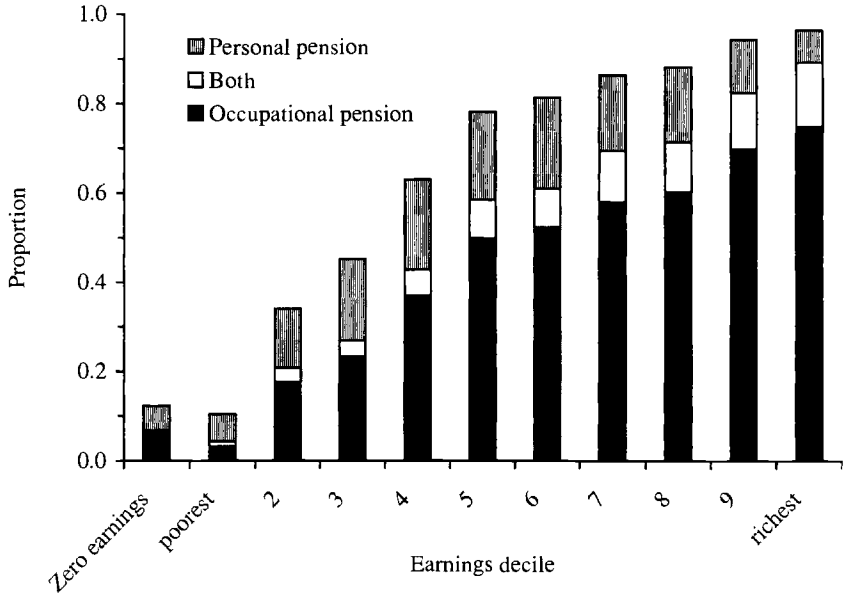

Fig. 6.3 Private pension coverage, by earnings decile, 1992

Sources: Adapted from Disney, Emmerson, and Wakefield (2001), using data from the British Household Panel Survey.

Notes: Includes only those individuals aged 20 to 59 in 1991 who are present in the first eight waves of the BHPS. Those reporting to be self-employed in any of waves 1 to 8 have been excluded from the analysis.

6.3 Pension Reform and Macroeconomic Performance

6.3.1 Impact on Saving of the Demographic Transition and Pension Reform

At the macroeconomic level, the simplest view of contracting-out sees it as shifting pension provision from a tax-financed basis to one in which pensions are increasingly funded through private saving. With greater inducements to contract out, as were put in place in the late 1980s, measured personal saving rates should therefore rise simply because of the way that national accounts data treat individual saving relative to payroll tax contributions. Leaving aside accounting conventions, however, it is still generally accepted in the literature that the national saving rate and capital stock will be higher in an economy where pension provision is funded rather than tax financed, although the rate of return on capital will be lower.[21] Whether,

21. This is in general the case so long as Ricardian equivalence does not hold—that is, individuals do not adjust their saving behavior fully to offset changes in future tax liabilities, and abstracting from international capital flows.

in turn, an economy with a funded pension program *grows* faster depends on the exact growth mechanism postulated—in the basic Swan-Solow model, for example, the long-run growth rate is independent of the saving rate, whereas in many endogenous growth "stories," the growth rate depends positively on the saving rate.

This speculation on the likely behavior of household saving rates should also take account of the demographic transition. The future British economy will be one with a lower support ratio of those of working age to pensioners (see section 6.2.2)—indeed, this was one motivation for the shift to funded provision. What is the effect on saving of this declining support ratio? On the one hand, if individuals live longer with a constant retirement age and a continued replenishment of the labor force (as seems to be the British scenario), a simple life-cycle hypothesis (LCH) model would suggest that the average saving rate should be higher (Modigliani 1986). On the other hand, if the size of the workforce is actually declining, capital requirements are less and the saving rate need no longer be so high to maintain the workforce's capital stock (Cutler et al. 1990). Hence we also need to take account of the fact that the baby boom generation is currently middle-aged, and, in a standard LCH model of saving, are strong net savers. As they retire, however, they should become net dissavers, even if the way that saving rates are measured often conceals this fact (Miles 1999). On balance, therefore, this combination of demographic trends and pension reform suggests that the underlying saving rate in Britain's economy should be increasing.

Figure 6.4 charts the annual average household saving rate against net accumulation in private pension plans over the period 1970–1996.[22] This latter series, which is the *difference* between inflows of accumulated contributions and investment returns, and outflows of pension lump sums and disbursements of annuities, is much more stable than the household saving rate, which exhibits some countercyclical volatility. Since aggregate household saving rates are *net* flows, typically calculated as residuals, it is hard exactly to measure the contribution of pension contributions in total saving. Disney (1997) suggests that of around £65 billion net saving in nonfixed assets in Great Britain in 1996, roughly £21 billion was through employer-provided pension plans and £3.7 billion through personal pensions.

There is no obvious trend in retirement saving despite the introduction of new retirement saving instruments, notably personal pensions. But as can be seen from the cited statistics, saving in personal pensions is still relatively low. An important related issue, however, is how much saving

22. As a result of Great Britain's introducing the European System of Accounts 1995, the methodology for calculating the saving rate has changed and it is no longer possible to get a consistent series for saving in private pensions. Between 1996 and 2000 the saving rate fell sharply. For more details see Disney, Emmerson, and Wakefield (2001).

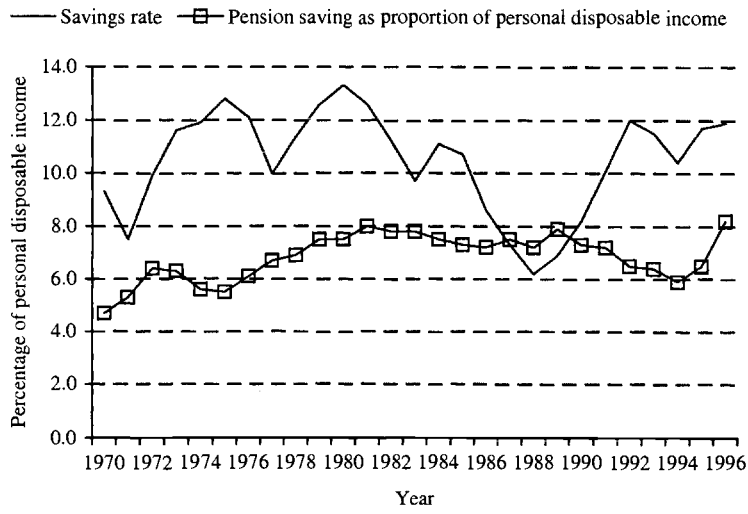

Fig. 6.4 Saving rate and rate of saving in funded pensions, 1970 to 1996
Source: Office for National Statistics (1998).
Note: Uses figures calculated before the introduction of the 1995 European System of Accounts.

through personal pensions is net *new* saving, rather than just saving that would have been held in other forms. To examine this, we have to consider some further extensions of our model. Implicit in our stylized discussion is a LCH model of a representative individual, with identical rates of return between all forms of pension "saving," no precautionary saving, and no differences in the risk attached to contributions to the social security program and to private pension plans. The pension reform process in Britain does not warrant such assumptions, and some further analysis is required.

Differential Rates of Return

When considering whether the introduction of personal pensions would be expected to have led to an increase in saving it is important to consider both wealth and substitution effects arising from the policy change. A basic issue is whether "saving" in the form of contributions to a private pension plan rather than through the social security system has a zero impact on private-sector wealth, when discounted at the risk-adjusted rate of return (Engen and Gale 1997). The answer depends on the implicit internal rate of return on social security contributions relative to the return on saving in a private pension plan. It also depends on the return on savings in new pension instruments (such as personal pensions) relative to the return on similar financial assets (if any) that were previously available. If the dis-

counted return on net social security wealth is negative (as has clearly been the case in Britain),[23] then permitting individuals to "invest" part of their National Insurance contribution in a contracted-out scheme generates a positive retirement wealth effect. This might induce an increase in consumption and therefore a reduction in other personal saving. On the other hand, to the extent that personal pensions, for example, are "new" assets—for example, if they are able to offer higher returns (at least, in their tax-relieved treatment)—the reforms may have created new saving and as well as diverting saving.

There are two types of contributions to personal pensions. First, there are payments of contracted-out rebates (CORs) via the DSS. Assuming these would otherwise have been contributed to the social security program (SERPS) and earned low returns, these transfers induce a positive lifetime wealth effect that should increase consumption and reduce other saving. On the other hand, payments of discretionary contributions into plans, on top of CORs, should represent some new net saving, depending on how substitutable personal pensions are with existing financial assets that are not retirement-saving vehicles.[24]

Figure 6.5 charts both payments of contracted-out rebates by DSS into personal pension accounts and discretionary contributions by employees and by employers on their behalf over the period 1988–1989 to 1998–1999. Note the reversal of the relative magnitude of these inflows over the period, largely arising from effective cutbacks in the value of CORs in the 1993 and 1995 Social Security acts.[25] Given the wealth and substitution effects, one might reasonably conclude that there was little or no net saving through personal pensions at the start of the period but a more significant amount by the late 1990s.[26]

23. Disney and Whitehouse (1993a,b) found negative returns on social security contributions for men born after 1955 even *before* the cutbacks in provision in the 1990s.

24. Pinning down the magnitude of this substitution effect has proved difficult in the U.S. literature; for contrasting views see the *Journal of Economic Perspectives* (1996).

25. The 1993 legislation reduced the generous rebates given to people aged under thirty to opt into a personal pension. The 1995 legislation as a logical extension, implemented in 1997, related the size of the contracted-out rebate to age—see Disney and Whitehouse (1992a). There are falls in the aggregate contributions of CORs to personal pensions after both 1993–1994 and 1997–1998 in figure 6.5.

26. Disney, Emmerson, and Wakefield (2001) use the following benchmarks. Suppose the marginal propensity to consume out of wealth is 0.07, and 70 percent of payment of CORs into personal pensions is treated as "new" pension wealth by households. Then other saving will be reduced by 4.9 percent of contracted-out rebates paid into personal pensions—this is a pure wealth effect. The net saving effect is the total amount paid in discretionary contributions into personal pensions, less the "offset" impact on other saving and the tax subsidy. Assume this offset coefficient rose from 0.3 to 0.4 over the period as closer substitutes became available, and that the tax relief on discretionary contributions averaged 0.23. These figures are comparable with averages from other studies of saving effects, as discussed in that paper. Then simple arithmetic suggests that personal pensions contributed less than an additional £0.5 billion to household saving in 1988–1989 but close to £2 billion in 1998–1999. The latter is around 0.2 percent of gross domestic product (GDP).

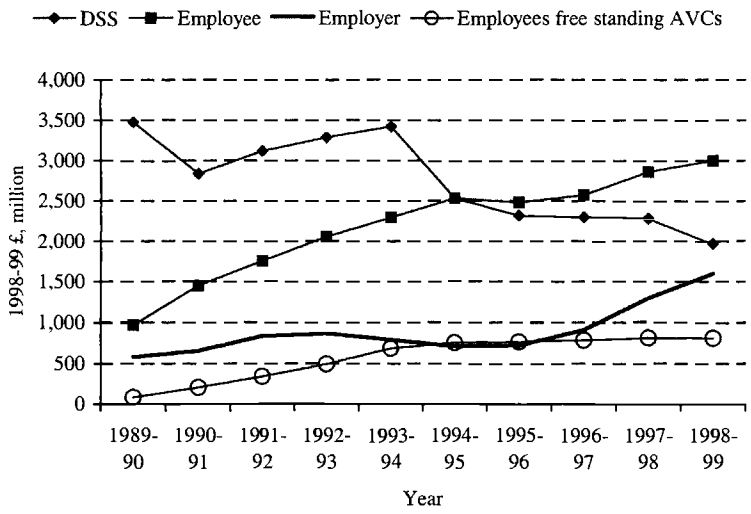

Fig. 6.5 Contributions to personal pensions, by type of contribution (1998–99 prices)

Sources: HMSO Inland Revenue Statistics (various years, tables 7.1 and 7.2), deflated by authors.

Pension Reform, Income Distribution, and Saving

Section 6.4 focuses on the distributional impact of the pension reforms. Nevertheless, some preliminary remarks are useful in the context of saving. First, social security provision is likely to be more redistributive than private provision. This factor is likely to be enhanced where contracting-out is voluntary, which permits richer households to opt out of redistribution. The fact that the majority of the workforce have contracted out of SERPS limits the potential for redistribution in both political and economic terms.

At first sight, redistribution from high- to low-income households should reduce aggregate saving when saving is disproportionately carried out by richer households.[27] But, as Gale (1998) points out, the ultimate outcome may be reduced if low- and high-income households have differing substitution elasticities between social security, private pensions, and other assets. High-income households may alter their saving patterns (e.g., by changing their asset portfolios) to offset the redistributive impact of social security; while, if low-income households do not save at all, the degree of redistribution has little impact on those households' behavior.

In addition, the redistribution inherent in pension programs is more complex than simply from "rich" to "poor" people. In the first place, we

27. For empirical evidence for Britain, see Banks and Tanner (1999).

have to look at lifetime incomes, and take differential longevity into account. Second, there are also issues to do with gender, such as how spouses are treated (Disney and Johnson 2001, Introduction). In fact, the British social security pension system, prereform, was not particularly redistributive in terms of lifetime incomes across the male income distribution (Creedy, Disney, and Whitehouse 1993). The main beneficiaries of redistribution were women, who reached state pension age earlier (sixty rather than sixty-five), lived longer, and disproportionately benefited from spouses' benefits. So how reform affects *household* saving rates is unclear a priori, depending on, for example, whether couples take account of each other's survival probabilities (or any other joint aspects, for that matter) in their individual saving decisions.

Risks Attached to Alternative Pensions

A standard argument is that DB plans involve risk sharing, whether between generations and individuals (in a public program), or between employers and employees (in occupational pension plans). If individual employees are risk averse, then contracting out into a DC account (such as a personal pension) changes the risk environment facing individuals (Bohn 1997) and should affect the amount of precautionary saving. Of course, social security is not devoid of risk (political risk)—for example, the substantial reductions in the generosity of state pensions in Great Britain that have occurred over the last twenty years. It is also true that occupational pension plans have not always been divorced from individual risk in Britain, as the Maxwell scandal indicated.[28] Nevertheless, this issue is an important one in a mandatory transition strategy, particularly where individuals perceive the change as implying a change in the risk environment. However, the voluntary nature of contracting-out in Britain presumably permits those with different risk-return trade-offs to choose alternative strategies. The issue, therefore, is one of whether people fully understand the risks involved in alternative pension choices in Britain (Banks and Emmerson 2000). But, whether they understand them or not, this risk issue should not affect the saving rate a good deal.[29]

28. There is no equivalent of the pension fund guarantee that exists in the United States to provide some insurance across plans. Instead, occupational pension funds are required to satisfy certain investment requirements that are monitored by the plan trustees. It is these arrangements that broke down in the Maxwell case when auditors discovered that the pension funds of the Robert Maxwell Group had been lent, with no collateral, to private companies within the group, leaving no funds available to satisfy the pension liabilities. For a lucid description of this event, and the aftermath, see Blake (1995). The 1995 legislation has tightened up the supervisory mechanisms. Bear in mind also that the component of the pension benefit that is supposed to substitute for the state benefit, SERPS, was guaranteed.

29. In other words, if individuals choose personal pensions because they are less risk averse, they should not engage in (greater) precautionary saving. If they do not perceive the potential change in the risk environment, it should not affect their other saving either.

6.3.2 The Public Finances and the "Transition Burden"

Our analysis of saving behavior examines the implications of the shift from tax-financed social security to funded provision. But this transition comes at a price—a price that has been a pertinent consideration for the British economy in the past two decades, and for the foreseeable future. A consequence of a transition toward a larger funded component of the pension program is a higher current average payroll tax rate than would otherwise be the case. Current social security liabilities have to be financed from a smaller tax base, given that contracting-out reduces tax receipts from National Insurance contributions.

Table 6.3 provides some official evidence on the impact of contracting-out on the average payroll tax burden. It shows that National Insurance contribution rates are some 2 1/2 to 3 percentage points higher than they would otherwise be as a result of contracting out, with around 1 percentage point arising from the introduction of personal pensions alone. Note from figure 6.5 that this percentage attributable to personal pensions was even higher in the late 1980s, at a time when the government was attempting to reduce "headline" direct tax rates.

Moreover, in two further respects, this understates the impact of private pension saving on underlying tax rates. First, private pension plans are tax relieved, relative to other saving instruments in other respects, but most notably in that they permit members to take a quarter of the accrued fund in a DC plan, or 1 1/2 times final salary in a DB plan, as a tax-free lump sum. Emmerson and Johnson (2002) estimate that, on an expenditure tax basis, this is equivalent to around £2 billion in lost revenue, in 1998–1999 prices. Second, employer contributions to pension plans are exempt from National Insurance contributions. Therefore, as policy induced greater

Table 6.3 **Cost to National Insurance Fund of Contracting-Out Arrangements, 1999–2000**

	Cost	
Type of Contribution	£Billions	% GDP
Occupational schemes deducted from NICs received	6.0	0.7
DC occupational schemes paid direct to scheme	0.1	0.0
Personal pensions paid direct to insurer	2.7	0.3
Total	8.8	1.0
Increase in NIC rate implied by CORs		
If employer rate increased	2½ percentage points	
If employee rate increased	3 percentage points	

Sources: Her Majesty's Treasury (2000a,d).

Notes: A larger increase in the employee rate is required to raise the £8.8 billion, since it is levied on a smaller range of earnings. See text for explanation of abbreviations.

contracting out, it also raised payroll tax rates at the time that employers and individuals chose to contract out.

Of course, the rationale for prefunding is that future tax rates will be lower because accrued social security pension rights are reduced. But note that, in a voluntary system of contracting out, so long as private agents are rational, a government can never expect to fully recoup the tax "cost" arising in the first instance, because only individuals who expect to gain from the switch should do so and this switching will be at the expense of expected government revenues in the long run. In practical terms, this implies that, in setting the CORs, the government has had to make assumptions concerning prospective future rates of return on funded contributions such as to ensure that the private funder can pay a benefit at least as high as the social security benefit forgone. If the rebate is too high, some opting agents will be compensated excessively (this is the source of the retirement wealth effect described previously). Set the rebate too low, and no agent will contract out. There is plenty of evidence that the government has systematically erred on the side of generosity in order to maximize contracting out.[30]

However, the current higher payroll tax rate is offset, and the future cost reduction enhanced, insofar as social security liabilities have been reduced over time by measures such as the decision to link pensions in payment to the growth of prices rather than the higher of prices or earnings growth, since 1981. With sustained real earnings growth over much of the period since 1981, this has reduced the value of the basic flat pension from 1981 to the present time. On current trends, the basic pension is expected to be worth less than 7 percent of earnings in 2050.[31]

The burden of the transition to greater funding of pensions in Britain is therefore shared across generations and within generations. Current pensioners bear the cost in part because state pension benefits have been cut. While current workers who remain contracted-in may well expect lower state pensions in retirement, they still bear it in part because the National Insurance contribution rate is higher than it would otherwise be, and contracted-out workers in occupational pension plans because they are generally making direct contributions to their own pension on top of their residual National Insurance contributions.[32] The only group for which incidence is unclear in principal are rebate-only optants for personal pensions—that is, individuals who make no contributions other than the contracted-out rebate to their personal pensions. Clearly their current bur-

30. See Disney and Whitehouse (1992a,b, 1993a) for details.

31. This became a political "hot potato" for the Labour government in 1999–2000, ironically as a result of the success of its anti-inflation strategy. After an increase in the basic state pension of only 75 pence per week was announced in 1999, pressure from a number of groups induced an announcement of increases in 2000 well above the rate of inflation.

32. Some public-sector occupational schemes have not levied employee contributions to cover prospective liabilities, but there is a trend toward more transparent contribution arrangements in such schemes (Cabinet Office 2000).

den within the program is zero, and whether they ultimately "pay" for the transition depends on whether their final pensions are higher or lower than they would have been had they remained contracted-in to the social security system. Since it is likely to be higher, as suggested, this retirement wealth effect may have led to a reduction in their overall saving.

6.4 Pension Reform: Distributional Outcomes in Great Britain

The presence of greater contracting-out might be expected to lead to greater inequality for two reasons. First, private pension incomes may be more volatile than state incomes. Second, because, in the 1980s and 1990s, average private pensions grew much faster than state pensions and, as we have seen, higher earners are more likely to have contracted out. Despite cutbacks in the basic pension since 1981, pensioners' incomes over the last twenty years have, on average, grown more quickly than that of the population as a whole. The net income, before housing costs, of both pensioner couples and single pensioners was some 60 percent higher in real terms in 1996–1997 than in 1979, compared to real average earnings growth over the period of 38 percent (DSS 2000c). This has been due to real increases in incomes from state pensions (as SERPS gradually matured after its introduction in 1978), means-tested benefits, occupational pensions, and investments (DSS 2000a).

This real increase in pensioner incomes has led to pensioners' now being underrepresented in the poorest 10 percent of the population, which since the start of the 1970s has tended to be occupied by other unwaged groups such as the unemployed and single parents (Goodman and Webb 1994). They are still overrepresented in the bottom half of the income distribution.[33] These real increases in incomes have not, however, been evenly spread across the pensioner distribution. Johnson and Stears (1995) show that while income inequality among pensioners fell from the early 1960s to the late 1970s, it rose sharply during the 1980s. This was caused by an increase in the inequality of income from a combination of investments and private pensions. Growing inequality alongside growing average real incomes is shown in figure 6.6, which gives gross incomes for pensioner couples in 1979 and 1998–1999, by income quintile, at July 1998 prices.

How do these levels and trends in pensioner inequality compare to those of other countries? A number of country-specific studies in Disney and Johnson (2001) yield three broad conclusions. First, as in Great Britain, pensioners are typically overrepresented in the lower half of the equivalized income distribution, but *under*represented in the lowest quintile of the

33. Of course it could be the case that, due to dissaving, consumption by the retired was actually much higher than their current incomes. However, as discussed in Banks, Blundell, and Tanner (1998), upon retirement consumption actually tends to fall faster than income.

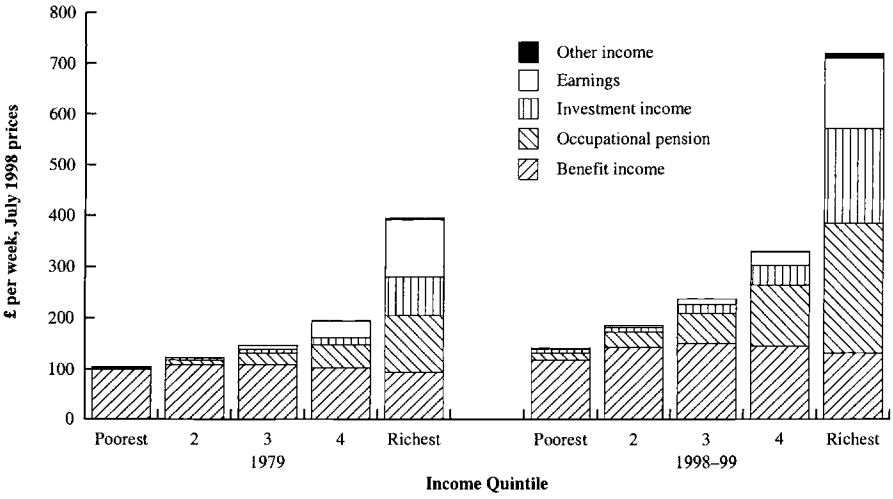

Fig. 6.6 Components of gross weekly income of each quintile of the pensioner couples income distribution, 1979 and 1998–99 (July 1998 prices)

Sources: Department of Social Security (2000c) using data from the 1998–99 Family Resources Survey and the 1979 Family Expenditure Survey. Clark and Taylor (2000) show that valid comparisons can be made between the two surveys.

income distribution. Second, income inequality among pensioners is typically greater in countries that offer comprehensive earnings replacement (the Bismarck system) than in countries where the state focuses on providing a benefit "floor" (the Beveridge system). This is true even when private sources of income are included. Third, there are no common trends in inequality of pensioner incomes across countries.

6.5 Labor Supply and Retirement: Impact of Pension Reform

Research into labor supply of the elderly, and the role of tax and pension reforms in the 1980s and 1990s, has been fairly limited in Great Britain, unlike in the United States. In any event, a number of retirement issues lie outside the scope of the present paper. A comprehensive survey of data and sources on retirement is contained in Blundell and Johnson (1999); more specific accounts of and possible explanations for the decline in labor force participation over the period of the 1980s and 1990s are contained in Dilnot et al. (1994) and Disney (1999). Again, three salient conclusions emerge from these discussions.

First, there has been a steady decline in the labor force participation of older men, punctuated by more rapid falls in the recessions that characterized the beginning and end of the 1980s. On the demand side, the massive restructuring of the economy and the lack of appropriate skills of older

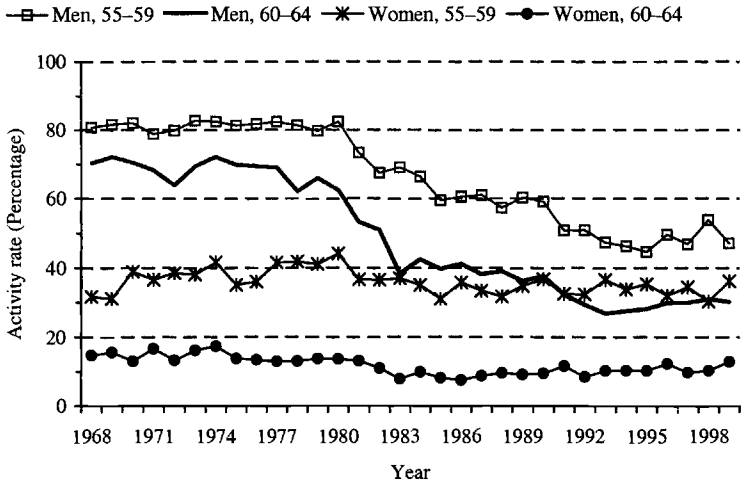

Fig. 6.7 Percentage of older men and women who are full-time employees, by age group, 1968 to 1999

Sources: Family Expenditure Survey data from 1968 to 1999.

workers probably contributed to this decline. On the supply side, the decline in participation was facilitated by the early retirement provisions of occupational pension plans and by the operation of the public program of disability benefits.[34] The decline in the percentage of older men who are full-time employees is shown in figure 6.7. As shown in Disney (1996), this is not due to individuals' reducing their hours but instead to falling employment among older age groups. Indeed, final-salary occupational pension plans encourage individuals to remain full time until they retire.[35] A fuller discussion of these issues is contained in Blundell, Meghir, and Smith (2001).

Second, there is no explicit early retirement provision within the public pension program. Nevertheless, efforts have been made to tighten other routes into retirement before state pensionable age (sixty-five for men and, from 2020, for women). Eligibility for disability benefits was tightened in the late 1990s, and the benefit made taxable, cutting its value to that of the basic state pension. Also, in an attempt to encourage employment among older workers, in 1989 the earnings-test condition for receipt of the basic state pension for earners above state pensionable age (known as the "earnings rule"), was abolished. Disney and Smith (2002) estimate that this change significantly raised the hours of working men aged sixty-five and

34. Invalidity Benefit, subsequently renamed Incapacity Benefit.

35. Although self-employment may be another route out of employment (Disney, Meghir, and Whitehouse 1994).

above, but not participation rates nor the hours of women (which is why the change does not show up clearly in fig. 6.7). Moreover, the government has become increasingly concerned as to the early retirement practices of occupational pension plans, especially those covering public-sector workers such as local and central government workers, police, fire crews, and so on.[36] It seems likely that further limits will be placed on early retirement on actuarially favorable terms and on grounds of ill health in these employer-provided plans.

Finally, however, the most pertinent issue for this paper concerns the impact on retirement behavior of the introduction of personal pensions and other new contracting-out arrangements. Since the majority of personal pension optants are young (fig. 6.2) and are still some way away from their likely retirement date, there is no evidence on the effects in practice. Basic economic principles suggest that there are both wealth and substitution effects here that rule out a definitive outcome a priori. The picture is further complicated by the fact that these incentive effects are likely to differ for someone moving from SERPS to a personal pension and someone moving from a DB plan to a personal pension (or DC-based employer plan).

To the extent that personal pensions provide a positive retirement wealth effect relative to remaining in the public scheme (SERPS), then this might induce individuals to retire earlier than they would otherwise have done (although they could not draw SERPS until reaching state pensionable age). On the other hand, the incentive of a higher return on contributions to personal pensions than the implicit return on contributions to a social security program (or, with actuarially favorable early retirement, in an occupational pension plan) might induce personal pension optants to defer retirement. Of course, contributions made to a personal pension close to retirement are not as valuable as those made at the start, but since people with personal pensions must annuitize between the ages of fifty and seventy-five, they can continue to build up their funds (through increased contributions or capital gains) past the state pensionable ages. For someone in SERPS, years worked past age sixty-five for men (and sixty for women) do not yield further pension benefits. Compared to someone in a DB occupational pension plan where the last years of work are fairly crucial in determining subsequent pension entitlement, the option value of delaying retirement and contributing to a personal pension for another year is quite a lot lower—the first years' contributions matter much more. This effect would tend to encourage people to retire earlier, but could be mitigated to the extent that people in DB plans are encouraged to leave when their salaries are at their highest points and to the extent that personal pensions allow individuals much greater flexibility.

However, as the next section will show, there is a good deal of mobility

36. See Audit Commission (1997) and Her Majesty's Treasury (2000c) for more details.

between types of pension arrangement, and it is very likely that those currently contributing to a personal pension may, later in life, be in an occupational pension plan or even revert to the social security program. Thus, no firm conclusions can yet be drawn on this important issue.

6.6 Labor Market Flexibility

6.6.1 Pensions and Labor Mobility

One of the implicit motivations for introducing more flexible contracting-out arrangements was that personal pensions, in particular, would be attractive to young, mobile workers. Greater mobility between jobs and occupations would, it was hoped, enhance the restructuring of Britain's economy that was needed after the meltdown of many traditional sectors, especially in manufacturing industry, in the early 1980s. At the same time, insofar as contributions to DB occupational pensions represented a burden on business, the relative flexibility of DC arrangements with, for example, no requirement that the employer need contribute to plans, might permit current wages more fully to reflect differences in current productivity and provide greater incentives on the margin for workers and employers to find productive "matches." Much of this reasoning was never made explicit. Nor was the more general perspective that individualized pensions, along with privatizations financed by public-share issues, would generate a culture of individual share ownership and individual risk-taking which would move Britain away from the "Eurosclerotic" model toward the entrepreneurial model associated, rightly or wrongly, with the United States and some Asian economies.

This issue of pension arrangements and labor mobility has not received so much attention in the British debate concerning personal pensions, and in this section of the paper we examine the theory and existing empirical evidence on how different *types* of pension plan affect labor mobility. Then we look at some of the empirical evidence for Britain using recent data—not so much as a test of whether pension type *affects* labor mobility (where we infer that the existing literature is fairly inconclusive), but rather as to who took out a personal pension and whether opting into a personal pension (especially where the employee was also offered membership in a DB occupational pension plan) was associated with subsequent job mobility.

6.6.2 Theory on Pension Plans and Labor Mobility

In looking at the impact of (private) pension arrangements on job mobility, it is important to differentiate between mobility in and out of pensioned jobs, in contrast to mobility between pensioned jobs that involve a change of pension plan. There are very good reasons that mobility out of jobs covered by pension plans may be a good deal lower than mobility of

uncovered workers. The issue is examined in the United States by Gustman and Steinmeier (1993), who use data from the Survey of Income and Program Participation (SIPP) to show that pension mobility is much lower for people in jobs with private pensions. In a three-year period (1984–1986) they found that 6 percent of those initially in pensioned jobs moved jobs, compared to 20 percent in nonpensioned jobs. Of those who moved out of a pensioned job, 64 percent moved to a job without a pension and, furthermore, they incurred an average loss of wages of 6 percent by moving. In contrast, 14 percent of movers out of uncovered jobs gained pension coverage by moving, and all movers previously in uncovered jobs gained on average 7 percent wages by moving. This highlights the fact that there are strong deterrents to moving out of a pensioned job per se, which should be separated from the "costs" arising from moving between pensionable jobs associated with nonportability of pensions.

The fact that people in Great Britain can opt not only out of social security but also out of an existing occupational pension plan potentially allows us to separate mobility that is associated with choice of pension arrangements from mobility associated with the nature of pensioned jobs. But it also raises very clearly the more general problem with studies of pension coverage and labor mobility: that of *self-selection.* There may be large costs, as in the SIPP example above, to moving in and out of the pension-covered sector, and between pensioned jobs, so pension arrangements affect the mobility incentives of employees. But it is also likely that employers who offer pensions will select employees on the basis of their assessed propensity to move between jobs and that employees will also select jobs on the basis of job-specific costs of mobility. Indeed, nonrandom selection of employees is central to any rationalization of why employers provide pensions at all (Lazear 1979; Ippolito 1997).

This caveat applies particularly to Great Britain, where moving pension plan need not involve changing job at all. The individual opting-out strategy is likely to be followed by those most inclined to move between jobs, and who thereby require a more portable pension arrangement. So while it is possible, by comparisons across countries and over time, to ask whether more flexible pension arrangements are associated with greater labor mobility,[37] at the microeconomic level we may be observing pure selection in Britain rather than the impact of institutional arrangements on behavior.

The basic theory on pension plans and the costs of job mobility are summarized in Bodie, Marcus, and Merton (1988), Lazear and Moore (1988), and Ippolito (1997). We focus here in particular on the incentives associ-

37. And even this cross-country or temporal "experiment" may be problematic—the reforms which permitted greater flexibility in pension arrangements in Britain in the 1980s may have themselves been stimulated by the greater flexibility in the British labor market in other dimensions, such as the decline of trade unions, shift toward private services and away from manufacturing and the public sector, and so on.

ated with job mobility between pension-covered jobs (not, e.g., those incentives associated with retirement). As illustrated by Gustman and Steinmeier (1993), the costs of moving from a covered to an uncovered job are both larger and more transparent. As we shall see, in essence, portability costs in company-provided DB plans basically depend on how benefits in past plans are treated, whereas portability costs in DC plans are largely (but not exclusively) start-up costs.

For individuals moving between jobs within the sector covered by DB pension plans, the loss from job mobility arises from the loss of additional years of service and final salary in the original plan. It depends on the loss at the time of moving in the original pension plan from the lower final salary value, which depends on prospective job tenure.[38] For a person shifting to a personal pension or SERPS, the loss function is more complex. It requires comparing subsequent loss of coverage by a DB plan (although this may be reversible later), offset by the pension obtained from the contributions to the DC plan or to the public program after that time. It is often argued that the costs of leaving a DB plan are high because an employer typically contributes to a DB plan and, by leaving the plan, the employee loses these additional contributions. An individual simply leaving a DB plan to buy a personal pension or to rejoin SERPS is presumably unable to compensate for this loss of contributions but, for job movers, the absence of employer pension contributions (deferred pay) ought to be compensated by higher current pay. On the other hand, if, ceteris paribus, DB plan providers actually also pay higher wages (as suggested by Gustman and Steinmeier 1993), then the costs of leaving the covered sector—in both lost pension and wages—would be considerable.

In principle, as suggested above, DC plans such as personal pensions are fully and costlessly transferable. In practice, there may be costs where the existing personal pension plan "lapses" because the individual starts another personal pension plan, joins an occupational pension scheme, or, indeed, reverts to SERPS, the social security benefit. A cost will typically arise because personal pensions often have an up-front commission charge that is deducted from early contributions. For example, if the personal pension is held for only a short duration, then insufficient funds may have been invested in the plan, net of commission, to recoup the gross cost of contributions in the early stages. This is clearly one of the reasons the government has decided that stakeholder pensions will be able to charge only a percentage of the fund, rather than having up-front or exit charges. In addition, individuals with a personal pension who move job will lose out if the previous employer was contributing to the personal pension and the

38. Most literature overstates this loss by assuming that the individual would otherwise have remained in the DB plan until retirement. The implausibility of this assumption in valuing DB pension plan rights in Britain is demonstrated by Disney and Whitehouse (1996).

new employer is not prepared to, or to compensate in any other way.[39] Of course SERPS, the public program, is fully transferable, but appears to offer much lower returns to later cohorts than alternative, funded, plans.

Past Empirical Evidence on Labor Mobility and Pension Plans in Great Britain

McCormick and Hughes (1984) estimate *firm-specific pension capital as percentage of pension capital.* They study the loss of pension capital from moving between (DB plan) pensionable jobs. At the time that they wrote, there were three options concerning moves between covered jobs: benefits could be deferred (preserved), a cash refund of contributions could be obtained, or there could be a transfer value into the new plan. McCormick and Hughes show that the "envelope" loss-minimizing function is nonlinear with pension plan tenure.

To implement the model empirically, McCormick and Hughes (1984) use subjective data from the General Household Survey (GHS) on future job-moving intentions. The explanatory variables in their modeling strategy for the question "are you seriously considering changing job" are personal characteristics, job satisfaction, and interactions of pension status, job tenure, and age, which are supposed to capture the nonlinearity of the loss function (a simple dummy for pension plan membership is insignificant). The results all hinge on the coefficient on years of job tenure × pension status, with job tenure *not* included as an independent regressor. Since we know from other studies that search is (negatively) affected by tenure, this can be interpreted as suggesting that tenure matters only in pensionable jobs and the coefficient is indeed significant. However, while the econometric results obtain a quadratic on tenure, as predicted by the model, the curvature seems to be the "wrong way" in the results.

Henley, Disney, and Carruth (1994) argue that a better identifier of the impact of pensions on job mobility, given self-selection, is whether the particular *characteristics* of a pension plan have an impact on the propensity to move. Of course, it is still possible that individuals self-select into the type of pension arrangement according to their implicit moving probabilities, but this may require a more sophisticated calculus than a simple membership decision.[40]

The empirical strategy involves using reported job-tenure intervals to construct the hazard rather than a binary variable approach, using the 1985 GHS. The truncation of the duration intervals and the measures of housing equity (observed only for house movers) involves some standard econometric procedures for handling censored data. A key finding is that

39. There has been a certain amount of controversy on this issue: see Murthi, Orszag, and Orszag (1999) and Whitehouse (2000).

40. But since the characteristics are self-reported, a natural criticism is that these characteristics are known, even if not understood.

occupational pension plan membership significantly decreases the exit hazard from jobs, but reported transferability of pension rights increases it (on the basis of observed completed spells) relative to simple pension plan membership. Moreover, the effect on the hazard rate of membership interacted with time (duration) and time-squared is superior to a simple dummy, confirming the McCormick-Hughes proposition that the loss function is time dependent and possibly nonlinear. In fact, (for men) Henley, Disney, and Carruth (1994) get a result that approximates the curvature of the McCormick-Hughes theoretical loss function in contrast to the latter's empirical results.

Mealli and Pudney (1996) is the only published British paper that attempts to look at the endogeneity of pension status, but it does so indirectly. It uses the job histories and pension plan tenures in the Retirement Survey to model transitions. Obviously, the permutations of possible multiple state transitions are large over the lifetime, so their paper essentially uses a *competing risks model* to examine transitions between various states (e.g., a pensioned job, nonpensioned job, unemployment, etc.) conditional on treating the initial state as exogenous (but see below). Note that transitions *between* pensioned jobs but with different pension arrangements (which is the basis of the McCormick-Hughes model of job-specific pension capital) are ignored. So this is not a test of job-specific pension capital impact but of the impact of pension coverage on tenure, like Gustman and Steinmeier (1993). Their finding is that job durations are systematically longer for pensioned jobs. Using a variety of instruments for individual heterogeneity, the authors argue that the differences in duration between pensioned and nonpensioned are not wholly eliminated (see their table VIII). So there may be a "pension coverage effect" after all.

Overall, the findings of British studies are

1. that the theoretical relationship between job-specific pension capital and tenure is nonlinear;
2. that (DB) pensionable jobs have longer durations;
3. that this is not wholly due to heterogeneity (self-selection);
4. that transferable pension rights are associated with more job mobility; and
5. that there appears to be a nonlinear relationship between duration and the "pension effect" in DB plans.

6.6.3 Evidence on Personal Pensions and Job Mobility

Our aim in this section of the paper is to provide a preliminary empirical analysis of the link between individuals' pension arrangements and their subsequent labor market mobility. We will exploit the feature of the British institutional arrangements since 1988 that allows individuals who are offered an occupational pension to opt out of the plan and choose their

own personal pension or SERPS. Our strategy is to compare the job mobility of people who are offered a DB employer's plan and choose not to be in it with the job mobility of people who do belong to the DB occupational pension plan offered. If the incentive effect of membership dominates, then the subsequent rates of mobility of nonjoiners will be similar to those who were not offered membership (other things being equal). If the differences between covered and uncovered workers are dominated by employer (or employee) selection, the rates of job mobility of covered workers will be similar, *whether or not they join the company's pension plan.* This does not explicitly handle the endogeneity of pension choice of employees rigorously, but provides some initial evidence as to the relative importance of the incentive and the selection effects outlined above. To examine these issues we use data from the British Household Panel Survey (BHPS). This is a panel survey that has been following the same individuals over time since 1991. We use data from waves 2 through 8 (1992–1998 inclusive). The BHPS collects detailed information on individuals' employment and their socioeconomic characteristics. It also contains a number of questions about their pension arrangements. The survey asks, "Does your present employer run a pension scheme or superannuation scheme for which you are eligible?" If the answer is yes, respondents are then asked, "Do you belong to your employer's pension scheme?"

In addition, from the second wave onward all respondents are asked questions about their personal pension arrangements: "In the past year, that is since September 1st 1991 have you paid any contributions or premiums for a private personal pension, or had such contributions paid on your behalf by the Department of Social Security?" If the answer to this is yes, respondents are asked to say whether they took out their pensions before or after June 1988 and the year they first took out their pensions. They are also asked whether they have made any additional contributions over and above the contracted-out rebate, and how much the last contribution was.

The advantage of the BHPS data is that they allow us to identify those people who were offered pension schemes by their employers but chose instead to have their own personal pensions. Also, the data allow us to identify those people who were offered pensions by their employers and chose to participate in the schemes. The main part of our analysis will focus on differences in the labor market mobility between these two groups. However, there are a number of respects in which the definition of these groups is not as clean as we would like.[41]

41. In particular, individuals are not asked whether their employers offer them occupational pension plans. Rather, they are asked about any pension schemes offered by their employers. This might include people who are offered group personal pension schemes. We should be able to identify these people since they are likely to report that they are offered pension schemes to which they belong and that they have personal pensions. We might therefore want to classify anyone who reports having a personal pension as not having an occupational

Table 6.4 **Occupational Pension Plans, by Type (%)**

	Private-Sector Schemes	Public-Sector Schemes	All Schemes
Defined-benefit plans	78	98	80
Defined-contribution plans	16	2	14
Hybrid	6	—	6

Source: National Association of Pension Funds Annual Survey of Occupational Schemes, 1997.

Note that we cannot distinguish between DB occupational pension plans and DC occupational pension plans. In total, nearly 15 percent of all occupational pension plans, and a higher percentage in the private sector, are DC plans, as shown in table 6.4. Incorrectly including people who actually belong to DC occupational pension plans with people who belong to DB occupational schemes is likely to underestimate the effect to which people opt out of occupational pension plans with a view to future labor market mobility.[42]

A final issue concerns the "mis-selling" of personal pensions that took place in the late 1980s. This suggests that a substantial number of people chose to leave their employers' plans due to bad financial advice. This will tend to reduce any observed correlation between the decision to have a personal pension instead of an occupational pension and future employment mobility.

Bearing these factors in mind, we now turn to our analysis of the data in the BHPS. Our analysis is based on the sample of individuals who are aged between twenty and fifty-nine in the first wave of the BHPS and who are present in all eight waves. Table 6.5 compares the pension status of employees in the BHPS in 1992 with that of those in the GHS, which is a larger annual cross-sectional sample containing just under 9,000 employees in 1992.

Looking first at whether an employer offers a pension scheme, around 70 percent of individuals are able to join employers' pension schemes in each of the two surveys. The BHPS has slightly larger levels of membership of these schemes with 76 percent of those eligible joining their employers' schemes, compared to 69 percent in the GHS. The table shows that pension coverage appears to be greater in the GHS than in the BHPS. This points to some potential selection caused by nonrandom attrition over the eight

pension. However, adopting this strategy might lead to our wrongly excluding some people who are in their employers' DB occupational pensions, but who also say yes to the personal pension question because they are making additional contributions in the form of Free Standing Additional Voluntary Contributions (FSAVCs).

42. But note that Gustman and Steinmeier find no evidence that mobility is affected by whether the employer's plan is of the DB or DC form.

Table 6.5 Pension Status of Employees in 1992

	BHPS	GHS
% of employees offered an employer's pension	69	72
% of those offered that joined an employer's pension	75	69
Men, full time		
% without a private pension	17	11
% in an employer's pension scheme	55	62
% in a personal pension scheme	17	27
% in both an employer's pension scheme and a personal pension	11	—
No. of observations	1,252	4,311
Women, full time		
% without a private pension	29	25
% in an employer's pension scheme	47	54
% in a personal pension scheme	16	21
% in both an employer's pension scheme and a personal pension	8	—
No. of observations	907	2,396
Women, part time		
% without a private pension	71	68
% in an employer's pension scheme	17	19
% in a personal pension scheme	9	12
% in both an employer's pension scheme and a personal pension	3	—
No. of observations	559	2,067

Sources: British Household Panel Survey, 1992–1998 inclusive; authors' calculations; Great Britain Office of Population Census and Surveys (1992).

Notes: See text for explanation of abbreviations. BHPS data include only those individuals aged 20 to 59 in 1991 who are present in all eight waves and are not self-employed in any wave; GHS data include all employees aged 16 and over apart from those in youth-training or employment-training schemes.

waves of the BHPS. Finally, individuals in the BHPS who claim to be members of both their employers' pension schemes and of personal pensions could be either individuals who have group personal pensions or those who have occupational pensions and are making additional voluntary contributions to those pensions.

Table 6.6 considers how pension coverage has changed over the last seven waves of the BHPS. Interestingly, the proportion of individuals choosing to join their employers' pension plans rose from around three-fourths in waves 2, 3, and 4 to over four-fifths of those offered schemes in the eighth wave. As a result of this, and a slight increase in the number of employers offering pension plans, there is an increase in membership of employer plans over the period.

The proportion who were able to join employers' pension plans but instead chose to join personal pensions fell from around 10 percent between

Table 6.6 Pension Status of Employees Only, by Wave

	Wave (1992 to 1998)						
	2	3	4	5	6	7	8
% of individuals offered an OP	69.4	66.7	66.0	69.6	71.5	72.7	72.6
% of those offered who joined an OP	75.5	75.9	75.2	78.9	80.3	81.4	83.1
All individuals							
% without a private pension	32.7	33.5	34.3	30.5	29.5	28.2	27.8
% with occupational pension	44.4	41.8	41.4	46.7	49.4	50.1	51.2
% with personal pension	14.9	16.0	16.0	14.6	13.0	12.7	11.9
% with both OP and PP	8.0	8.7	8.3	8.2	8.1	9.1	9.1
No. of observations	2,778	2,765	2,750	2,732	2,713	2,693	2,650
All individuals offered an OP							
% without a private pension	15.0	13.8	15.2	12.8	13.2	12.4	11.7
% with occupational pension	63.9	62.8	62.7	67.1	69.0	68.9	70.5
% with personal pension	9.5	10.3	9.6	8.3	6.5	6.2	5.2
% with both OP and PP	11.6	13.1	12.6	11.8	11.3	12.5	12.6
No. of observations	1,928	1,843	1,816	1,902	1,941	1,958	1,923
All individuals not offered an OP							
% without a private pension	72.8	72.8	71.4	71.0	70.6	70.2	70.3
% with occupational pension	—	—	—	—	—	—	—
% with personal pension	27.2	27.2	28.6	29.0	29.4	29.8	29.7
% with both OP and PP	—	—	—	—	—	—	—
No. of observations	850	922	934	831	772	735	727

Sources: British Household Panel Survey, 1992–1998 inclusive; authors' calculations.

Notes: Includes only those individuals aged 20 to 59 in 1991 who are present in all eight waves only and are not self-employed in any wave. OP = occupational pension; PP = personal pension.

1992 and 1994 to just over 5 percent in 1998. This is possibly evidence of individuals' learning from the "mis-selling" experience outlined above. Of those who declined to join employers' pension schemes, just over 70 percent had no private pension arrangement (and, by default, those with earnings above the lower earnings limit [LEL] would be in SERPS), with the remaining 30 percent in personal pensions. These percentages remained very stable over the eight waves of the BHPS used for this study.

Also of interest is the frequency of individual pension membership changes over the period of the study. Changes in pension status are in fact extremely common, as shown in table 6.7. This adds complexity to our study since an individual cannot be easily identified as someone who has a certain pension type. Of those with no private pension arrangement in 1992 only 60 percent were not in a private pension plan in 1998. Of those who were contributors to personal pensions in wave 2, only 42 percent were contributors in 1998. But membership of occupational pensions is relatively more stable. Some 79 percent of those in occupational pension plans in 1992 were members of occupational pension plans in 1998.

This is a striking finding for policy. Some official publications (such as

Table 6.7 **Pension Transitions, by Wave (employees in wave 2 only)**

	Wave (1992 to 1998)						
	2	3	4	5	6	7	8
Has no pension in wave 2							
% without a private pension	100.0	84.8	80.7	68.1	65.3	61.0	59.5
% with occupational pension		3.4	4.6	17.0	20.3	25.6	26.4
% with personal pension		11.5	13.8	12.7	12.6	11.7	10.7
% with both OP and PP		0.3	0.9	2.3	1.9	2.8	3.4
Has occupational pension in wave 2							
% without a private pension		3.5	6.3	9.2	8.5	9.3	10.8
% with occupational pension	100.0	86.2	84.0	81.7	82.6	80.1	79.4
% with personal pension		0.5	0.6	0.8	1.2	1.7	2.0
% with both OP and PP		9.8	9.2	8.4	7.7	8.9	7.9
Has personal pension in wave 2							
% without a private pension		16.4	19.5	17.4	21.9	20.0	19.5
% with occupational pension		0.7	3.6	11.8	16.9	23.4	25.8
% with personal pension	100.0	81.2	74.5	62.2	50.6	45.8	41.9
% with both OP and PP		1.7	2.4	8.7	10.6	10.8	12.8

Sources: British Household Panel Survey, 1992–1998 inclusive; authors' calculations.
Note: See table 6.6.

DSS 1998) have suggested that certain types of pension arrangement should be matched to certain types of individuals—in particular, by income level. While pension mobility may therefore also reflect income volatility and income mobility, excessive multiplicity of individual pension plan membership within the working lifetime probably results in reduced pension benefits due to start-up costs (in personal pensions prior to the introduction of stakeholder pensions in 2001) and capital losses (from moving out of DB plans). Offsetting this is the possibility that multiple pension holding may have some positive insurance characteristics if the risk properties of different pension types vary (Brugiavini and Disney 1993).

Finally, we turn to a provisional assessment of the association between pension status and subsequent job mobility. Table 6.8 shows the percentage of individuals who move jobs between each wave of the BHPS by their pension status in the previous wave. In total, just over one-third (36.6 percent) of employees in wave 2 move job at least once over the period of interest. The first part of table 6.8 shows that it is those individuals with no pension and those with personal pensions in the previous wave who are more likely to have moved employer, rather than those who are members of their employers' pension plans. However, this could simply reflect the fact that occupational pensions may be offered in the types of industries or to types of people who have lower rates of job mobility. A better indicator of whether individuals with personal pensions are more likely to move jobs is shown in the next part of table 6.8, which looks at only those individuals

Table 6.8 **Percentage of People Changing Employer, by Pension Status in Previous Wave (employees in wave 2 only)**

	Wave						
Pension Status in Previous Wave	3	4	5	6	7	8	Any Move
All individuals							
% without a private pension	12.4	15.3	15.9	17.6	16.4	17.6	46.9 (1.7)
% with occupational pension	3.6	6.7	5.8	6.6	5.7	6.1	27.4 (1.3)
% with personal pension	10.6	15.6	12.0	14.9	16.8	13.1	46.5 (2.5)
% with both OP and PP	4.9	8.1	3.9	5.3	6.7	8.0	26.5 (3.0)
All	7.6	11.0	10.2	10.9	10.3	10.3	36.6 (0.9)
Individuals offered an OP							
% without a private pension	9.3	9.0	10.1	13.6	12.8	17.9	39.4 (2.9)
% with occupational pension	3.6	6.7	5.8	6.6	5.7	6.1	27.4 (1.3)
% with personal pension	7.6	12.5	12.0	12.8	13.0	9.5	42.9 (3.7)
% with both OP and PP	4.9	8.1	3.9	5.3	6.7	8.0	26.5 (3.0)
All	5.0	7.8	6.8	7.7	7.1	7.9	30.6 (1.0)
Individuals not offered an OP							
% without a private pension	13.9	17.8	18.4	19.3	17.9	17.5	50.4 (2.0)
% with occupational pension	—	—	—	—	—	—	—
% with personal pension	13.0	17.8	15.5	16.2	18.8	15.2	49.4 (3.3)
% with both OP and PP	—	—	—	—	—	—	—
All	13.6	17.8	17.5	18.4	18.2	16.8	50.1 (1.7)

Sources: British Household Panel Survey, 1992–1998 inclusive; authors' calculations.

Notes: Includes only those individuals aged 20 to 59 in 1991 who are present in all eight waves and are not self-employed in any wave. Any move shows the proportion changing employer in any wave by pension status in wave 2. Standard errors for the proportion moving in any wave are shown in parenthesis. OP = occupational pension; PP = personal pension.

who were offered occupational pension plans. Over the period of this study, between 7.6 and 13.0 percent of those who chose to take out personal pensions rather than join their employers' occupational pensions moved job in the subsequent year. Of those who chose to "default" to SERPS, the fractions moving—ranging from 9.3 percent to 17.9 percent—are even higher. This contrasts with between 3.6 and 6.7 percent mobility

for individuals who joined an occupational pension plan. Looking at those who move employer at any point over the period, 42.9 percent of those who choose not to join their employers' pension plans in favor of a personal pension moved job compared to 27.4 percent among those who did join their employers' plans. This 15.5 percentage point difference has a standard error of 3.6 and hence is highly significant. This clearly suggests that those individuals who chose to opt out of their employers' pension plans for a personal pension or SERPS were indeed more likely to move employer subsequently.

Of course, there may be other correlates with occupational pension plan take-up that are associated with lower mobility. We know, for example, that occupational pension plan members tend to be older than personal pension optants, and concentrated in certain industries and occupations (Barrientos 1998). Further multivariate analysis, conditioning out the impact of other characteristics, shows that differences in subsequent job mobility remain, and are indeed heightened (Disney and Emmerson 2002). Here we redo the analysis for more homogeneous groups of workers, selecting individuals in their thirties, who had the highest take-up rate of personal pensions (fig. 6.2). Table 6.9 therefore examines mobility rates, both year-on-year and cumulative, for this age group, in total and disaggregated by gender. We observe a similar finding to table 6.8 on average and for men:

Table 6.9 **Percentage of 30- to 39-Year-Olds Who Could Have Joined an Occupational Pension and Who Are Changing Employer, by Gender and Pension Status in Previous Wave (employees in wave 2 only)**

	Wave						
Pension Status in Previous Wave	3	4	5	6	7	8	Any Move
All individuals offered an OP							
% with OP	3.2	8.8	5.0	5.4	5.2	6.1	29.2
							(2.2)
% with PP	11.1	11.9	5.2	8.5	10.5	15.9	39.7
							(6.2)
Men offered an OP							
% with OP	3.5	6.8	4.8	4.5	4.3	7.8	24.8
							(2.7)
% with PP	6.5	15.2	6.9	10.0	7.1	6.3	38.7
							(8.9)
Women offered an OP							
% with OP	2.6	12.2	5.4	6.7	6.5	3.9	36.6
							(3.9)
% with PP	15.6	8.8	3.4	7.4	12.5	21.4	40.6
							(8.8)

Sources: British Household Panel Survey, 1992–1998 inclusive; authors' calculations.
Note: See table 6.8.

Subsequent mobility rates are higher for those who opted to take personal pensions although offered occupational pensions. This difference is significant at 5 percent on a one tailed *t*-test (10 percent on a two-tailed test). However, the difference is not significant for women.

6.7 Conclusion

This paper has examined a number of consequences of the British pension reform strategy of the 1980s and 1990s, focusing in particular on the introduction of personal pensions as an additional opting-out strategy. In particular, we examined five aspects of the economy where reform might be expected to have some effects:

1. *Household saving rates.* Our tentative conclusion is that personal pensions contributed a negligible net amount to household saving at the end of the 1980s. But a decade later, due to the fact that contributions direct from individuals and their employers had become more important than those from the contracted-out rebate, personal pensions are likely to have contributed more substantially to household saving.
2. *Public finances.* The contracting-out arrangements have raised payroll tax rates by around 2 1/2 to 3 percentage points, relative to the status quo. They will reduce payroll tax rates by somewhat less as opted-out pensioners retire later in this century. It is inherent in rational voluntary switching that the government never recoups fully its initial payroll tax reductions designed to encourage opting out.
3. *Income distribution.* In a static sense, greater contracting-out might lead to greater income inequality for two reasons. First, private pension incomes may be more volatile. Second, in the 1980s and 1990s, average private pensions grew much faster than the contracting-out arrangements had assumed. This made them worth more than state pensions and better-off earners tend to contract out. The future impact of personal pensions on income inequality will depend not just on future investment returns but also on the retirement behavior of optants.
4. *Retirement decisions.* It is too early to say whether personal pensions will affect the timing of retirement given the age structure of optants. It is clear that DB plans will discourage early retirement relative to DC plans, due to the fact that the former are back-loaded while the latter are front-loaded. But the introduction of personal pensions will have both a wealth and a substitution effect. Hence the net impact on labor supply could go either way.
5. *Labor market flexibility.* We show that individuals who chose to opt out of *company* pension plans exhibit significantly higher subsequent job mobility than those who chose to join their employers' plans. In order to condition for gender and age we show that among men in their thirties,

among whom coverage of personal pensions was highest, these differences in subsequent labor market mobility remain. In principle, further analysis of this experiment will offer a more precise test than the existing (largely inconclusive) literature on pension plan tenure and job mobility.

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